UKRI R&D Missions Accelerator Programme NHS Fit for the Future: Exploring the Potential for Greatest Gains

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Executive summary

The purpose of this study, commissioned by the Economic and Social Research Council (ESRC), was to identify priority areas for research and innovation to support the Government's Health Mission by shifting care from hospital to community settings. Four major clinical areas were selected by ESRC based on their substantial NHS impact and potential to reduce reliance on hospital-based care: cardiometabolic conditions, dementia, mental health, and respiratory diseases.

Methods

We employed four complementary activities across all clinical themes: analysis of NHS hospital use statistics by condition and population subgroup (and associated costs); rapid evidence reviews of interventions with potential to shift the balance of care from hospital to community; mapping of ongoing research; and expert and public consultations to capture unpublished work and lived experience, and help identify evidence gaps.

We distinguished three types of evidence gap: innovation gaps (where new interventions are needed); readiness gaps (where promising interventions require further evaluation before scale-up); and implementation gaps (where effective interventions exist but lack consistent or equitable adoption).

Results

To illustrate the types of gaps identified across the intervention pathway, we present examples by clinical theme.

Cardiometabolic conditions

Virtual wards, wearable monitoring devices, and integrated care pathways show promise, but real-world evidence is limited. Interventions for people with multiple long-term conditions are under-developed, and major gaps persist in early diagnosis and the implementation of guideline-recommended treatments, such as for heart failure.

Dementia

Evidence on reducing avoidable hospital use and supporting people in the community is limited. Greater focus is needed on physical health drivers of admission (e.g. falls, respiratory problems, delirium) and on impacts on families and social care systems.

Mental health

Despite evidence, many effective interventions (e.g., housing, community supports, early intervention) face major implementation challenges, such as fragmented provision, limited resources, and poor coordination across systems. In some areas (e.g., eating disorders), timely access to community-based care remains very limited.

Respiratory diseases

Hospital-at-home services and digital monitoring tools are promising but under-evaluated. Access to community-based diagnostic and preventive services is uneven, especially for vulnerable populations.

General findings

We also searched for evidence that was not specifically linked to the four clinical themes, first looking at Cochrane Reviews. We then rapidly reviewed evidence on economic interventions that might alter the hospital-community balance; there is surprisingly little, particularly when considering relevance for the UK.

Cross-cutting issues

There are evidence gaps at every stage of the research and implementation pathway: absence of innovation in some areas (e.g., dementia care), limited evaluation of promising approaches (e.g., crisis services in mental health or hospital-at-home for respiratory disease), and persistent barriers to scaling up effective therapies (e.g., for heart failure).

System-wide challenges hinder adoption and spread of effective interventions: fragmented data systems, regional disparities, inconsistent delivery of evidence-based interventions. Persistent inequities remain: groups most in need of community-based care (e.g., people experiencing homelessness, unpaid carers, and those with multiple long-term conditions) are often absent from the evidence base. The emergence of digital tools risks widening disparities if access and inclusion issues are not addressed.

Conclusions

Shifting the balance of care from hospital to community requires more than new innovations – it needs a balanced approach that develops new interventions, generates evidence for promising models, and addresses implementation barriers.

Research must take a system-wide perspective, recognising that interventions can shift, rather than reduce, burdens elsewhere, and that their success depends on broader infrastructure, workforce, and commissioning arrangements.

Equity must be central: neglecting marginalised and high-need groups could increase inequalities. Research should also capture wider impacts on families, carers, and adjacent systems such as social care, housing, employment and benefits.

Focusing research investment on the identified evidence gaps can help build sustainable services, reduce reliance on hospitals, and deliver fairer, more effective care across the UK.

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1. Objectives

This study was commissioned by the Economic and Social Research Council (ESRC) to support the Government's Health Mission[1] by identifying priority areas for research and innovation. In this rapid piece of work, we were asked to identify where the greatest gains could be achieved in shifting care from hospital to community. It is anticipated that a shift of this kind could help people in the UK lead healthier and more independent lives. Recognising the high costs and pressures associated with hospital-based care, we explored research needed to support more efficient, community-based services that improve population health, reduce inequalities, and better use NHS resources.

Four major clinical themes were selected by ESRC for their significant impact on the National Health Service (NHS) and their potential to alter the hospital-community balance: cardiometabolic conditions (including multiple long-term conditions (MLTCs)), dementia, mental health (all ages), and respiratory diseases.

We combined four complementary activities across the priority themes: analysis of hospital use statistics and costs, rapid evidence reviews, mapping of ongoing research, and expert consultations. This framework helped identify where research could support sustainable, community-based healthcare.

Our focus was the 'hospital to community shift', but we were cognisant of the two other 'shifts' planned for the NHS – greater use of digital technology and greater emphasis on prevention – recently cemented as ambitions in the *10 Year Health Plan for England*.[2] We considered other Government Missions (particularly the Opportunities and Growth Missions), as they could be impacted by rebalancing hospital and community services.

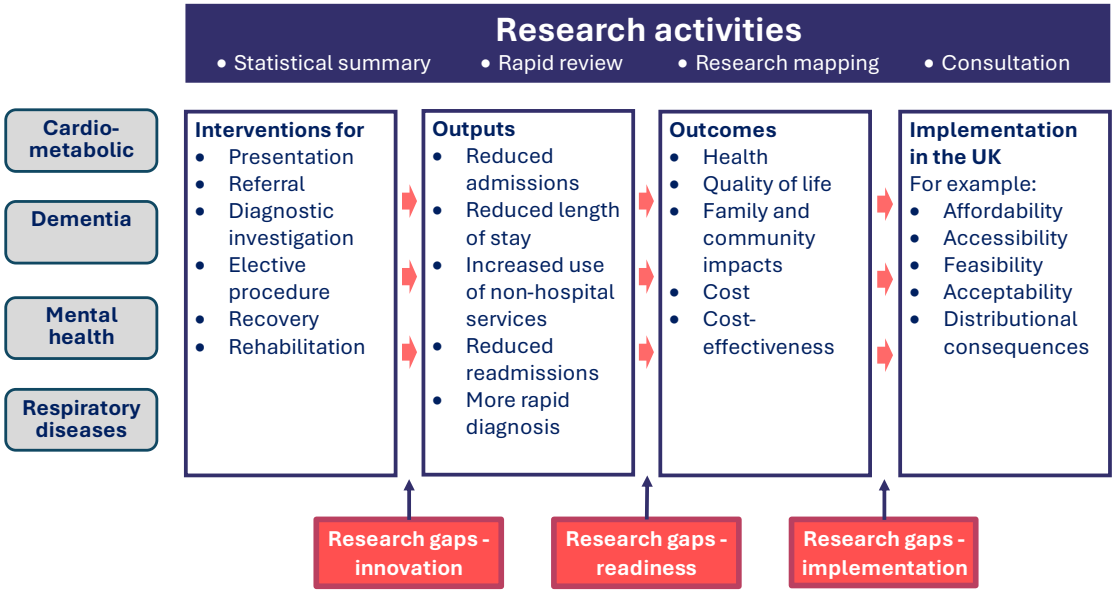
We describe our methods in section 2. Subsequent sections examine the priority areas: cardiometabolic conditions (section 3), dementia (section 4), mental health (section 5), and respiratory diseases (section 6). For each, we provide brief statistical analysis of hospital use and costs, describe our evidence review, summarise findings from expert interviews, and identify the main innovation, readiness and implementation evidence gaps. For dementia, we additionally built on recent mapping of current UK research to identify relevant studies currently underway. We also searched for evidence that was not specifically linked to the four clinical themes, first looking at Cochrane Reviews. We rapidly reviewed condition-agnostic evidence, including on economic interventions that might alter the hospital-community balance (section 7). We conclude (section 8) by summarising evidence gaps and suggestions for future research.

2. Methods

2.1 Study framework

The framework underpinning our study across the four clinical themes is set out below. We sought to identify three main gaps – innovation, readiness and implementation – where new evidence has potential to shift the hospital-community balance in the UK. In reviewing extant evidence and identifying gaps, we were alert to the danger that shifting the balance in this way might not improve health or quality of life for people with these conditions, might not be cost-effective or affordable in the NHS, might impact other sectors and systems, might have adverse consequences for families and unpaid carers, and might exacerbate already wide inequalities across the population. In and of its own,

changing the hospital-community balance might not always be the best action.



2.2 Definitions of evidence gaps

While we categorised research needs into three types of gaps, we recognise that boundaries between them are not always straightforward or meaningful in practice.

Innovation gap: Where few or no interventions exist with potential to shift the hospital-community balance (for a condition or population group), this indicates gaps where research could develop new approaches. This includes areas where interventions have been suggested or developed but not adequately evaluated to assess effectiveness.

Readiness gap: Where interventions show potential to shift the hospital-community balance (e.g., reduce use of hospital services), we assessed whether sufficient evidence exists to scale-up nationally. Has research fully explored whether shifting the hospital-community balance has the desired effects on health or quality of life, or is cost-effective? If not, research might be commissioned to ensure evidence is complete, robust, generalisable, and adaptable to different contexts. This includes interventions that show promise in controlled settings but lack real-world effectiveness data or safety evidence outside research environments, or whose equity implications remain unclear.

Implementation gap: Where an intervention that can change the hospital-community balance appears ready to scale-up, but this has not happened, research should explore barriers and opportunities for wider implementation. This includes understanding why evidence-based interventions show regional variation in adoption or fail to reach some population subgroups.

2.3 Activities

This rapid work was conducted over just 15 weeks (starting 3 weeks after receiving the ESRC invitation). This short timescale constrained what was feasible. We were, however, able to build in part on recent work by team members. We carried out four interconnected activities to synthesise existing knowledge and identify where research could address the greatest needs for change in each clinical area.

Statistical summary

We summarised UK prevalence figures and statistics on patterns of hospital use by main condition across the UK, including patterns of inpatient, outpatient, and accident and emergency (A&E) use for the main conditions within each clinical theme. We compiled figures on costs associated with the main conditions, some from recent cost-of-illness studies, some from NHS England's National Cost Collection (Appendix 2.1).

We did not formally analyse projected future trends in prevalence but note that some conditions are expected to increase pressure on hospital services over the next few decades. For example, analyses by REAL Centre identify conditions with especially rapid projected prevalence growth: dementia, chronic obstructive pulmonary disease, atrial fibrillation, heart failure, stroke/transient ischaemic attack, diabetes, asthma, psychosis/bipolar disorder, anxiety/depression, coronary heart disease, hypertension.[3]

Rapid reviews

We conducted rapid reviews of existing research evidence, paying more attention to conditions in each clinical priority area that are more prevalent and impact more on hospital services. Evidence from any country was included if relevant to the UK context and if it addressed the potential to shift the hospital–community balance. Where possible, we considered the cost-effectiveness of interventions.[i]

We also searched for Cochrane reviews focused on our outcomes of interest, but which are not disease-specific, and for economic interventions.

Expert consultation

We consulted 17 experts across clinical, academic, and policy domains to validate our approach, identify key materials, and gather insights on emerging studies, unpublished data, and priorities for addressing evidence gaps. This helped capture important ongoing work not visible through standard searches. We did not have time to analyse trial registries. However, for dementia, we built on recent mapping of all UK research to identify studies that might later generate evidence on changing use of hospital services.

Consultees are listed in Appendix 2.2; they were selected for expertise in relevant clinical areas, methods and policy implementation.

Public involvement

We established a small public advisory group (PAG) of people with relevant lived experience. We discussed our methods with them in two meetings early in the project. In those discussions, we sought their views on evidence gaps, which fed into the work of the theme teams (see Section 8). We have not yet shared our findings with the group – the short time scale made it impossible to get findings ready early enough for consultation. We will share this report with our public involvement group and use their reflections to amend it before further dissemination of findings. We plan to turn some of

[i] Cost-effectiveness analysis compares costs and health benefits of two or more interventions. If one intervention has lower costs and greater health benefits than another, it is considered more cost-effective. If one intervention has greater health benefits but *higher* costs, then it is common to calculate an incremental cost-effectiveness ratio (ICER) – the additional cost of achieving one extra unit of health benefit – to inform a judgement of whether it is worth spending resources on it. Bodies such as the National Institute for Health and Care Excellence (NICE) recommend treatments in the NHS partly based on cost-effectiveness evidence.

the findings into journal paper submissions and will also seek comments from the PAG as we prepare manuscripts. Our public involvement lead (JB) was involved throughout the project. Members of our PAG are also assisting with allied projects.

2.4 Theme-specific variations

All teams reviewed current evidence, consulted experts and sought to identify innovation, readiness, and implementation gaps. Methods were adapted to reflect the characteristics, challenges and research practices of each clinical area, building on previous work where possible. For example, dementia research rarely differentiates between sub-types. In contrast, mental health studies almost always distinguish between specific conditions, although we also examined interventions that cut across multiple diagnoses, such as crisis care or housing. In respiratory research, chronic conditions and infectious diseases required separate consideration because of their different intervention approaches and outcome measures. Cardiometabolic research needed to address the composite nature of these conditions and their frequent co-occurrence: many patients have multiple conditions. ESRC asked us, at the final revision stage, to pay particular attention to early detection and diagnosis of dementia.

Given the task and timescale, (largely) separate teams worked in parallel on the clinical themes, guided by a common overarching search strategy, but adapting it to their contexts. Methods are described in Sections 3 to 6, supported by the Appendices.

3. Cardiometabolic conditions – evidence and gaps

3.1 Definition

We defined *cardiometabolic conditions* as a composite category encompassing both cardiovascular disease (CVD) and metabolic disorders, such as type 2 diabetes. Within the CVD category, we included coronary heart disease (CHD), atrial fibrillation (AF), heart failure, and stroke.[4] This definition captures a range of chronic conditions associated with significant morbidity and mortality. Previous research shows that, while a history of either CVD or metabolic disease independently increases mortality risk, their co-occurrence multiplies the risk of death.[5]

CVD alone affects 7.6 million individuals in the UK,[6] while more than 5.8 million people live with diabetes.[7] Among CVDs, CHD is the most prevalent, affecting 2.3 million individuals,[6] and remaining one of the leading causes of death and largest contributor to premature mortality.[8] AF, another common CVD and major risk factor for stroke, is diagnosed in nearly 1.7 million people.[6] Heart failure affects one million individuals.[6] Stroke causes 34,000 deaths annually, with 1.4 million people living with the long-term consequences of stroke, often requiring ongoing rehabilitation and support services.[6]

The economic impact of CVD is substantial. In 2021/22, total health care cost was £16.6 bn, and indirect costs (productivity losses and informal care) were £12.4 bn.[9] The largest components of healthcare expenditure were inpatient care (£6.7 bn) and long-term care (£4.6 bn). Other costs included medications (£1.9 bn), primary care (£1.6 bn), outpatient services (£1 bn), and emergency care (£327.6 million). Indirect costs were mainly informal care (£6.4 bn), productivity losses to premature mortality (£4.5 bn), and productivity losses associated with morbidity (£1.5 bn).

3.2 Statistical summary

We examined Hospital Episode Statistics (HES) and their equivalents for cardiometabolic diseases (CMD) for 2019/20, 2021/22, and 2023/24 in the four UK countries, examining inpatient episodes, length of stay, and bed days (Appendix 3.1).

Table 3.1 shows differences in finished consultant episodes[ii] (FCE; completed stays in Scotland) between 2019/20 and 2023/24 for the highest recurring CMD admissions. Ischemic heart disease FCEs declined in all four countries, particularly in Wales. FCEs for metabolic diseases/endocrine nutrition and metabolic diseases increased in everywhere except Scotland, where completed stays *decreased* by 7.9%.

Table 3.1: Percentage change in inpatient FCE/completed stays between 2019/20 and 2023/24, by disease

	England	Wales	Northern Ireland	Scotland *
Ischemic heart	-7.5%	-28.2%	-6.0%	-11.7%
Other heart	7.1%	-15.4%	-4.2%	n/a
Metabolic/ Endocrine, nutrition and metabolic ‡	14.8%	6.0%	27.0%	-7.9%
Cerebrovascular/stroke †	9.0%	-7.2%	n/a	4.0%
Diabetes mellitus	n/a	n/a	5.3%	n/a
Other circulatory system diseases	n/a	n/a	n/a	-3.0%

Notes:

* Scotland figures refer to 'completed stays' episodes

‡ Northern Ireland and Scotland figures include endocrine, nutrition and metabolic disease

† Scotland figures relate to stroke episodes rather than cerebrovascular disease

Mean length of stay (LOS) for ischaemic heart disease in 2023/24 was similar in England, Wales and Scotland, but lower in Northern Ireland (Table 3.2). Mean LOS were highest for cerebrovascular diseases/stroke, ranging from 24.7 days in Scotland to 7.3 days in Northen Ireland. Mean LOS were also relatively high for diseases of arteries, arterioles and capillaries in England and Wales. High mean LOS for 'other' heart diseases in Wales and other circulatory system diseases in Scotland were also recorded (9 and 8 days, respectively).

Table 3.3 describes percent change in FCE bed days and day cases between 2019/20 and 2023/24. Cerebrovascular disease day cases in England increased by 37.5% and bed days in Northern Ireland by 46.5% over that period. In Wales, bed day and day case episodes decreased for all CMDs, except metabolic disease day cases, which increased by 33%. Bed day and day case episodes data were not available for Scotland.

Table 3.2: Mean inpatient length of stay (days), by disease for 2023/24

	England	Wales	Northern Ireland	Scotland *
Ischemic heart	5.5	5	2.9	6.1

[ii] Finished consultant episodes (FCEs) are defined as continuous periods of admitted patient care under one consultant within a single hospital provider.

Other heart	6.8	9	3.6	n/a
Metabolic/ Endocrine, nutrition and metabolic ‡	5.1	6	1.4	3.9
Cerebrovascular/stroke †	16.0	19	7.3	24.7
Arteries, arterioles and capillaries	9.3	11	n/a	n/a
Diabetes mellitus	n/a	n/a	3.1	n/a
Other circulatory system	n/a	n/a	n/a	8
Notes: * Scotland figures refer to 'completed stays' episodes ‡ Northern Ireland and Scotland figures include endocrine, nutrition and metabolic disease † Scotland figures relate to stroke episodes rather than cerebrovascular disease				

Table 3.3: Percentage change in FCE bed days and day cases between 2019/20 and 2023/24, by disease

	England		Wales		Northern Ireland	
	Bed days	Day cases	Bed days	Day cases	Bed days	Day cases
Ischemic heart	2.2%	-18.8%	-31.2%	-34.6%	17.7%	-26.2%
Other heart	8.9%	15.6%	-16.9%	-3.4%	5.2%	-28.5%
Metabolic/ Endocrine, nutrition and metabolic ‡	6.5%	17.1%	-14.3%	33.0%	19.9%	40.1%
Cerebrovascular	5.0%	37.5%	-7.0%	-49.2%	46.5%	-49.5%
Arteries, arterioles and capillaries	2.7%	1.5%	-18.8%	-21.3%	n/a	n/a
Diabetes mellitus	n/a	n/a	n/a	n/a	31.7%	-45.7%
Notes: ‡ Northern Ireland figures include endocrine, nutrition and metabolic disease						

3.3 Review of research evidence

We conducted a rapid systematic review of existing systematic reviews to identify evidence on interventions aimed at improving care for individuals with cardiometabolic conditions. We consulted experts to discuss findings, understand priorities for shifting the balance of care, and identify key gaps in practice and evidence (see Appendix 2.2).

The review focused on populations admitted to hospital with established disease, reflecting a deliberate emphasis on interventions for individuals already engaged with the healthcare system. Therefore, reviews targeting populations with risk factors were excluded, as these align more closely with the Government's priority to shift emphasis from treatment to prevention (see Section 8).

Our review was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA)[10] and the Cochrane Handbook for Systematic Review of Interventions, Chapter V: Overview of Reviews.[11] Our review is registered at the National Institute of Health and Care Research's International Prospective Register of Systematic Reviews (PROSPERO; CDR420251115376), and the review protocol is available at the Open Science Framework.

We searched for systematic reviews on interventions targeting any cardiometabolic diseases, as defined in 3.1 that aimed to reduce hospital admissions, shorten LOS, increase use of non-hospital services, reduce readmissions, and facilitate timely diagnosis. Using Ovid and EBSCO search platforms, searches were performed in databases most relevant to the biomedical literature (Embase, Medline), nursing and allied health disciplines (CINAHL, Emcare), and psychosocial disciplines (PsycInfo). We included reviews published from 2014 onwards, with no language restriction, using a comprehensive strategy combining search terms related to three key dimensions (conditions, outcomes, type of study/publication). See Appendix 3.2 for details.

As the PRISMA flow chart shows (Appendix 3.3), after deduplication, 2971 records were excluded from 3094 references screened. From 123 reports assessed for eligibility, 44[12-55] were included in the umbrella review. The included reviews assessed 23 types of interventions, broadly classified as care coordination and management, implemented across hospital and community settings. Appendix 3.4 lists reviews included in our umbrella review, including key characteristics (conditions, interventions, outcomes).

As Table 3.4 shows, among reviews focused specifically on cardiovascular conditions, frequency of evaluations for each intervention varied from 1 (enhanced primary care,[51] medication review[34] and outreach service[16]) to 18 (telemonitoring).[24,48,49,54,55] Other frequently evaluated interventions included patient/carer education (n=10),[21,25,30,32,51] care provided by specialist professional or team (n=8),[12,23,30,52] physical activity (n=8),[19,27,28,42,45] self-management (n=7),[21,26,35,37,45] and case management (n=7).[21,25,27,34,51] Some reviews covered different conditions, interventions, and/or outcomes; e.g., Han et al. (2019)[25] included diabetes, heart failure, coronary artery disease and myocardial infarction, and evaluations of telephone follow-up, care pathways, case management, disease management, and patient/carer education.

Due to considerable heterogeneity within and between included systematic reviews, we extracted and grouped results by condition, intervention and outcome. This process identified 115 relevant evaluations. These evaluations assessed the impact of interventions on hospital readmission (n=44); hospital admission (n=36); LOS (n=29); emergency department visits (n=2); diagnostic delay (n=2); healthcare utilisation (n=1); and utilisation of social services and/or community resources (n=1).

In nine evaluations, interventions *reduced hospital admissions*. These interventions included physical activity and telephone follow-up for coronary heart/artery disease and heart failure,[25] patient/carer education and psychosocial interventions for diabetes,[39] multidisciplinary care,[18] quality improvement[53] and telemonitoring[54] for heart failure.

In eight evaluations, interventions *reduced hospital readmissions*. These included discharge planning for stroke and heart failure,[32] outpatient follow-up visit,[14] care pathway,[32] multidisciplinary care,[34] and specialist nurse[52] for heart failure, disease management programme for myocardial infarction,[25] and self-management for hypertensive disorder of pregnancy.[37]

In five evaluations, interventions were found to *reduce length of hospital stay*. These included specialist nurse,[12] multidisciplinary team and quality improvement for diabetes,[16] and inpatient rehabilitation[15] programme and care pathway[29] for stroke.

In all remaining evaluations, results were either not statistically significant (n=33), mixed (n=20), meaning that significance was reported in some studies but not in others within the same review, or unclear (n=38), meaning that relevant statistical parameters (e.g., p-value, or confidence intervals) were not provided. In one evaluation,[32] rates of hospital readmission were higher, and in another,[50] LOS was longer in the intervention groups, compared with control groups.

It is noteworthy that most results reported across the reviews are based on individual studies, with very few based on pooled results of multiple studies.

Overall, the literature does not support the existence of a single, consistently effective intervention for reducing hospital readmissions or LOS. This applies to both care coordination strategies and models that shift the location of care delivery. For instance, while virtual wards and hospital-at-home models may reduce LOS, they may also increase the risk of readmission.

Our review has some limitations. First, due to time constraints, we focused on interventions already evaluated and synthesised within systematic reviews. As a result, individual studies of potentially relevant interventions may have been excluded. Second, interventions may have been overlooked if they were not evaluated for the specific outcomes of interest (hospital admissions, LOS, readmissions, use of non-hospital services). For example, national programmes such as the diabetes remission initiative, which hold significant potential for shifting the balance of care,[56] were evaluated on intermediate outcomes (e.g., HbA1c levels) but were not captured. Third, generalisability remains a concern as included systematic reviews encompassed studies from multiple countries. We prioritised UK evidence, but such data were not consistently available. Finally, overall quality of evidence was limited: methodological weaknesses in the primary studies, combined with variability in the rigour and scope of the systematic reviews themselves, further limit the strength of the conclusions.

3.4 Evidence needs and gaps

Existing reviews adopted varying definitions of interventions, grouped conditions inconsistently, and lacked a specific focus on the UK. Outcomes were measured and reported with considerable heterogeneity. Although the literature offers valuable insights, significant gaps remain. A comprehensive review is needed that incorporates individual evaluations and grey literature to better understand both effectiveness and implementation of interventions, and that also examines contextual factors in greater detail, with particular attention to applicability and relevance of interventions in the UK.

Innovation gaps

Few interventions are currently available to effectively shift care from hospitals to community settings, and significant evidence gaps remain that require further research.

Multiple long-term conditions: There is a limited evidence on interventions specifically targeting individuals with MLTCs.[57] The extent to which existing interventions address the needs of these patients is unclear and should be evaluated in future research.

Earlier diagnosis was consistently highlighted by experts as an opportunity to shift care to community settings, particularly for conditions such as heart failure. Nearly 80% of heart failure diagnoses occur in hospitals[58] despite presence of earlier symptoms,

indicating missed opportunities for community-based detection and management. Evaluating interventions that enable earlier identification in primary care is a priority.

Risk management: Experts noted that, while the NHS has made progress in treating patients with established cardiovascular disease (e.g., widespread statin use following myocardial infarction), many high-risk individuals remain untreated. Particular attention is needed for *priority* populations identified by experts, including people with a history of gestational hypertension or diabetes, and individuals who have undergone chemotherapy, for whom effective risk management strategies are lacking. Experts emphasised the need to develop and evaluate interventions that enable earlier identification and management of cardiovascular risk across the life course.

Co-production with communities: Experts emphasised the importance of co-producing future interventions with communities, particularly marginalised or underserved groups. Existing evidence predominantly reflects populations already engaged with health services, potentially overlooking the needs of harder-to-reach groups. Experts advocated for community-led approaches that identify local priorities,

Readiness gaps

The review, supported by expert consultation, identified several interventions with potential to shift the balance of care, but where current evidence is insufficient to support national scale-up. The following examples illustrate key readiness gaps.

Virtual wards have received much policy attention. Early evaluations suggest they may reduce hospital LOS, but evidence on broader effectiveness is limited.[59] In particular, safety concerns require further assessment outside controlled research environments. Experts noted that, without such evidence, widespread adoption is unlikely.

Wearable technologies for remote monitoring have generated interest as tools to manage patients in the community and reduce unnecessary hospital admissions. They can help clinicians determine whether patients can be safely managed at home.[60] However, several readiness barriers remain. Research is needed to address challenges around data processing, security, and integration with existing NHS systems. In addition, the digital divide presents risks to equitable access and uptake, particularly among older adults and marginalised populations, warranting further investigation.

Integrated care models hold promise: they aim to coordinate services across the care pathway by aligning clinical responsibilities, financial structures, and information systems to deliver more efficient, patient-centred care. Experts highlighted several examples from diabetes care, where such models have improved service delivery.[61] However, further research is needed to support broader implementation and scalability.

Implementation gaps

Experts identified areas where there is strong clinical evidence and guideline-backed recommendations, yet implementation remains inconsistent. Research is needed to understand barriers to wider adoption. For example, access to guideline-recommended interventions such as comprehensive cardiac rehabilitation and CT coronary angiography varies significantly across regions.[62] Research is needed to understand the barriers and enablers to implementation where such evidence-practice gaps exist.

Heart failure was identified as a priority area. Despite robust evidence supporting early diagnosis and the rapid initiation and uptitration of guideline-recommended therapies

(the 'four-pillar' medications), *most* patients discharged from hospital do not receive optimal treatment.[63] Similar gaps persist in community settings. While heart failure clinics are well-positioned to support early management, commissioning practices continue to impede timely and effective care (particularly due to limited access to basic diagnostic tests). Research is needed to identify strategies that incentivise implementation of existing care pathways across both hospital and community settings. Experts also noted that economic evidence may be especially valuable, demonstrating that delays in treatment initiation and follow-up are likely to result in higher costs than consistent implementation of established care models.

Other evidence gaps

Beyond the innovation, readiness, and implementation gaps, there are interventions currently delivered in the NHS that lack robust evidence. They may involve substantial resource commitments, yet their effectiveness and efficiency remain uncertain. Evaluating such interventions is essential to improve allocation of NHS resources. One example is community-based diagnostic models, which have attracted growing interest. Some evidence suggests these services may reduce referrals to secondary care, but research quality is limited, and further evaluation is needed to establish their impact.[64]

Experts also highlighted the need for evidence on relocating secondary care to community or neighbourhood settings, where specialists provide care outside hospital settings (e.g., by shifting outpatient clinics). There is limited evidence assessing the impact of this approach on care quality, efficiency, or patient outcomes.[65]

3.5 Conclusions

Evidence gaps on interventions to shift cardiometabolic care from hospital to community are substantial. Some promising interventions exist, such as virtual wards, wearable monitoring technologies, and integrated care pathways, but robust evidence of their effectiveness and safety in real-world settings is limited. Few interventions address the needs of people with MLTC, despite high healthcare use. Earlier diagnosis (e.g., for heart failure where most diagnoses currently occur in hospital) represents a missed opportunity for community-based detection and management. Even where strong evidence exists, implementation remains inconsistent. Most patients discharged from hospital with heart failure do not receive guideline-recommended treatments, and access to interventions such as cardiac rehabilitation varies widely across regions.

Research should identify strategies to overcome barriers to implementation of existing evidence-based care and include economic evidence to explore costs of treatment delays. Future interventions should be co-produced with communities, especially marginalised and underserved groups, to ensure they meet local needs and can be implemented equitably.

Table 3.4: Summary of available evidence on cardiometabolic conditions

Intervention (number of reviews)	Conditions	Outcomes	Key findings
Telemonitoring (n=18)	• Heart failure • Hypertensive disorder of pregnancy • Infant heart disease • Patients with cardiovascular implantable electronic devices • Acute myocardial infarction	• Hospital admission • Hospital readmission • Length of stay	Reduced hospital admissions in heart failure in only one meta-analysis with 30 studies. No evidence from the UK
Patient/carer education (n=10)	• Diabetes • Heart failure • Stroke	• Hospital admission • Hospital readmission • Length of stay	Reduced hospital admission in only one single study on diabetes. No evidence from the UK
Care by specialist professional or team (n=8)	• Diabetes • Heart failure	• Hospital admission • Hospital readmission • Length of stay	Reduced length of stay in one review reporting on 7 individual studies on diabetes – includes 6 UK observational studies. Reduced readmission in heart failure based on pooled results of 15 studies. Includes 2 UK RCTs with not-significant results
Lifestyle improvement (n=8)	• Coronary heart disease • Heart failure • Stroke	• Hospital admission • Hospital readmission • Length of stay	Reduced hospital admissions in patients with coronary heart failure in one meta-analysis of 23 studies, and in heart failure based on pooled results of 10 studies. No evidence from the UK
Self-management (n=7)	• Coronary heart disease • Diabetes • Heart failure • Hypertensive disorder of pregnancy	• Hospital admission • Hospital readmission • Emergency department visit • Healthcare utilisation	Reduced hospital admission in one pooled analysis of three studies on hypertensive disorder of pregnancy. Includes one UK study
Case management (n=7)	• Atrial fibrillation • Diabetes • Heart failure • Stroke	• Hospital admission • Hospital readmission • Emergency department visits	No evidence of effectiveness
Disease/symptom management/rehabilitation (n=6)	• Coronary heart disease • Myocardial infarction • Stroke	• Hospital admission • Hospital readmission • Length of stay	Reduced length of stay based on one single study on stroke, and reduced readmission based on one single study on myocardial infarction. No evidence from the UK
Telemedicine (n=5)	• Diabetes • Heart failure	• Hospital admission • Hospital readmission • Length of stay	No evidence of effectiveness
Telephone follow-up (n=5)	• Coronary artery disease • Diabetes • Heart failure	• Hospital admission	Reduced hospital admission among patients with coronary artery disease based on one single study and in heart failure, also based on one single study. No evidence from the UK
Multidisciplinary care (n=5)	• Diabetes	• Hospital admission	Reduced length of stay in patients with diabetes based on one single study; in patients with heart failure, reduced

	• Heart failure	• Hospital readmission • Length of stay	hospital admission based on pooled results of 9 studies and reduced readmission based on one single study. No evidence from the UK
Care pathways (n=5)	• Diabetes • Heart failure • Stroke	• Hospital admission • Hospital readmission • Length of stay	Reduced length of stay among patients with stroke based on meta-analysis of 11 studies, and reduced readmission based on one single study on heart failure. No evidence from the UK
Professional training/supporting tools (n=5)	• Diabetes • Heart failure	• Diagnostic delay • Hospital readmission • Length of stay	No evidence of effectiveness
Transition of care	• Diabetes • Stroke	• Hospital readmission • Length of stay • Use of social services	No evidence of effectiveness
Discharge planning (n=3)	• Stroke • Heart failure	• Hospital readmission	Reduced readmission in patients with stroke based on one single study, and in patients with heart failure based on two individual studies. No evidence from the UK
Psychosocial interventions (n=3)	• Coronary artery disease • Diabetes • Stroke	• Hospital admission • Hospital readmission	Reduced readmission in patients with diabetes based on two studies, including one non-randomised trial from the UK
Quality improvement (n=3)	• Diabetes • Heart failure	• Diagnostic delay • Hospital readmission • Length of stay	Reduced length of stay in patients with diabetes based on one single study, and reduced hospital admission in heart failure based on pooled results of 60 studies. Includes seven studies from the UK, from which 5 were not significant
Outpatient follow-up visits (n=2)	• Heart failure • Stroke	• Hospital readmission	Reduced readmission in heart failure based on pooled results of 4 studies. No evidence from the UK
Shared care (n=2)	• Congestive cardiac failure • Heart failure	• Hospital admission	No evidence of effectiveness
Continuity of care (n=2)	• Diabetes • Hypertension	• Hospital admission	No evidence of effectiveness
Integration of care (n=2)	• Diabetes • Stroke	• Hospital admission • Hospital readmission	No evidence of effectiveness
Enhanced primary care (n=1)	• Diabetes	• Hospital admission	No evidence of effectiveness
Medication review (n=1)	• Heart failure	• Hospital readmission	No evidence of effectiveness
Outreach service (n=1)	• Diabetes	• Length of stay	No evidence of effectiveness
Site of service delivered (n=1)	• Stroke	• Length of stay	Longer length of stay in intervention group

4. Dementia – evidence and gaps

4.1 Definition

Population

We refer to all-cause dementia in this report, including Alzheimer's disease, vascular dementia, and other dementias. There were c.982,000 people with dementia in the UK in 2024, projected to rise to 1.4 million by 2040.[66] Currently, 498,000 people in England have a dementia diagnosis,[67] with diagnostic rates of 66% in England, 54% in Wales, 47% in Scotland, and 62% in Northern Ireland.[68] Data from England and Wales suggest an increasing trend of dementia incidence, likely driven by risk factors such as obesity, diabetes, hypertension, and lower education in socially disadvantaged groups.[69]

Hospital use

We reviewed evidence on hospital inpatient admissions, length of stay (LOS), A&E attendances, hospital readmissions, and outpatient appointments. Where available, we specify detailed definitions, including follow-up duration, and statistics on risks and rates. While the emphasis should be on avoidable hospital use, unless otherwise specified we refer to all-cause hospital use, given availability of evidence. Reliability of hospital use statistics related to dementia remains an issue, due to possible misclassification (e.g., confusion and overlaps with delirium or depression[70]), and other challenges (e.g., delirium detection tools not fully integrated within electronic patient systems across multiple platforms[71]).

We considered any interventions that have been evaluated against any hospital use outcomes. With reference to the EPOC taxonomy, interventions are grouped into seven broad categories (see Appendix 4.1): (1) care delivery and management; (2) discharge and transition care; (3) education and psychoeducation; (4) non-pharmacological interventions; (5) pharmacological interventions; (6) specialised services; and (7) other.

4.2 Statistical summary

General statistics

Table 4.1 provides an overview of basic hospital use statistics.[72,73,74]

Table 4.1: Numbers of inpatient admissions and outpatient consultation episodes

2023/24 [a]	Inpatient admissions [b]	Outpatient [c] (geriatric medicine)			Outpatient [c] (psychiatry)		
		New	Subsequent	Total	New	Subsequent	Total
England	694,358	149,802	135,231	285,033	38,489	131,577	170,066
Northern Ireland	15,569	-	-	-	-	-	-
Wales	80,581	8,884	16,872	25,756	8,866	18,837	27,703

[a] Outpatient data for Northern Ireland appear incomplete and are not reported. Acute hospital activity data for Scotland do not allow dementia cases to be disaggregated from general mental and behavioural disorders.
[b] Number of all-cause inpatient attendance by people with a dementia diagnosis.
[c] Number of all-cause outpatient attendance by specialty, regardless of diagnosis.

In England in 2017-18, 405,000 people with dementia were admitted to hospital, accounting for 9.4 million hospital bed days.[75] Given anticipated population ageing and assuming that patterns of hospital use remain unchanged, projections are that this will increase to 11.7 million hospital bed days in 2040,[76] meaning people with dementia will

occupy one in four hospital beds. The National Audit of Dementia reported varying dementia admission figures among 165 hospitals in England and Wales. People with dementia accounted for a median of 3% of all adult admissions (range, 1%-21%) in 2024.[71] Median LOS was 10 days (range, 1-146 days), with 34% of people staying up to 1 week, 51% for 1-4 weeks, and 15% for 4-20 weeks.[71] Case note information from this Audit showed that, before inpatient admission, people with dementia were mostly living in their own home (63.4%) or residential / nursing homes (31.3%). They were often discharged to their own home (48.4%), to a residential / nursing home (39.4%), or other services (intermediate/community rehabilitation care 3.4%, rehabilitation ward 2.2%).[71]

Causes and predictors of hospital use

In 2023, among 12,530 audited admissions of people with dementia in England and Wales, the top three reasons for admission were falls (22%), respiratory conditions (12.1%), and delirium confusion/cognitive impairment (10.8%); other common specific reasons include urinary/urogenital/renal (6.7%), gastrointestinal (5.5%), and cardiac/vascular/chest pain (4.5%).[71] Most (86%) inpatient activities for people with dementia are non-elective.[76] A study using linked clinical datasets in London showed that, in the first year after dementia diagnosis, emergency hospitalisation is more likely for people who are older (incidence rate ratio (IRR) 1.03), from a deprived area (IRR 1.05), and having problems with physical illness (IRR 1.73), depressed mood (IRR 1.14), activities of daily living (IRR 1.18), living conditions (IRR 1.16).[77]

These echo predictors of hospitalisation identified in an international meta-analysis: older age, MLTCs, polypharmacy, lower functional ability.[78] A US study using national inpatient data found that 40% of the hospitalisations were for potentially preventable conditions.[79] A systematic review suggested a 30-day readmission rate between 7% and 35%, with varied risk factors.[80] Among people with dementia near end of life, a retrospective cohort study in London in 2007-2016 found that early hospital transitions were linked with high hospital use (an average of 4.56 hospital admissions during the last year of life).[81] A systematic review of observational studies highlighted that hospital LOS in people with dementia may be influenced by both medical and non-medical factors, including reasons for admission, marital status, and insurance.[82]

Cost

Hospital cost associated with dementia doubled in a decade in England, reaching £2.7 bn in 2017/18.[75] The total healthcare cost in the UK is estimated at £7.1 bn in 2024, projected to £13.5 bn by 2040.[83] This included £3.3 bn spent on secondary care (of which £2.8 bn was attributable to inpatient care, £0.3 bn outpatient care, and £0.2 bn emergency attendances), £1.6 bn on mental health care (of which £1.2 bn was community-based and £0.4 bn inpatient care), £0.9 bn on community care, £0.7 bn on medicines, and £0.6 bn expenditure on primary care. Combining inpatient costs in secondary and mental health care, these hospital costs accounted for 46% of total healthcare cost for dementia. These estimates included people with 'pre-diagnosed dementia', with slightly lower but similar per-person inpatient costs to those with mild dementia (£2,500 vs £2,900 for inpatient secondary care).

4.3 Review of research evidence: interventions for people with dementia and carers

We conducted a rapid umbrella review to identify interventions with synthesised knowledge on their impacts on hospital use for people with dementia (as part of the registered review PROSPERO ref.: CRD420251115376). We consulted experts (Appendix 2.2) to help interpret review findings, discuss priorities for shifting care from hospital to community settings, and identify key gaps in current practice and evidence.

We included systematic reviews of both randomised and non-randomised studies of any interventions aimed at (i) reducing hospital admissions and readmissions; (ii) reducing LOS when hospitalisation is unavoidable; (iii) increasing non-hospital service use; (iv) increasing access to timely diagnosis. Comparators included usual care, placebo, pharmacotherapy, non-pharmacological interventions, sham intervention, and waitlist controls. Studies conducted in any health context were considered. There were no restrictions on country of study. Searches were conducted across Embase via Ovid, MEDLINE, and PsycInfo, restricted to English-language publications from 2014.

As the PRISMA flow chart in Appendix 4.2 shows, after deduplication, 56 records were excluded from 355 screened. Of 299 reports assessed for eligibility, 12 reviews[84-95] were included in the umbrella review (see Appendix 4.3), reporting 135 studies. After removing duplicates (n=27) and studies without hospital use outcomes, intervention, or (self-)controls (n=54), 54 unique studies remained, including 9 in the UK.

Data synthesis

Six reviews examined hospital use outcomes across interventions, but none identified any effective interventions.[84-87,90,91] Two reviews focused on specific issues (falls, end-of-life care), and found mixed[93] or no evidence.[95] Four reviews focused on specific interventions, finding no effects on hospital use for case management[92] or exercise,[88] insufficient evidence for specialised inpatient dementia units (SIDU),[89] and preliminary evidence on discharge guide for carers.[94] Review quality varied, and interventions were categorised using various taxonomies. Significant duplication of studies in included reviews reflects the different ways these complex interventions were defined (see below).

Summary of evidence by intervention categories

Table 4.2: Summary of evidence on hospital use linked to dementia

	Hospital use indicators				
Broad intervention category [a]	Inpatient admission	Length of inpatient stay	Inpatient readmission	A&E attendances	Outpatient appointments
(1) Care delivery	×	?	-	-	-
(2) Discharge	-	?	?	-	-
(3) Education	×	×	-	×	-
(4) Non-pharmacological	-	?	-	-	-
(5) Pharmacological	?	-	-	?	?
(6) Specialised service	?	?	-	?	-
(7) Other: ICT	?	?		?	

× denotes conclusive evidence of no benefit in reducing hospital use.

(?) denotes inconclusive, weak evidence or high risk of bias with small numbers of studies.

[a] Some intervention categories, such as quality improvement programmes, were not included here due to a lack of reviews in relation to people with dementia.

(1) Care delivery and management

A Cochrane review[92] reported small but significantly longer LOS at 6 months for people receiving *case management* compared to usual care (mean difference (MD) 0.63), and no difference in hospital admission at 6, 12, or 18 months. Another meta-analysis of RCTs comparing *care management* with usual care or self-management[90] found no difference in hospital admission risk, and weak evidence of small reductions in LOS. However, one trial noted reduced hospitalisation risk with care management (RR 0.46) compared with usual care.[96] Another meta-analysis concluded that there is no evidence that health service interventions, including case management, reduce A&E visits, hospital admissions, or LOS compared with usual care or progress notes in medical record.[86]

A systematic literature review[84] included a non-RCT of *staff training* in acute care compared to usual care (before intervention implementation), suggesting shorter stay.[97]

(2) Discharge and transition care

A systematic review of non-RCTs of *discharge planning* and follow-up scheduling[94] suggested shorter stay (based on one study), and mixed findings for re-hospitalisation rates (with one of two studies showing a reduction in 30-day re-hospitalisation, and no effect on emergency room rehospitalisation). The interventions involved education for carers and specialised services (see below) - multidisciplinary team components.

(3) Education and psychoeducation

Two meta-analyses included RCTs of self-management, which included *counselling/self-help and education*, and some components of case management and psychosocial interventions. Both found no clear evidence of reduced LOS,[86,90] while one review also examined A&E attendances and hospital admission with similar results.[86]

(4) Non-pharmacological interventions for dementia

Eight studies (mostly RCTs) were included in five reviews.[87,88,90,91,93] Two reviews[87,88] included one RCT and reported no effect of *rehabilitation including exercise* on 12-month hospitalisation. A narrative systematic review[93] of two RCTs suggested shorter stay. A meta-analysis found weak evidence of a small reduction in LOS with *physiotherapy/occupational therapy* (MD -0.16).[90] Some interventions included a comprehensive geriatric assessment (CGA) with geriatrician involvement.[93] Comparators varied across reviews (e.g., usual care or lower-intensity occupational therapy[90]), so findings should be interpreted with caution.

A systematic review[85] included a non-RCT of *participatory music making*[98] and a non-RCT of a *family-centred intervention*,[99] showing inconclusive impacts on LOS. A meta-analysis[90] included an RCT of *group reminiscence therapy*[100] (categorised as "self-management"), which suggested no clear impact on hospitalisation or LOS.

(5) Pharmacological interventions

A systematic review of deprescribing dual-purpose medication near the end of life[95] reported hospital use outcomes from two RCTs, which showed no reduction in A&E attendances, unplanned hospital admissions, or general practitioner visits; and a non-RCT suggesting reduction in acute care referrals.

(6) Specialised services

One of two reviews of *CGAs* reporting three RCTs [86,93] suggests possible reduction in LOS with multidisciplinary geriatric assessment for inpatients with mild to moderate dementia post-operation, and no evidence of reduced readmission rates.[93] These studies overlap with those included above on rehabilitation including exercise. A UK-based RCT included in a meta-analysis[86] showed reduced A&E visits and lower total NHS costs, despite higher CGA costs.[101]

A meta-analysis of four RCTs[90] suggested no effect of *enhanced GP or memory clinics* on hospital admission, and weak evidence that enhanced GPs reduced LOS (MD -0.14). The latter is, however, based on a single trial comparing GPs with additional training (control) with additional rapid access to outpatient dementia specialists and family carer (intervention A) as well as additional one-on-one counsellor (intervention B).[102]

A meta-analysis of six RCTs on *teams* identified as an intervention type[86] with elements such as geriatrician, care coordinator, care planning, and interdisciplinary team. found no evidence of reduced A&E visits, hospital admissions, or LOS. A systematic review[91] of three RCTs and one non-RCT noted similar findings, but one RCT showed reduced LOS. There are overlaps with studies included in (1) case management, and involvement of other components including (3) self-management.

A systematic review on SIDUs reported no difference in LOS and uncertain effects on hospital admission from an RCT and a non-RCT.[89] In the RCT, the intervention was a specialist medical and mental health unit for best practice care in dementia and delirium, compared with acute geriatric or general medical wards.[103]

(7) Other - technology

Use of ICT is identified as an intervention component (as part of case management / teams interventional approaches) in four RCTs in a systematic review.[86] No meta-analysis of ICT use was conducted; individual studies did not provide clear evidence.

4.4 Review of literature: Prevention and timely diagnosis

We conducted a rapid literature review to explore current debates and evidence on dementia prevention and timely detection, focusing on potential hospital implications.

Primary, selective, and indicated prevention

Many modifiable risk factors of dementia have been identified. The 2024 *Lancet Commission*[104] suggested that dementia cases can be reduced by 45% by eliminating these risk factors, with incidence/prevalence and service use implications. These include early factors (less education), mid-life factors (hearing loss, high LDL cholesterol, depression, traumatic brain injury, physical inactivity, diabetes, smoking, hypertension, obesity, excessive alcohol), and late-life factors (social isolation, air pollution, visual loss). Other potential risk factors were considered, but there was insufficient evidence at time of publication: sleep, diet, infection, dental diseases, bipolar and psychotic disorders, anxiety, post-traumatic stress disorder, menopause and hormone replacement therapy, multiple long-term conditions and frailty.

Supportive evidence from robust RCTs on dementia prevention is lacking.[105] One challenge is the long follow-up needed to capture any benefits of primary/secondary prevention, with some effects taking 25 years to accrue.[106] Nevertheless, considering

other health benefits associated, and that these are *common risk factors of disability*,[107] preventive strategies targeting mid- and late-life risk factors have great health gain potentials[108] and are an active research focus. Emerging evidence suggests, for example, that herpes zoster vaccination is associated with a 20% relative risk reduction of dementia onset.[109] International initiatives are underway, including the World-Wide FINGERS[110] and a European (including Scotland) dementia Brain Health Service (dBHS) network, focusing on multidomain / personalised interventions.[111] The latter included a business case simulation, suggesting potential value for money with an assumption of a 20% reduction of 5-year dementia onset. The simulation showed small offsets in medical costs, with key value drivers being QALYs, and reduced non-medical and informal care costs, with greater value in higher-risk groups.[111]

Risk profiling can be done using risk scores (e.g., CAIDE, ANU-ADRI, LIBRA) or artificial intelligence / machine learning. Both are promising pending performance improvements.[112,113] The latter, if applied for automated detection using primary care data only 2-5 years before the treating physician initiated the diagnostic procedure, has poor classification performance.[114]

Use of biomarkers remains controversial, with both theoretical and pragmatic considerations. Theoretically, the classification of 'preclinical' dementia (Alzheimer's disease, specifically) based purely on pathology, such as plasma biomarkers,[115] represents a different paradigm in how dementia is defined.[116] The impact of MLTCs – which affect >86% of people with dementia – on biomarkers poses another challenge.[117] Pragmatically, while there is potential for preventive interventions in people with biomarker evidence of Alzheimer's disease who are cognitively intact, the low and variable progression to Alzheimer's disease in this population undermines the usefulness of biomarkers in guiding intervention. There have been calls for caution in relation to the US Food and Drug Administration's endorsement of amyloid beta as a meaningful intervention outcome indicator.[118]

For early identification of mild cognitive impairment (MCI), initial evidence from South London suggested an association with higher healthcare use, contrary to the expectation that earlier diagnosis reduces hospital use. The study compared healthcare use between people with and without MCI diagnosis before dementia. People with MCI diagnosis were more likely to attend A&E after dementia diagnosis (HR=1.09) than those without, with other hospital use being similar. Increased healthcare use with earlier diagnosis, however, may be attributable to their help-seeking behaviours, or MLTCs.[119]

Delirium is a prevention target considering its association with dementia symptom onset.[120] Multicomponent non-pharmacological delirium prevention may prevent six new cases of dementia per 1,000 people treated 2.4 years post-discharge.[121]

Timely diagnosis

Timely diagnosis of mild dementia has long been a global policy focus. A 2023 Alzheimer's Society report summarised the barriers to accessing a timely diagnosis, including workforce, health inequalities and public health messaging, financial and system pressures, and future-proofing the diagnostic system.[122] A dementia diagnosis alone appears insufficient to reduce hospital use: about 75% of people are hospitalised or visited A&E within one year after diagnosis. Research on post-diagnostic, MLTC treatment is needed.[119] In a 2024 modelling analysis, at a small increase of cost at

£3,300 per person per year, earlier diagnosis and treatment may be cost saving for society, mainly because of delayed nursing home admission. There is currently no evidence, however, to factor in potential healthcare savings in later years with earlier diagnosis and treatment.[123]

A recent systematic review examined evidence from cost-utility analysis for dementia assessment and diagnosis using cerebral spinal fluid (CSF), blood, neuroimaging, genetic diagnostic biomarkers, and initial assessment before specialist referral.[124] It confirmed that cost-effective approaches accord with current clinical guidelines:

- adding CSF test for diagnosing Alzheimer's disease when indicated *after* standard clinical evaluation and MRI
- in *symptomatic* individuals, adding positron emission tomography (PET) amyloid beta (A*β*) imaging to standard clinical evaluation, given existing A*β*-PET capacity or reasonable investment cost
- in *symptomatic* individuals, multidisciplinary early assessment and diagnosis services
- cognitive testing in non-specialised settings, especially with more accurate tests.

4.5 Review of active research in 2024/25

Methods

To provide a rapid overview of ongoing or recently completed research on dementia-related hospital use, we extracted data on funded studies by major funding bodies (UKRI, NIHR, EC, Alzheimer's Research UK, Alzheimer's Society, other charities), and synthesised key themes using a large language model based on study descriptions (see Appendix 4.4).

Summary of active research characteristics

Eighty-seven funded studies were identified (Appendix 4.5), covering hospital-based dementia care, community care transitions, community-based dementia services, care coordination and integration, policy and service delivery models, technology and innovations, support for the person and family, workforce and training, quality improvement, and outcome measurement (Appendix 4.6).

Table 4.3: Active research themes based on large language model analysis and illustrative examples

Theme	Examples
Hospital-based dementia care	Several studies focus on preventing or reducing the severity of post-operative delirium in older adults, particularly following hip fracture surgery [ID: NIHR203127, NIHR201943, NIHR207260]
Community care transitions	Projects aiming to understand what constitutes effective reablement and how to create integrated recovery programmes that bridge the gap between inpatient and outpatient or home-based care [ID: NIHR157899, 374, NIHR202338].
Community-based dementia services	Early, community-based identification of individuals at risk of cognitive decline, utilising routine data sources like retinal images from optometrists and GP records [ID: 2887450].
Care coordination and integration	The linkage of GP, hospital, and public health data is being used to establish dementia risk at a population level following events like blood-stream infections [ID: MR/T023791/1].

Policy and service delivery models	Creating comprehensive frameworks for integrated palliative dementia care and developing interventions to improve recovery after delirium [ID: ES/S010327/1, 374, NIHR202338].
Technology and innovations	Wearable technologies like "SmartSocks" and accelerometry-based sensors are being developed and tested to monitor distress, activity, and sleep patterns in both hospital and home environments [ID: 10131668, 2470160, 2452143].
Support for the person and family	The support needs and experiences of carers, particularly when a person with dementia is detained on a mental health ward, are being investigated to co-design evidence-based support strategies [ID: NIHR161439].
Workforce and training	The e-CLEAR Dementia Training platform is being created to provide carers with effective engagement strategies for managing behaviours that challenge, aiming to reduce staff turnover and absence [ID: 10106945].
Quality improvement & outcome measurement	Use of large-scale electronic health records to examine the risks and outcomes associated with delirium, including 30-day mortality, length of stay, readmission, and subsequent development of dementia [ID: 2443765].

Five cross-cutting themes emerged from this analysis:

- *Delirium and acute hospital care*: focusing on prevention, management, and long-term outcomes
- *Technology and data linkage*: including wearable sensors, AI, linkage of routinely collected datasets
- *Co-design and implementation*: to ensure real-world clinical implication and sustainability of service models
- *Inequalities and underserved groups*: developing more inclusive and culturally appropriate services before crisis points occur
- *Bridging hospital and community care*: integrated care pathways that reflect the patient journey, rather than isolated episodes of care.

4.6 Evidence needs and gaps

Innovation gaps

All available synthesised evidence points to the need for robust research to improve hospital use outcomes in dementia. The earliest trial included in our umbrella review (a UK RCT of geriatric rehabilitative care) dates back to 1988, with initial evidence of shorter stay and higher likelihood of discharge to the person's own home.[125] Little progress has been made in three decades (only two more studies provided relevant data in the 2018 review[93]) to fill this innovation gap after the initial success.

A lack of focus on hospital use outcomes in dementia intervention studies may explain this evidence gap. Hospital use outcomes are often included as secondary/indirect outcomes.[90] Good quality systematic reviews and meta-analyses show no effect of case management or self-management on hospital use, reflecting a disconnection: while case management can address care fragmentation, it does not target immediate causes of acute hospital use.[86] Existing studies may also be underpowered;[91] e.g., an RCT comparing multidisciplinary assessment (n=48) with usual care (n=52) showed non-significant trends towards reduced A&E visit and hospitalisation.[126] A recent large trial in England (n=2744) of proactive integrated consultation-liaison psychiatry also found no effect on LOS, although short-term cost-savings were observed.[127] The authors

called for new approaches, especially for high-risk populations. Future research should ***target key drivers of hospital use***,[90,91] which are often physical (falls, respiratory problems, delirium, cardiovascular diseases, urinary tract infections), and focus on high-risk populations (e.g., people from deprived areas or from communities with historically low levels of engagement with health and social care services).

Length of stay appeared to be a more relevant target than hospital admission for many of the reviewed interventions.[90] This highlights the need to focus on ***avoidable hospital use***. Defining 'avoidable' use is difficult[128] and particularly challenging in dementia where prognostic judgment is complex (e.g., when home-based palliative care is appropriate), so innovations that contribute to our ***theoretical understanding*** of how to optimise hospital use should be prioritised. A further gap is the lack of consensus in intervention taxonomy, with findings attributable to different components or descriptions of the same intervention. For example, one study[129] included in four reviews was defined variously as 'teams', 'care management', 'case management', and 'multidisciplinary assessment and management.' It is possible that continuity of care is a key mechanism in this example, with some evidence from England[130] and Canada[131] showing a higher primary care continuity is associated with less delirium, fewer inappropriate prescriptions and A&E admissions, and lower risk of preventable hospitalisation and 30-day readmission.

Lack of evidence-based interventions ready for further health technology assessment should be considered against the wider research context. Expert consultations noted a large body of literature relevant to, but not focused on, dementia, such as innovations in reducing unplanned hospital admissions from care homes,[132] frail older populations,[133] and older people with multiple long-term conditions.[134] Innovations should focus on the ***specific needs and circumstances of people with dementia***. For example, while community-based admission alternatives for older people appear safe, dementia severity is often an eligibility criterion; due to assessment difficulty in acute care settings, however, the decision to not admit can be unclear for people with dementia.[135]

Another example relates to early identification and medication treatment. A retrospective cohort study using claims data from a German health insurance company suggested that use of acetylcholinesterase inhibitors (AChEIs; i.e., donepezil, galantamine and rivastigmine) and memantine may be linked to shorter LOS and lower readmission risk.[136] Evidence on these dementia-specific treatments has not been synthesised, possibly due to insufficient original research. With the emergence of disease-modifying drugs – although NICE recently decided against NHS use of lecanemab and donanemab – and biomarkers for early detection, further research on their impact on hospital use is needed, particularly as new medications are developed.

Finally, based on work for the UK dementia research landscape report[137] (Appendix 4.7), three areas remain generally underfunded:(1) ***prevention*** research, (2) ***gender-specific*** research, and (3) ***technology*** development in dementia care. For evidence on preventive innovations, prospective, longitudinal studies are needed, focusing on the complex interplay between dementia risks, MLTCs, and genetic and environmental factors.[117] Some studies are underway, especially on technology. Each area holds potential to alter the hospital-community balance and represents a key innovation gap.

Readiness gaps

Despite unclear evidence on their impacts on hospital use, some interventions have demonstrated their effectiveness on other outcomes and economic benefit.

- *Home support interventions*: a systematic review found occupational therapy, home-based exercise, and carers' coping intervention cost-effective.[138]
- *Informal carer- and dyad-focused interventions*: a systematic review and meta-analysis showed that psychological and behavioural support for carers may improve their psychological health, although comprehensive economic analysis is needed.[139]
- *Pharmacological interventions*: a systematic review and meta-analysis found AChEIs and memantine to be cost-effective, although evidence with non-industrial sponsorships and rigorous design in various settings is needed.[140]
- *Non-pharmacological interventions*: a systematic review found good evidence of the cost-effectiveness of maintenance cognitive stimulation therapy, case management, occupational therapy, and dementia care management.[141]
- *Community- and population-based interventions*: a systematic review on targeting modifiable dementia risk factors suggested they are cost-effective or cost-saving, especially physical environmental approaches to reduce inactivity or obesity, financial interventions for education access/resources, and mass media programmes on smoking.[142]

An observation from these economics reviews is that hospital-related costs are seldom a focus. Secondary care (costing £3.3 bn in 2024) makes up 46% of the healthcare costs of dementia, but only 14% of total societal cost. Unpaid care and social care represent much larger shares (£21.1 bn and 17.2 bn, respectively).[76] A readiness gap is the limited evidence on family and community impacts, key to the hospital-community balance. Health services innovations that shift that balance should have ***synergies with the family and social care systems***.

Few interventions have examined wider systems implications, and the complex interactions involved. An exception from a review[92] is a US-based study[143] which showed that case management reduced hospitalisation and A&E attendance among carers. Carer ill-health and consequent need for healthcare support is important in its own right when considering efforts to alter the hospital-community balance, and as a key driver of hospital use by people with dementia.[144] Research is needed to understand these system-level interactions. ***Process evaluation*** can address this readiness gap for complex interventions in complex systems.[145]

Implementation gaps

General gaps identified in the UK Dementia research landscape report[137] apply here; these include: (1) ***workforce*** shortages; (2) barriers to ***data sharing***; and (3) ***geographical concentration*** of expertise. These gaps must be considered when evaluating new innovations. For example, although addressing undiagnosed dementia can reduce A&E admissions ,[146] and hospitals are required to assess dementia in people aged over 75 years,[147] case-finding remains challenging, largely due to inaccessible or missing electronic records.[71] Some of these are reflected in the active research themes, such as use of machine learning and AI for data sharing/linkage. Design research to co-

produce services for improving healthcare outcomes is a potential solution, which has been applied in other areas such as cancer.[148]

4.7 Priority areas

Although the large gaps have limited our ability to draw solid recommendations on priority areas, we have the following key observations:

(1) *innovations targeting MLTCs in people with dementia*: these include top reasons such as respiratory and cardiac / vascular conditions, covered elsewhere in this report. Together with falls and delirium, these account for half of the admissions, which were mostly non-elective, in people with dementia.
(2) *readiness of interventions targeting LOS*: inpatient care is the key healthcare cost driver. Several innovations showing promise. Further research to understand their mechanisms and impact on other costs/care, and to provide robust, synthesised evidence on effectiveness and cost-effectiveness is potentially tractable.
(3) *innovations targeting prevention*: although this will likely require wider structural shift and longer-term investment, the return can be high given shared risks with other long-term conditions and frailty/disability. The complexity and long timeframe of prevention requires discovery and collaborative research infrastructure support.

4.8 Conclusions

Research gaps on innovations in dementia care are many and wide, with weak or low-quality evidence only on how to support a shift from hospital to community care. All areas of innovation with initial evidence suggesting impact on reducing hospital use will require more robust, synthesised evidence to support wider implementation. Considering the existing hospital-community balance in cost drivers, research should focus on a systematic understanding of how interventions affect individuals, families, and community/hospital services.

While recently completed and ongoing research is targeting some gaps, concerted efforts are needed to support developments that will move the needle, for example in data linkage and policy research that addresses innovation as well as readiness / implementation gaps. As noted in the UK Dementia research landscape report, research infrastructure investments – such as the Dementia Trials Accelerator, the NIHR Research Dementia Trials Network, and two NIHR Policy Research Units Dementia and Neurodegeneration – may be needed; joint efforts should be leveraged for the greatest gain in shifting the hospital-community balance in dementia care.

5. Mental health – evidence and gaps

5.1 Definition

Our scoping review covered ICD-10 codes[149] F10 to F99, excluding dementia and other organic mental disorders. For intellectual disabilities (F70-79) and pervasive developmental disorders (F80-89), including autism, we focused on evidence on co-morbid mental health issues, not their direct association with hospital use. We included relevant intentional self-harm and suicide (X60-84) studies, given strong association with poor mental health.[150]

Table 5.1 summarises prevalence, impact on health measured by Disability Adjusted Life Years Lost (DALYs), total costs and average costs per case (societal perspective) for different clusters of mental health conditions, based on a previous UK cost analysis.[151]

Table 5.1: Summary of prevalence, DALYs and mean cost per mental disorder*

Group of conditions	Total cases	Share of all MH cases	Total DALYs	Share of all DALYs	Total cost (£m 2022)	Cost per case (£ 2022)
Anxiety disorders	3,151,915	30.58%	295,369	21.03%	20,406	6,474
Major depressive disorder	2,338,130	22.68%	464,418	33.07%	26,286	11,242
Other mental disorders	1,253,832	12.16%	91,001	6.48%	14,700	11,724
Dysthymia	909,807	8.83%	91,446	6.51%	8,210	9,024
Bipolar disorder	815,387	7.91%	172,064	12.25%	19,713	24,176
Attention-deficit / hyperactivity disorder	624,383	6.06%	7,578	0.54%	681	1,090
Autism spectrum disorders	470,592	4.57%	70,496	5.02%	7,267	15,442
Conduct disorder	296,058	2.87%	35,960	2.56%	3,155	10,656
Eating disorders	250,067	2.43%	52,960	3.77%	6,669	26,670
Schizophrenia	196,953	1.91%	123,161	8.77%	9,401	47,734
	10,307,124	100.00%	1,404,453	100.00%	116,487	

*Does not account for multi-morbidity

The most prevalent conditions – anxiety and depressive disorders – account for more than 50% of all DALYs but are not the most expensive conditions. Schizophrenia and other psychoses have the highest mean specialist mental health care costs per annum, followed by eating disorders. 'Other mental disorders' covers a broad range of conditions (Appendix 5.1); little is known about costs for many of these.

5.2 Statistical summary

The Mental Health Services Monthly Datasets cover NHS-funded secondary mental health services (NHS and independent sector) in England, although not all services participate. These data include people with learning disabilities and autistic people. In 2024, 3.4% of adults and 0.2% of children and young people in contact with mental health services were admitted to hospital (Table 5.2). Average LOS in an adult, older adult or child ward mental health bed in England in 2023 were 39, 88 and 89 days, respectively.[152] At least 50% of all hospital stays are compulsory admissions under the Mental Health Act (Table 5.3 and Appendix 5.2).

Demand for mental health support exceeds capacity of community mental health teams: urgent referrals to crisis teams in England quadrupled between 2023 and 2025.[153] People admitted to hospital are now more unwell, requiring longer hospital recovery.[154] Unsuitable discharge destinations – partly linked to lack of housing, pressure on inpatient services to free up beds, and inadequate community support – can result in readmission.[154]

Table 5.2: Number of people in contact with NHS funded secondary mental health, learning disabilities and autism services by age group and highest level of care, 2020-21 to 2023-24[155]

		2020-21	2021-22	2022-23	2023-24
People aged 18 or over	**Total**	**2,029,568**	**2,251,385**	**2,470,364**	**2,634,359**
	Non-admitted	1,935,624	2,157,424	2,381,056	2,544,885
	Admitted	93,944	93,961	89,308	89,474
	Percent admitted	4.6%	4.2%	3.6%	3.4%
People aged under 18	**Total**	**768,083**	**992,647**	**1,103,495**	**1,139,355**
	Non-admitted	765,143	989,769	1,100,871	1,136,993
	Admitted	2,940	2,878	2,624	2,362
	Percent admitted	0.4%	0.3%	0.2%	0.2%

Table 5.3: Mental Health Act detentions by year

	England	Wales	Scotland	Northern Ireland
2020/21	53,239	1,710	6,591	1,065
2021/22	53,337	2,046	6,444	1,058
2022/23	51,312	2,045	6,651	1,063
2023/24	52,458	2,209	6,990	998

Sources: Mental Health Data Hub, NHS England (Mental Health Data Hub - NHS England Digital); StatsWales (Mental health); Mental Health Act Monitoring Report 2024-24, Mental Welfare Commission for Scotland (Mental Health Act Monitoring Report 2023-24) – sum of emergency detention certificate orders and short-term detention orders; Hospital Statistics: Annual mental health and learning disability tables 2023/24, (NI) Department of Health and Northern Ireland Statistics and Research Agency (Mental Health and Learning Disability Inpatients 2023/24).

Hospital Episode Statistics (HES) have data on mental-health related contacts with A&E and general hospital admissions. There are data limitations: one analysis found only 8% of people with a HES record had any mention of a secondary psychiatric diagnosis, while only 29% of those known to secondary care mental health services had a psychiatric diagnosis recorded in HES.[156] HES data are most accurate for severe mental illness. In England in 2023/24, there were 23,377 FCEs involving inpatients with diagnosis of schizophrenia, schizotypal or delusional disorder (29% lower than in 2019/20). Mean LOS for these inpatients in general hospital wards was 72.2 days. Self-harm is not itself a mental health condition but closely linked with mental distress.[150] It is a much more common reason for hospital admission than any single mental health condition: in 2022-2023, there were 76,277 self-harm FCEs in England (26.1% aged 8-17; 22.6% aged 18-27). General hospital admissions exceed those to specialist mental health services for children and young people. Between 2012 and 2022, medical ward admissions in England for self-harm and mental health reasons in children and young people aged 5-18 increased by 65% compared to a 10% increase for overall admissions. Over that decade, 13% were readmitted within 6 months.[157] Self-harm accounted for 50% of admissions (Appendix 5.3). Compared to white ethnicity, black ethnicity children and young people had a significantly greater likelihood of hospital admission. Average LOS increased over the decade, with longer stays more common for eating disorders.

5.3 Review of research evidence

Review methods

We updated a recent review of systematic reviews conducted by team members on the value for money of interventions to reduce inpatient stays and increase use of community services.[158] Using the same search strategy in OVID Medline, PsycInfo and Embase, we identified systematic reviews and meta-analyses of economic evaluations of community and hospital-based mental health interventions, and relevant empirical studies published in the last three years (to June 2025) (Appendices 5.4 and 5.5). Relevant citations on intervention effectiveness were also identified. Search results were imported into Endnote and Rayyan. Abstracts and titles were doubled-screened and full texts obtained. In the short time available, we coded key information (country of study, intervention type, mental health conditions, specific settings, hospitalisation impacts). Where relevant, we reported economic evaluation design, costs included and whether the evaluation was positive, negative or inconclusive (Appendix 5.9).

Full details on *inclusion and exclusion criteria* are in Appendix 5.6. In brief, we included economic evaluation or return on investment studies. This included interventions delivered outside the health sector. We excluded promotion/primary prevention.

Interviews

We conducted free-flowing interviews with four individuals (see Appendix 2.2).

Review results

738 reviews and recent empirical studies were included (PRSIMA flow chart in Appendix 5.7; Appendix 5.9 for UK studies). Given time constraints, we focused on selected areas of intervention within hospitals or strongly focused on reducing hospital contacts. Many interventions cover clusters of symptoms and needs rather than specific conditions. Exceptions are eating disorders and first-episode psychosis: both are associated with high rates of hospital admission for children and young people.

Around 20% of people with psychosis develop complex psychosis[159] and are very high users of mental health services, with multiple inpatient admissions.[160] NICE recommends **specialist inpatient rehabilitation care**. Few studies have evaluated its impact on hospital use, although all indicate reduced inpatient use. The largest UK study, involving 172 adults with complex psychosis,[161] found inpatient rehabilitation reduced inpatient service use by >50% when comparing four years pre- and post-intervention. Further research is needed to confirm these impacts and to explore generalisability and potential for implementation.

Multi-disciplinary liaison psychiatry teams play important roles in assessing mental health needs of people presenting at A&E and/or admitted to general hospital wards. An Irish study[162] suggested these specialist services can reduce hospital admissions following self-harm. A US quasi-experimental study of **proactive consultation-liaison psychiatry** (PCLP)[163] also reported a marked increase in inpatients receiving a psychiatric consultation and reduction in LOS, with a positive return on investment.

There are gaps in understanding of cost-effective crisis care. A common pathway to hospital-based care is an acute mental health crisis, via presentation at A&E. **Crisis resolution and intensive home treatment teams** (CRTs) are available across England: they assess people considered for acute hospital admission, provide intensive home

treatment as an alternative, and facilitate earlier discharge from hospital. Evidence on impacts on hospitalisation and cost-effectiveness, especially in the UK, is limited and mixed. Early evidence in one site concluded CRTs are cost-effective, with higher community care costs more than offset by lower inpatient costs,[164] but a comparison across sites found no difference in hospital admission rates.[165] A cluster RCT in England found no impacts on readmission rates or user satisfaction with CRT.[166] A modelling study suggested CRTs had similar quality of life outcomes but at lower cost.[167] International analyses conclude that CRT is cost-effective.[168-171]

Alternatives to A&E attendance for people experiencing mental health crises include **psychiatric decision units** (PDUs).[172] They vary in configuration but are generally hospital-based, with high staff-to-client ratios (mainly mental health nurses), operating 24/7 services without beds, but providing support for up to 72 hours. Meta-analysis of international studies indicates they reduce LOS and hospital admissions.[173] However, a recent English study found that PDUs initially reduced hospital admissions, but effects were not sustained over 24 months, with no long-term impacts on A&E presentations and small cost changes.[174] Most evidence on **crisis cafes** has been qualitative.

Rapid synthesis of evidence on **police-related triage interventions**[175] suggests these may reduce risk of hospitalisation and police detention under the Mental Health Act (Section 136). The review highlighted lack of robust evaluation or cost-effectiveness. One street triage modelling study reported lower health and criminal justice costs, but impacts on outcomes were not measured.[176]

Another knowledge gap concerns **frequent callers** (≥5 calls in a month[177]) to ambulance services; they account for a disproportionately high use of emergency services. In England, 0.67% of the population are frequent callers, accounting for 16% of A&E attendances, 29% of ambulance journeys and 26% of hospital admissions, at a total annual cost of £2.5 bn.[178] Mental illness is one of the principal reasons for these call outs.[178,179] In Northern Ireland, an uncontrolled pilot study evaluated **key workers** trained to meet callers' needs, including linking with community services[180]. This reduced 999 calls, ambulance responses and ambulance conveyances to hospital, generating substantial cost savings. No other research of this type was identified.

Many different **psychological interventions** are effective, although heterogenous in theoretical approach, focus, format, setting, goals. We highlight one example: **cognitive remediation therapy** can help address cognitive problems that can hinder employment and independent living. Both individual and group-based therapy are cost-effective in England for participants of early intervention for psychosis teams.[181] International studies also conclude that cognitive remediation is associated with significantly lower acute hospitalisations, shorter LOS and lower need for further outpatient contacts.[182 183]

Housing is critical to reducing hospital bed use. Three main models exist: residential care, supported housing, and floating outreach.[184] In 2023, there were about 74,400 **supported housing** units in England, 5,900 in Scotland and 4,000 in Wales for people with mental health conditions.[185] Access to step-down crisis care can potentially reduce delays in discharge. Of the three, supported housing shows the best outcomes for quality and autonomy, while floating outreach (e.g., help from housing organisations with welfare services) can be most cost-efficient,[186] helping people to manage more independently and reduce risk of relapse.[187] Services grounded in human rights and

recovery principles are most effective in promoting independence.[167,186] International evidence suggests that **Housing First**, which provides housing and clinical support without requiring treatment compliance first (usually for people experiencing homelessness and severe mental illness), can be effective and cost-effective.[188-198] In Appendix 5.8, we summarise how housing can alleviate mental health system pressures,[199] with more detail on international evidence.

We found little UK evidence on interventions to reduce **inappropriate out-of-area placements** (OAPs). An exception is a recent uncontrolled before-and-after study: use of intensive psychotherapy service reduced OAP LOS on average from 951 to 406 days for people with personality disorders over five years, with a 15% net cost reduction.[200]

There is considerable evidence that **supported employment** (SE) programmes, which help people obtain jobs in competitive employment with ongoing support (sometimes time-limited), are effective and cost-effective.[201,202] SE can also reduce use of specialist mental health care services, including hospitalisation.[201] Recent robust evidence is mainly from Western Europe,[202] with little recent evidence from the UK. A mixed methods evaluation of IPS Grow – a major SE scheme supported by DWP and DHSC in England – did not include a cost-effectiveness analysis.[203] Combining psychological therapy, e.g. cognitive remediation, with SE can enhance cost effectiveness.[202]

Interventions for specific conditions

Around 8% of women and 2% of men experience an **eating disorder** (ED), including anorexia nervosa (AN), bulimia nervosa, and binge-eating disorders, at some point in their lives.[204] Prevalence is highest in young people, and is rising.[205] AN often results in inpatient admission due to the life-threatening consequences of malnutrition, with longer inpatient stays than for other psychiatric disorders, and high cost (see Table 5.1).

Some interventions are effective for young people but evidence for adults is limited. Research mainly focuses on prevention, early intervention, and aftercare. Reducing wait times between diagnosis and treatment improves long-term outcomes.[206] In the UK, about 50% of adults admitted for inpatient treatment have been ill for over five years.[207] An **enhanced care pathway** that reduces wait times for specialist care, including specialist outpatient services, and provides transitional support like carer-focused interventions, is believed to offer best value for money.[206]

Family-based treatment (FBT) is a carer-focused approach for adolescents with AN, with strongest evidence of effectiveness.[208] Combined with home treatment, a nurse-led intervention that supports carers by helping with refeeding and improving family dynamics, it reduces inpatient admissions.[208] Two systematic reviews on ED prevention highlighted the 'featback' programme and internet-based CBT as cost-effective alternatives to inpatient admission, with significant economic and health benefits.[204,209]

Transition from intensive to community care for EDs strongly predicts readmission. Two studies evaluated ECHOMANTRA (a self-guided intervention including workbook, recovery-oriented video-clips and online peer groups), created to support patients with AN following inpatient or daycare treatment. It did not demonstrate value for money or clinical effectiveness, but there was low participant engagement.[210]

Prevalence of **psychosis** peaks in young people: 2.8% of people aged <24 in England have ever met criteria for a psychotic disorder since age 12.[211] Health system costs of

psychoses are high because of hospitalisation; societal costs are also greatest for young people as education and early work careers can be disrupted. **Early Intervention for Psychosis (EIP)** in the first 2-3 years following onset can significantly improve outcomes. EIP teams are widely used across England, with good evidence of effectiveness and cost-effectiveness,[212] including substantial NHS savings from reduced inpatient, outpatient and A&E use. Wider benefits include 116% and 52% increases, respectively, in employment and stable mainstream housing.[213]

However, c.30% of EIP service users disengage. An English RCT evaluated adding a motivational engagement intervention to EIP compared to EIP alone. Engagement rates were similar, but mental healthcare costs fell, linked to shorter admissions and more time in education, training, employment and stable accommodation.[214] The authors called for further research on targeting engagement to those most in need, including those in crisis and those with accommodation, employment, education, training goals.

Relatively few interventions have been shown to reduce repeat **intentional self-harm**,[150] although UK and international studies report the cost-effectiveness of psychological interventions, better general hospital staff training on **self-harm risk-assessment** and **specialist liaison psychiatry services**.[215-218] Research is limited on the most effective ways of supporting young people who self-harm, including aftercare and family support. Addressing socio-economic determinants of health (e.g., poverty, debt, poor housing and employment insecurity) would help reduce self-harm rates.[150]

5.4 Evidence needs and gaps

Innovation gaps

Admissions under the Mental Health Act: More than half of all hospital bed use is for people detained under the Mental Health Act. UK research on reducing compulsory bed admissions or LOS is limited, restricting opportunities to shift away from hospital-based care. This includes research on legislative remedies.

Hospitalisations and treatment for eating disorders: Hospital admissions for ED in young people are rising. Severe and enduring ED, particularly anorexia, often require long-term hospitalisation. Interviewees pointed to little research on staff training or best practices for supporting transitions out of hospital. Adolescent treatment focuses on refeeding, but progress in developing new treatments for ED, especially for adults, has been limited. Research is needed on combinations of family interventions and individual therapies for all ages. Innovative treatments under investigation include ketogenic diets, ketamine, psychedelics and electrical brain stimulation, but evidence is still preliminary. Another knowledge gap concerns alternative residential care for people with ED as well as specialist at-home support for people with ED.

Crisis care: There are gaps in understanding of cost-effective alternative models of crisis care to prevent A&E attendance and hospital admissions. Few robust studies have evaluated crisis care interventions and recent evidence is inconclusive. There is very little evidence on effectiveness of innovative multi-sector teams, for example bringing 'blue light' and mental health professionals together to respond to crises.

Frequent callers to emergency services: Frequent callers to ambulance services account for high use of emergency services. The exact contribution of mental health

conditions to these calls is unclear; there is little evidence on what works. A current NIHR HTA Programme call includes evaluating the clinical and cost-effectiveness of ambulance service-led interventions for mental-health related call outs.[3]

Interventions to reduce intentional self-harm: Intentional self-harm is a common mental-health related reason for general ward admissions, especially for children and young people. There is little evidence on interventions, including aftercare, on risk of subsequent self-harm.

Housing and supports: Supported accommodation improves housing stability, but evidence for broader social functioning and clinical outcomes is variable, with limited UK evidence. Methodological heterogeneity and short follow-up periods complicate the picture. Large-scale studies should evaluate alternative housing support schemes (e.g., Housing First) to identify factors affecting outcomes, and optimal delivery. Interviewees highlighted research on innovations to help people return to homes and communities.

Supported employment: Most evidence has focused on *severe* mental health conditions, with less known about other conditions. There are also schemes to help people remain in secondary and/or higher-level education, but with very limited evidence on their value, including impacts on future hospital service use.

Evaluations of innovative combinations of measures: Both interviewees and literature point to emerging research exploring combinations/packages of measures and their impact on mental health recovery (e.g., one review examined EIP service components).[219] Network meta-analysis suggests that drug therapy, psychological interventions and case management had the greatest impact on outcomes, but few studies examined different combinations of interventions. Another area for innovation is on whether SE programmes are more effective when combined with other interventions such as psychological therapies, or varying support duration. Economic modelling in Ireland highlights how different combinations of psychological / parenting interventions could reduce hospital bed use by young people with mild / moderate anxiety or depression.[220] Evaluating the economic case for combined interventions is another gap.

Readiness gaps

Research on format of interventions and delivery mechanisms: Further research is needed on how interventions *are targeted and delivered* (e.g., on individual or group-based psychological interventions), and roles of stepped care approaches and other interventions. Interviewees noted that evaluations of remote services exist, but a large-scale shift towards remote delivery has not been assessed. While digitally delivered psychological therapy can be as effective as face-to-face therapy[221], impacts on immediate and future hospitalisation risk appear unknown. For example, remote delivery of cognitive remediation therapy is feasible and may lower hospital costs, but requires large scale pragmatic evaluations.[222]

Integration/continuity of care pathways: Research should explore how to improve the readiness of current care pathways to ensure continuity and sufficient integrated care, both to reduce risk of hospitalisation and support faster discharge. E.g., in ED, there are

[3] https://www.nihr.ac.uk/funding/studies-evaluating-clinical-and-cost-effectiveness-ambulance-service-led-interventions/2025375

significant barriers to discharge from hospital because of limited step-down and community support and uncertain funding for expensive care packages. Resourcing, integrated care and continuity of care were issues in the literature and expert interviews.

Readiness/flexibility of digital technologies: Research on digital apps for mental health intervention has grown rapidly, often focusing on similar products. Rapid changes in technology potentially render evaluations redundant almost as soon as they are completed. The focus should shift to identifying key effective components and delivery methods rather than assessing individual apps. Network meta-analyses might help build this evidence base. Readiness of other innovative technologies (e.g., virtual reality, artificial Intelligence, use of synchronous and asynchronous support, including by chatbots) also requires further exploration.

Implementation gaps

Misaligned financial incentives: Interviewees highlighted challenges with funding and organisational structures. Research could examine how financial incentives influence use of inappropriate OAPs, given common detrimental impacts on mental health recovery. The question of incentives also arises with forensic service beds as these are funded directly by NHS England. Generally, research should examine impacts of funding flows on care pathways and on hospitalisation rates, LOS and readmissions.

Independent sector versus direct NHS provision: Over half of inpatient rehabilitation beds are in the independent sector, yet little research compares the quality, costs or outcomes of independent versus NHS provision. Incentives can make the independent sector attractive, as the source of funding is not the mental health trust, reducing demand for expensive NHS beds. Research expected in 2026 will deliver the first analysis of clinical and cost-effectiveness of inpatient rehabilitation services across both sectors,[223] but there is scope for more research.

Capacity constraints/pressures on community-based services: An example is workforce shortages in child and adolescent services. There are >20,000 annual hospital admissions related to self-harm in England, and increasing ED admissions, often resulting in long stays. Interviewees suggested this increase may be due to insufficient community-based support. Research should examine workforce shortages, productivity, and earlier intervention to prevent escalation to crisis and hospitalisation.

Other issues

Using and linking routine datasets: There are limitations with routine datasets that are critical to research and policy. Only 29% of people known to secondary care mental health services have a psychiatric diagnosis recorded in HES,[156] making it difficult to assess the impacts of poor mental health on general hospital wards. Linking the Mental Health Services Data Set to HES data was described as problematic. Improving the usefulness of HES for mental health conditions would support better research. Delays in accessing routine datasets remain a significant challenge in England.[224] Better linkage of data sources within and beyond the health system is also needed; the situation is much better in this respect in Wales[225,226] than elsewhere in the UK.

5.5 Conclusions

Our scoping review and interviews highlight the complexity of mental health research in the UK. The picture is further complicated by high rates of compulsory hospitalisations under the Mental Health Act. There is a very diverse evidence base on what works for adults and children; often the focus is not on interventions within hospital, but rather on interventions in the community that may help reduce need for hospital care. Innovation gaps identified include compulsory admissions, hospital alternatives, and better intervention at crisis points, including contact with 'blue light' emergency services and presentation to hospital A&E.

Better recovery from poor mental health will reduce need for further hospitalisation. Support to live independently, including help with employment and education, are important but under-researched. Interviewees highlighted that, while considerable evidence exists on approaches to reduce the number and length of hospitalisations, these interventions are rarely implemented at scale, due to resource constraints and limited coordination within the mental health system. Research is needed to better align financial incentives and organisational structures to support more appropriate mental health care pathways. Improved routine datasets for linkage studies will help this work. Finally, further research is also needed outside the health sector, particularly on housing, employment and contacts with the police and criminal justice systems.

6. Respiratory diseases – evidence and gaps

6.1 Definition

Respiratory diseases are conditions that impair the airways, lungs, and respiratory muscles. They include chronic disorders such as chronic obstructive pulmonary disease (COPD), asthma, and interstitial lung diseases; and acute infections such as influenza, pneumonia, tuberculosis (TB), and COVID-19. Collectively, these conditions impose a substantial burden on health systems and populations. Globally, COPD, lower respiratory infections and COVID-19 are leading causes of death after ischaemic heart disease and stroke, ranking among the top ten causes of morbidity and mortality worldwide when measured in disability-adjusted life years (DALYs).[227]

In the UK, the impacts are similarly substantial: COPD prevalence was 4.9% in 2019,[228] while asthma affected 12% of the population in 2013.[229] The economic impact of respiratory disease was estimated at £11.1 bn in 2014 (£15.7 bn in 2025 prices).[230] The costliest conditions were asthma (£3.0 bn in 2014; £4.24 bn in 2025 prices), COPD (£1.9 bn; £2.69 bn), and lower respiratory infections (£1.7 bn; £2.40 bn), together accounting for a substantial proportion of total NHS expenditure.

6.2 Statistical summary

Respiratory diseases are major drivers of hospital activity across the UK, although diagnostic patterns differ slightly between nations. Conditions generating the most finished consultant episodes (FCEs) are influenza and pneumonia, chronic lower respiratory disease, and other acute lower respiratory infections – broadly similar across the UK. In Scotland, where diagnoses are categorised differently, the leading inpatient conditions are pneumonia, acute upper respiratory infections and influenza, and other acute lower respiratory infections.

Between 2019/20 and 2023/24, FCEs for respiratory conditions declined across all four nations. Reductions were marked in Wales and Northern Ireland, suggesting capacity or staffing pressures, and were most evident for chronic lower respiratory disease and other acute lower respiratory conditions. This trend is somewhat unexpected, as demand may have been anticipated to rise following the COVID-19 pandemic.

Patient characteristics indicate broadly equal FCE distributions between men and women for influenza, acute lower respiratory infections, and (in Wales) acute upper respiratory infections. FCEs for chronic lower respiratory disease are more common for women, suggesting possible gender differences in disease burden or help-seeking.

Patterns of LOS vary. Hospital stays are longest in Wales, particularly for influenza and pneumonia, while in Scotland, pneumonia generates especially long admissions. LOS is shortest in Northern Ireland and for other acute lower respiratory infections. LOS has remained stable over time, meaning declines in overall bed days are largely attributable to fewer rather than shorter admissions.

As inpatient episodes have declined, overall bed days have also reduced. After the three leading conditions, the next largest contributors to respiratory bed use are lung diseases due to external agents and other diseases of the respiratory system. Increases in these categories may reflect COVID-19 cases recorded within these classifications.

Outpatient data availability differs by nation. In England, where diagnoses are recorded, the highest volumes of appointments are for other upper respiratory tract diseases, chronic lower respiratory disease, and other respiratory diseases affecting the interstitium (Table 6.1). The latter two generate more follow-up appointments, reflecting greater resource intensity. Outpatient activity in England rose substantially between 2019/20 and 2023/24, whereas it remained stable in Scotland (Table 6.2).

Table 6.1: Differences in outpatient appointments by respiratory disease in England

Year	Other diseases of upper respiratory tract	Lung diseases due to external agents	Other respiratory diseases principally affecting the interstitium	Chronic lower respiratory diseases
2019/20	10,058	164	1,693	10,029
2023/24	18,622	352	4,034	16,404
Difference	85.1%	114.6%	138.3%	63.6%

Table 6.2: Differences in outpatient appointments (respiratory medicine) in Scotland and Wales

Year	First appointment		Subsequent appointment	
	Scotland	Wales	Scotland	Wales
2019/20	38,691	25,125	83,769	60,731
2023/24	36,356	33,898	89,757	64,698
Difference	-6.0%	34.9%	7.1%	6.5%

6.3 Review of research evidence

Two rapid reviews were conducted following PRISMA guidelines[231] to identify evidence on interventions aimed at shifting the hospital-community balance: one focused on

chronic conditions and the other on infectious diseases. Outcomes of interest were readmissions, LOS and early discharge for chronic conditions; and vaccine uptake, inpatient readmissions and LOS for infectious diseases. Cost-effectiveness was assessed across both streams. Eligible studies included randomised controlled trials, reviews, and economic evaluations. Searches were conducted across MEDLINE, Embase, CINAHL, and EconLit, restricted to English-language publications from 2014 onwards. Screening and data extraction were performed by two reviewers, with extracted data checked by a third reviewer and summarised in evidence tables.

After removing duplicates, 2,998 records on chronic conditions and 1,441 on infectious diseases were screened, with exclusions for non-respiratory focus, irrelevant outcomes, inappropriate interventions, or unsuitable design, type, or language. After full-text review, 42 studies on chronic conditions and 22 on infectious diseases were retained, with further exclusions mainly due to unavailable full texts, duplication, or lack of primary outcomes. Data extraction resulted in 44 included studies: 16 RCTs, 12 systematic reviews and 7 economic evaluations for chronic conditions; and 9 systematic reviews for infectious diseases. The PRISMA flow chart is provided in Appendix 6.1, and characteristics of included studies are described in Appendix 6.2.

We present findings from the reviews in two streams (chronic conditions and infectious diseases), before addressing cost-effectiveness and evidence quality. As an illustrative example of vulnerable groups, we focus on people experiencing homelessness.

Chronic conditions

Most evidence on ***early discharge and LOS*** relates to COPD, with some findings for asthma and COVID-19. Economic evidence is limited. A recent study[232] assessed early discharge in a COPD pathway with structured discharge support versus care as usual (CAU), reporting incremental cost-effectiveness of $5,268.64 per QALY. Early supported discharge (ESD) increased QALYs from 0.725 to 0.789 compared with standard inpatient care.[233] Structured follow-up programmes reduced COPD-related readmissions at 6 months,[234] while nurse-led discharge support, including tailored discharge plans and patient education, lowered asthma readmissions.[235] Antiviral treatment for long COVID shortened hospital stay from 8 to 6 days.[236]

Care bundles, pathways, and ESD consistently reduced ***readmissions***, though their impact on LOS was mixed. A transitional care bundle was associated with a one-day LOS reduction and cost savings of $5,654 per COPD patient.[237] Pathway-based interventions for COPD exacerbations significantly reduced 30-day readmissions.[238,239] One review concluded that bundles and pathways generally reduced both LOS and readmissions,[240] while two other reviews of ESD showed reductions in readmissions but did not quantify LOS.[241,242]

Across 12 studies assessing LOS, several intervention types showed measurable reductions. Home-based interventions (disease management, coaching, telehealth) shortened stays by up to 3 days.[243,244] Early rehabilitation demonstrated consistent benefits when initiated promptly.[245] Transition care bundles reduced LOS by 1 to 1.25 days compared with CAU and were economically efficient, though not always statistically significant.[237,240] Telemonitoring results varied, from a significant 4.36-day reduction[246] to minimal change, while a digital ward model for COVID-19 reduced LOS by 1.3 days.[247]

Twenty-three COPD studies evaluated ***inpatient readmissions***. Home-based interventions (telemonitoring, education, self-management support, care bundles) generally showed the strongest effects.[248,249] However, one study reported increased readmissions following palliative home care for COPD.[250] Tailored interventions for asthma (e.g., coaching, web-based education, demonstrated moderate benefits.[251,252] Rehabilitation interventions for COPD (e.g., supervised exercise training, education, lifestyle modifications) reduced readmissions in smaller RCTs.[249,253] Telehealth results were inconsistent: either no effect[254,255] or fewer readmissions.[247,256] In COVID-19, a digital respiratory ward lowered readmission rates,[247] whereas a computerised decision support system showed no significant effect for asthma.[257]

Infectious diseases

Evidence on ***readmissions and LOS*** for infectious diseases was limited. One study found that seasonal influenza vaccination did not significantly affect intensive care unit admission or hospitalisation for COVID-19 patients.[258] Another reported that a herbal medication substantially reduced LOS, saving 1.60 hospital days (mean) per person.[259]

Several interventions improved ***vaccine uptake***. Pharmacist-led delivery significantly increased uptake.[260] Community-based screening for vulnerable migrant populations improved vaccine coverage, particularly in primary care.[261] Communication and information campaigns proved effective at increasing vaccine uptake compared to no intervention,[262] while communication and personalised reminders increased uptake by 8.1%.[263] Financial incentives improved both intention (37.5%) and uptake (59%), compared to non-significant effects from persuasive messaging.[264]

Cost-effectiveness of interventions

Cost-effectiveness varied across interventions. For COPD, early supported discharge was cost-effective (£1,700 per QALY) compared with standard care.[233] In Germany, home-based disease management for people aged >70 with severe COPD reduced costs compared to usual care.[243] Pulmonary rehabilitation was highly cost-effective, with one decision model reporting savings of $5,721 per person (95% prediction interval $3,307-$8,388) and quality-adjusted life expectancy (QALE) gains of 0.53 years (95% prediction interval 0.43–0.63) years.[265] By contrast, community-based exercise programmes were less favourable than self-managed programmes (€10,950 per QALY).[241] Telemonitoring for COPD was not cost-effective (£203,900 per QALY).[254]

For COVID-19, remote monitoring through digital respiratory wards was both clinically effective and cost-saving, reducing costs by $1,626 per patient compared with standard hospital care.[247] In the US, combined pulmonary rehabilitation, airway clearance, and early assisted discharge was also cost-effective compared with usual care.[266]

For infectious diseases, BCG vaccination strategies for tuberculosis were cost-effective in high-income settings, particularly when delivered through age-targeted programmes for infants and older children.[267]

Quality appraisal

We assessed risk of bias using AMSTAR-2 for systematic reviews [268] Cochrane RoB-2 for RCTs,[269] and the Evers checklist for economic studies.[270] Certainty of evidence for each primary outcome was examined using GRADE.[271,272] Overall, certainty was higher for

chronic disease interventions than for infectious diseases. Moderate-to-high certainty evidence from five studies confirmed that early discharge programmes reduce readmission risk within 30/90/180 days.[238,244,273] Evidence on LOS was weaker: two studies[236,240] provided only low-certainty findings. Rehabilitation and home-based interventions provided high-certainty evidence for reducing readmissions, though LOS effects were smaller (up to 2 to 4 days).[245] Telehealth demonstrated low-to-moderate certainty due to heterogeneity and adherence issues, with readmissions effects generally insignificant[255] and LOS ranging from no effect to a 4.36-day reduction.[246]

For infectious diseases, community-based education and reminder strategies increased vaccine uptake by 8–23% with moderate certainty.[262,263] Pharmacist-led delivery and financial incentives showed lower certainty due to contextual dependence.[260,264] Screening interventions showed low certainty owing to heterogeneous populations and settings.[261]

Box 1. An illustrative example of vulnerable groups: people experiencing homelessness

Our review found limited and weak evidence in relation to people experiencing homelessness: no studies addressed chronic conditions and only four focused on infectious diseases.[267,274-276] Vaccination uptake is significantly lower among homeless populations than in the general population (43% for first dose, 31.3% for second, and just 7.2% for third). No high-quality data exist on the cost-effectiveness of TB diagnostics, screening, treatment, or prevention. Evidence on long-term outcomes, such as disease incidence, healthcare use, or cost savings, remains sparse.

Access to healthcare is often restricted. Many homeless people face barriers to registering with GPs, attending appointments, and receiving continuity of care. Mental health and substance use services are particularly difficult to navigate, while preventive care is underdeveloped and frequently delivered only at crisis points.

A persistent gap is the lack of stable, secure housing. Without it, access to healthcare, employment, and addiction recovery is disrupted. Evidence shows that housing stability combined with integrated care improves outcomes and may reduce long-term costs,[277] yet investment is inconsistent and evaluations remain limited. Out-of-hospital care models, including intermediate care, aim to address these challenges by bridging housing, health, and social support. Research in England has demonstrated the effectiveness and cost-effectiveness of such models [278-280], informing national guidance such as the NICE guideline on Integrated Health and Social Care (2022). However, robust evidence remains limited, particularly in the context of chronic conditions.

These gaps undermine national strategies: without integrated data, standardised monitoring, and sustained investment in housing and preventive care, services remain reactive and fragmented, limiting progress towards coordinated, equitable, and cost-effective responses to homelessness.

6.4 Evidence needs and gaps

Chronic and infectious respiratory diseases impose substantial burdens on the NHS, particularly hospitals, and are associated with high mortality and societal costs, making them pressing health priorities. Addressing these challenges requires coordinated, evidence-informed strategies that combine innovation in clinical practice with system readiness and robust implementation. Effective interventions must be adapted for high-need groups (including children, individuals experiencing homelessness, people from ethnic minority communities, those with severe mental illness or MLTCs). Drawing on consultations with seven experts (Appendix 2.2), our findings highlight the urgent need to strengthen prevention, ensure earlier diagnosis, and deliver patient-centred care.

They also emphasise the importance of promoting equity, improving system-level coordination, and embedding evidence-based decision-making across services.

Preventive interventions are central to shifting the balance between hospital and community settings. In respiratory health, tobacco dependence treatment is critical for reducing both respiratory and cardiovascular morbidity, particularly for people with severe mental illness or in deprived communities. Vaccination programs for influenza, pneumococcal disease, COVID-19, and respiratory syncytial virus (RSV) are essential public health measures. Community-based diagnostics (e.g., FeNO testing for asthma, point-of-care testing for infectious diseases) enable earlier detection and treatment. Pulmonary rehabilitation and education programmes, when tailored to cultural contexts and needs, can improve function, reduce symptoms, and strengthen self-management.

Innovation gaps

Recent years have seen significant innovation in chronic and infectious respiratory disease care. Digital health technologies and telemedicine are now integral to management, supporting remote monitoring, virtual consultations, adherence tracking, and patient engagement. For example, MyCOPD[281] and asthma self-management tools[282] enable real-time symptom reporting, medication reminders, and patient-clinician communication; early studies suggest potential benefits, but more research is needed.[283-285] Digital biomarkers and AI-assisted imaging also offer opportunities for early detection of exacerbations in chronic respiratory disease, earlier identification of interstitial lung disease, and risk stratification in infectious disease outbreaks. However, robust evidence on their real-world effectiveness, clinical impact, and cost-effectiveness is still limited, as these approaches are largely at efficacy or pilot stages.

Tools such as atlases and equity dashboards can support equity-focused planning by revealing unwarranted geographical and demographic variation and guiding targeted improvement. An example is England's respiratory atlas of variation in risk factors.[286] However, many digital and service interventions lack rigorous evaluation across diverse populations; where subgroup analyses exist, effects and engagement can differ substantially, underscoring the need for stratified, equity-centred assessment.

Readiness gaps

System readiness for scaling up evidence-supported interventions is uneven. Digital health solutions, although effective, depend on patient access, motivation, and literacy, with high-need groups facing particular barriers. Staff readiness is equally crucial, requiring training in use of digital tools, integration into existing workflows, and strategies to support patient adherence.

Hospital-at-home and community-based care pathways aim to provide multidisciplinary care in the patient's own environment, reduce avoidable admissions, reduce length of stay and improve discharge processes.[287,288] While evidence demonstrates effectiveness across a range of conditions (Appendix 7), few studies focus specifically on respiratory conditions.[244,289] Available evidence nonetheless suggests benefit for both chronic respiratory and infectious disease management, although their success relies on a skilled multidisciplinary workforce and coordination between hospitals, primary care, and social care. Long-term sustainability further depends on supportive policies, stakeholder engagement, efficient admission

processes, and clear communication. Future research should explore lower-income and rural contexts, systems-level perspectives, and the potential impacts on carers.[290]

Preventive and diagnostic interventions likewise require investment in staff training, appropriate equipment, and integration into clinical guidelines. Programmes such as pulmonary rehabilitation achieves equitable access and effectiveness only with culturally competent delivery and well-structured referral pathways. Finally, integrated data systems spanning primary, secondary, and social care are essential to monitor outcomes, evaluate implementation, and inform future policy.

Implementation gaps

Implementation of digital health, community diagnostics, and hospital-at-home interventions faces persistent equity challenges. These innovations have the potential to improve care, but also risk excluding vulnerable populations if inclusivity is not built in from the outset. Older adults may face digital literacy barriers or limited access to technology, while children and pregnant women often have complex needs requiring tailored approaches. Populations with occupational risks, lower socio-economic backgrounds or unstable housing (including those experiencing homelessness) encounter barriers such as irregular contact with healthcare, limited digital access, and competing daily priorities. Unless accessibility, usability, cultural appropriateness, and wider social determinants are accounted for, these innovations may exacerbate health inequalities. Ensuring equity requires co-design with affected groups, targeted support for digital literacy, and integration with social and community services.

Despite promising potential, evidence on safety, effectiveness, and cost-effectiveness of these interventions in real-world settings remains limited, particularly for high-need populations. Hospital-at-home services, for example, require evaluation to determine whether they truly substitute for inpatient care or simply shift demand elsewhere, such as onto unpaid carers. Community diagnostics face challenges of staffing, costs, and patient engagement. Pulmonary rehabilitation and education programmes are effective but need standardisation, cultural adaptation, and stronger referral pathways for equitable access. Similarly, multimorbidity-focused interventions must be assessed for patient-centred outcomes and unintended impacts on healthcare utilisation.

Certain high-need groups face distinct challenges. Children require age-appropriate interventions involving families; people experiencing homelessness struggle with continuity of care; ethnic minority communities face inequities in access to diagnostics and preventive services; and individuals with severe mental illness have complex health and social needs, including high rates of smoking and respiratory disease. Addressing these disparities is central for effective and equitable implementation.

Finally, structural barriers at system level persist. Budget allocations across chronic respiratory conditions and infectious diseases remain opaque, hindering targeted investment and limiting the potential of innovations to deliver equitable impact at scale.

6.5 Conclusions

Balancing care between hospital and community settings requires frameworks that support both strategic planning and day-to-day decision-making. Tools such as dashboards and variation mapping can guide resource allocation, monitor equity, and highlight where community-based services could reduce hospital demand.

Strengthening community pathways – including integration of mental health, multimorbidity management and social care – is essential to prevent admissions and improve outcomes yet remains underdeveloped. International models demonstrate how integrated hospital-community systems can sustain quality, engage stakeholders, and deliver more equitable services while reducing system pressures

Future research should prioritise evaluation of virtual wards, hospital-at-home services, and other community-based models, assessing safety, effectiveness, patient experience, system impacts and equity. Community diagnostics and digital health tools require robust testing for adherence, accessibility, clinical outcomes, and cost-effectiveness. Interventions targeting symptoms and multimorbidity, such as breathlessness, pain, and fatigue, are particularly important for underserved populations. Implementation research should focus on barriers and enablers, workforce readiness, and uptake among vulnerable groups.

7. General findings

7.1 Available evidence – all conditions

We additionally searched for Cochrane reviews (in the 'Effective Practice and Health Systems' domain) focused on our outcomes of interest but that are disease-agnostic. Findings are in Appendix 7.1. Interventions such as medication review and discharge planning showed some evidence of effectiveness in hospital settings. In community settings, care navigation, integrated care models, and comprehensive geriatric assessments demonstrated modest benefits in reducing admissions and LSO, although the magnitude of benefit was generally limited, and UK-specific evidence was scarce.

7.2 Economic interventions

The *NHS 10 Year Plan*[2] makes a commitment to 'create new funding flows and payment mechanisms that connect the savings from improved quality of care with the investment in new services in the community' (p.135) as part of 'a new financial framework for the NHS' (p.133). This will include 'year of care payments' that will allocate a capitated budget for a patient's care over a year, instead of fee-for-service payments. What then is the available evidence on the effects of economic and financial incentives on the hospital-community balance?

Search strategy

We carried out a rapid systematic review of studies which assessed the effect of different types of financial incentives. We ran a comprehensive search strategy combining key words representing financial incentive interventions with key words representing outcomes related to the shift of care from hospitals to community. We ran our search using Ovid search engine in Embase, Emcare, Mediline, and PsychInfo. In total, 3874 references were retrieved; 2,135 duplicates were removed. From 1739 titles and abstracts that were screened, 52 full texts were reviewed. Eighteen articles were included in this review, being one systematic review and 17 primary studies. The full search strategy is provided in Appendix 7.3, and PRISMA flowchart in Appendix 7.2.

Summary of findings

The reviewed evidence covers the effects of economic and financial incentives in healthcare across multiple countries, based on randomised controlled trials, quasi-experimental analyses, longitudinal and retrospective cohort studies, and one systematic review. These studies examined mechanisms such as pay for performance, bundled payments, diagnosis related group (DRG) systems, global budgets and behavioural incentives across hospital, primary care and community settings. The overall focus was to understand how payment models influence efficiency, quality and patient outcomes, and whether they help shift the hospital-community balance.

Most interventions were designed to improve efficiency and control costs, with mixed effects on outcomes. The systematic review found that prospective and case-based payment models consistently reduced LOS and improved efficiency, but effects on mortality, readmissions and other quality indicators were inconsistent. Germany's diagnostic-related and nursing home payment reforms and China's large scale financing changes, including the Diagnosis-Intervention Packet model and primary care gatekeeping, achieved small but measurable improvements, such as a 24% reduction in hospital visits under the gatekeeping pilot. In contrast, the United States' bundled payment programmes and Japan's early rehabilitation incentive showed limited or no impacts on readmissions, length of stay or discharge outcomes. Canada's pay for performance and behavioural incentive schemes improved process indicators without reducing hospital use or costs. More details are provided in Appendix 7.3.

A challenge with a search of this kind is that much of the existing evidence on financial and economic incentives focuses on efficiency, cost containment or service quality rather than explicitly examining shifts in care from hospital to community settings. As a result, studies that capture this transition may be underrepresented or difficult to identify, particularly if they do not include hospital utilisation indicators as primary outcomes or keywords. For example, a trial in London randomised people either to an intervention which paid them to attend hospital for their long-acting antipsychotic medication injection or to usual care. Paying patients improved medication uptake (in the short-term) and slightly reduced mental health inpatient admissions and LOS, but effects were not sustained.[291,292] More generally, and focused on supply-side mechanisms, two commentaries have pointed to the misalignment of incentives in England's mental health system.[293,294]

Notwithstanding the limitations of our search, we conclude from the evidence found that financial and payment reforms appear to promote efficiency within hospital systems but only rarely lead to sustained shifts toward community-based care or consistent improvements in patient outcomes. An important recommendation from our review is that there a key implementation evidence gap relates to the absence of robust UK-relevant evidence on the impacts of different financing or payment arrangements on the hospital-community balance.

8. Conclusions

We reviewed evidence across four clinical themes (cardiometabolic conditions, dementia, mental health and respiratory diseases) to identify research priorities for shifting the hospital-community balance in the UK. In this brief final section, we first

note the limitations and strengths of this very rapid work, summarise the main evidence gaps across the four themes, and then offer some other reflections.

8.1 Limitations and strengths

Our reviews had several limitations. The rapid timescale meant that some of our reviews were restricted to interventions that had already been evaluated in existing systematic reviews, potentially excluding individual studies of relevant interventions. Some interventions may have been missed if they were not assessed for our specific outcomes of interest (hospital use). Our searches focused on populations with established conditions, so interventions targeting populations with risk factors may not have been fully captured. Another consequence of the short timescale was that it allowed only limited expert and public consultation, although we conducted interviews with 17 experts and held two meetings with our Public Advisory Group.

There were also challenges with generalisability, as the included publications were from various countries, and UK-based evidence was not consistently available across all themes. The quality of available literature varied considerably.

Preventive interventions were excluded as these fall under a separate 'shift' in the Government's Health Mission and were outside the remit of examining the hospital-community balance for established conditions (particularly in the timescale available).

We did not look in any detail at behavioural interventions that might encourage delivery or take-up of the service and treatment interventions covered by our reviews; this was beyond scope but should be considered going forward. And our search for economic interventions yielded fewer studies than we had expected.

Our study also has strengths. The comprehensive multi-method approach combining statistical analysis, evidence reviews, research mapping, and expert consultation generated findings across four clinical areas that represent significant NHS responsibilities. Using a structured framework to categorise innovation, readiness, and implementation gaps helped identify where new research investment could have substantial impact, although boundaries between these types of gaps were not always clear-cut. Methodological flexibility allowed each theme team to adapt their approach to the characteristics of their area while maintaining overall consistency.

Expert consultation added another layer of insight into ongoing work not visible in the literature and highlighted system-level barriers and opportunities, especially around implementation. Although public consultation was limited by time constraints, it ensured that our findings reflect both research evidence and real-world experiences. By focusing on the UK context while incorporating international evidence, our findings are relevant and practical for the NHS context.

8.2 Evidence gaps

Main evidence gaps

Table 8.1 below illustrates some key evidence gaps in innovation, readiness, and implementation across the four clinical areas. These gaps range from promising but under-evaluated innovations to persistent barriers in translating evidence into equitable practice. They reflect both condition-specific challenges and broader systemic issues. Our findings highlight opportunities for targeted research within each clinical area, as

well as the need for cross-cutting approaches to overcome systemic barriers and improve the translation of evidence into efficient and equitable care at scale. A few additional reflections may be helpful, reiterating points made earlier in the report.

Currently delivered services – evidence gaps

In addition to gaps outlined in Table 8.1, some interventions are currently delivered in the NHS despite limited evidence of their effectiveness. For example, community-based diagnostic models may reduce secondary care referrals, but the evidence is limited. Similarly, relocating specialist care to community or neighbourhood settings has been adopted in funding models without clear evidence of impact on care quality, efficiency, or patient outcomes. Evaluating these interventions is essential to ensure that NHS resources are allocated effectively, and to understand their benefits and limitations.

Gaps identified by public involvement members

Our discussions with service users and people with lived experience highlighted the need to address evidence gaps concerning the experience of diverse groups, including people experiencing homelessness, people in rural areas, and carers. Participants noted gaps in support and training for carers, the value of learning from international evidence, and the need to explore under-researched areas (e.g., advocacy in mental health) to strengthen future research and service delivery. They emphasised that research should also focus on prevention, community-based approaches and non-medical interventions, such as creative arts. The vital role of the voluntary sector was recognised, as well as challenges in building the evidence base to demonstrate its impact.

New treatments

The emergence of new treatments and diagnostic processes, such as blood biomarkers and 'disease-modifying' therapies (DMTs) for Alzheimer's disease, present both opportunities and complex evaluation challenges. For example, DMTs have the potential to impact disease progression, but they also raise questions about real-world effectiveness, cost-effectiveness, and equitable access. Their currently high costs and specialised delivery risk widening health inequalities. In addition, evaluating these therapies requires new approaches to measure meaningful outcomes across diverse populations, and implementation is complicated by the infrastructure needed for early diagnosis, patient selection, and ongoing treatment monitoring. There is little evidence to date that our review could cover.

System-level considerations and unintended consequences

When considering shifts in the hospital-community balance, wider system interconnections and long-term effects must be considered, including impacts beyond the health sector. Unintended consequences could include an increased readmissions from inexpediently shortened inpatient stays and unreasonably greater levels of responsibility falling on unpaid carers, potentially affecting their health. Research should therefore not only measure effectiveness, but examine how interventions work, interact with context, contribute to system change, and inform real-world decision making.

Shifting the balance of care from a hospital-dominated to a community-led system will only be possible if there is coordinated action from multiple sectors – the NHS, social care, housing, education settings, workplaces, transport networks, the benefits system, and beyond. Past attempts to integrate actions across some of these sectors have not been successful. Urgent topics for future research include finding ways to ensure effective system-wide interactions and actions. In turn, that needs better access to, and linkage of, multi-sector datasets.

Data systems and infrastructure

Robust, integrated data systems across primary, secondary, and social care settings are essential for tracking outcomes, monitoring equity, and informing policy decisions. Although not primarily a research question, their development should be guided by research and evaluated to support evidence-based decisions about the hospital-community balance. There is an ongoing need to improve access (and speed of access) to routinely collected data.

Prevention research

Our study focused on interventions for established conditions requiring treatment, rather than preventive interventions. We assumed throughout that the need for prevention is taken as read, and obviously prevention represents another key 'shift' in the Government's Health Mission. It was outside our given remit. However, the interconnections between prevention and treatment cannot be entirely separated. Future research should explore how prevention and treatment interventions can be optimally integrated to maximise impact on the hospital-community balance.

Digital technologies

The third 'shift' in the Government's ambitions for the NHS is to move from 'analogue to digital' delivery. Digital health technologies, including telemedicine, remote monitoring and wearables, are increasingly important in managing respiratory, cardiovascular, mental health, and dementia care. These innovations have tremendous *potential* to improve community-based care, reduce hospital admissions, and improve patient engagement. However, challenges remain around data processing, security, system integration, and (especially) equitable access, particularly for older and marginalised populations. Most technologies remain insufficiently studied and require rapid and adaptive research that aims to keep pace with technological advances.

Population focus and equity

Future research should focus on differences in access, experience, and effectiveness across the population. Groups that frequently experience differences in these respects include children, people experiencing homelessness, people from minoritised ethnic groups, and those with severe mental illness or multiple long-term conditions. Addressing these gaps is essential to reduce inequalities and ensure that shifts in the hospital-community balance do not worsen existing (and already wide) disparities.

8.3 Final word

We hope that this rapid review of extant evidence and identification of innovation, readiness and implementation gaps is helpful to UKRI as it fashions its future calls for

research to inform the pursuit of the Government's ambition to shift the balance between hospital and community care.

Table 8.1. Comparison of gaps across clinical areas

Gap category	Common themes	Condition-specific gaps			
		Cardiometabolic	**Dementia**	**Mental Health**	**Respiratory**
Innovation	Weak real-world evidence and UK-specific evaluation; inconsistent definitions and outcomes; limited evidence for multiple conditions, and high-risk and marginalised populations	Few interventions for early diagnosis, multiple conditions, risk management; lack of coproduction	Few innovations; lack of focus on drivers of hospital use, high risk, prevention, gender-specific and technology research	Limited development of new interventions (e.g. eating disorders); few studies on crisis care alternatives; self-harm; housing, employment, digital and combined interventions	Digital and AI tools promising but limited evidence; poor equity-centred evaluation
Readiness	Inequities in access and readiness across populations; unprepared workforce; insufficient evaluation beyond pilots or controlled settings; limited evidence on family, carers, and system-level interaction; fragmented data systems and integration across health and social care	Limited evidence for virtual wards, wearables, integrated care models; barriers to equitable access	Insufficient evidence of impacts on unpaid carers, family, and social care system; limited process evaluation of complex interventions	Lack of real-world evidence of impact on recovery and wider system (e.g. remote delivery, multi-component community care, step-down support); underdeveloped infrastructure; data linkage difficulties	Limited understanding of scaling requirements; limited evidence for hospital-at-home and community care; impact on carers
Implementation	Regional disparities in adoption; inconsistent delivery of evidence-based interventions; inequities in access; system and commissioning barriers (e.g. workforce shortages), data-sharing issues; lack of joined-up working	Unequal uptake of evidence-based therapies; barriers in commissioning and post-discharge care	Workforce shortages, barriers to data sharing and diagnostic consistency, uneven geographic expertise	Inconsistent adoption of effective interventions due to resource constraints, lack of joined-up care (e.g. housing, community support, early intervention); system pressures (e.g. bed shortages)	Equity and access issues; inconsistent adoption of effective interventions; limited real-world evidence
Data and Evidence	Lack of comprehensive, representative data, including social determinants and cross-sector impacts; issues with data linkage and integrated systems; most studies are limited in scope and follow-up; earlier diagnosis and prevention are underdeveloped	Heterogeneity of outcomes; lack of UK-specific and priority population data; some interventions used without evidence	Lack of evidence on avoidable hospital use and broader system-level impacts	Incomplete and fragmented datasets; data variation across region and sectors, poor outcome measurement	Poor data on community care, integrated care, digital and remote monitoring, as well as on subgroups (e.g. children ethnic minorities)

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7.2 PRISMA flow chart (economic interventions)

7.3 Economic interventions – search strategy and findings

Appendix 2.1 – Hospital unit costs, 2023/24

Inpatient Episodes

Service		Mean unit cost per episode
Dementia		
Memory services/Clinic/ Drop in service (per visit)		£238
Day care service (per visit)		£252
Acute older adult mental health care		£630
Adult admitted patient continuing care		£545
Alzheimer's disease or dementia, treated by a non-specialist mental health care service provider	Day case	£633
	Non-elective long stay	£6,726
Mental health		
Acute adult mental health care		£575
Adult Medium Secure Unit		£786
Adult High Secure Unit		£950
Child and young person Medium Secure Unit		£1,618
Adult eating disorders		£839
Young person eating disorders (Age 13 years and over)		£1,446
Adult psychiatric Intensive Care Unit		£611
Child and young person psychiatric Intensive Care Unit		£1,438
Respiratory disease		
Asthma (without interventions; CC Score 3-5)	Day case	£388
	Non-elective short stay	£575
	Non-elective long stay	£2,230
Chronic Obstructive Pulmonary Disease or Bronchitis	Day case	£508
	Non-elective long stay (CC Score 5-8)	£3,706
Lobar, atypical or viral pneumonia (CC Score 4-6)	Day case	£419
	Non-elective long stay	£2,641
Pleural effusion with interventions (CC Score 6-10)	Day case	£335
	Non-elective short stay	£682
	Non-elective long stay	£3,007
Pulmonary embolus without interventions (CC Score 3-5)	Day case	£544
	Non-elective short stay	£643
	Non-elective long stay	£2,553
Respiratory failure without interventions (CC Score 6-10)	Day case	£503
	Non-elective short stay	£757
	Non-elective long stay	£3,251
Respiratory neoplasms without interventions (CC Score 4-7)	Day case	£397
	Non-elective short stay	£733
	Non-elective long stay	£3,615
Unspecified acute lower respiratory infection without interventions (CC Score 5-8)	Day case	£2,651
	Elective	£2,673

	Non-elective short stay	£580
	Non-elective long stay	£2,651
Cardiometabolic conditions		
Angina (CC Score 4-7)	Day case	£721
	Non-elective short stay	£535
	Non-elective long stay	£2,322
Arrhythmia or conduction disorders (CC Score 4-6)	Day case	£959
	Non-elective short stay	£550
	Non-elective long stay	£2,485
Complex cardiac catheterisation (CC Score 2-3)	Day case	£2,432
	Non-elective long stay	£5,215
Complex Coronary Artery Bypass Graft (CC Score 5-9)	Elective inpatient	£16,777
	Non-elective long stay	£18,405
Diabetes with hyperglycaemic disorders (CC Score 2-4)	Day Case	£530
	Non-elective short stay	£565
	Non-elective long stay	£2,273
Heart failure or shock (CC Score 4-7)	Day case	£672
	Non-elective short stay	£652
	Non-elective long stay	£2,956
Hypertension	Day case	£361
	Non-elective short stay	£405
	Non-elective long stay	£2,881
Unspecified chest pain (CC Score 5-10)	Day case	£527
	Non-elective short stay	£451
	Non-elective long stay	£2,161

Source: National Cost Collection for the NHS 2023/24, NHS England (NHS England » National Cost Collection for the NHS).

Outpatient Attendances

Department description	Mean unit cost
Dementia	
Old age psychiatry service	£288
Mental health	
Adult mental health service	£678
Child and adolescent psychiatry service	£474
Eating disorder service	£462
Liaison psychiatry service	£282
Neuropsychiatry service	£150
Respiratory disease	
Cardiothoracic surgery service	£265
Pulmonary rehabilitation service	£74
Respiratory medicine service	£196
Respiratory physiology service	£143

Thoracic surgery service	£218
Cardiometabolic conditions	
Cardiac surgery service	£289
Cardiology service	£168
Cardiac rehabilitation service	£115
Cardiac physiology service	£74
Diabetes service	£204
Endocrinology service	£205
Endocrine surgery service	£159
Stroke medicine service	£313
Transient ischaemic attach service	£296

Source: National Cost Collection for the NHS 2023/24, NHS England (NHS England » National Cost Collection for the NHS).

Appendix 2.2 – Experts consulted during the study

Cardiometabolic conditions field

Dr Lisa Anderson - Consultant Cardiologist, St George's Hospital, London; Chair of the Board, British Society for Heart Failure; Chair, NHS England Heart Failure Expert Advisory Group

Professor Dipak Kotecha - Professor of Clinical Cardiology, University of Birmingham; Director, Digital Trials Committee, NHS West Midlands Secure Data Environment; Chair, European Heart Failure Association Committee on Atrial Disorders

Professor Simon Ray - Consultant Cardiologist, Manchester University NHS Foundation Trust; National Clinical Director for Heart Disease, NHS England; Past President, British Cardiovascular Society

Professor Nilesh Samani - Professor of Cardiology, University of Leicester; Former Medical Director, British Heart Foundation; Former Director, Leicester National Institute for Health Research (NIHR) Biomedical Research Unit in Cardiovascular Disease

Professor Jonathan Valabhji - Clinical Chair in Medicine, Department of Metabolism, Digestion and Reproduction, Faculty of Medicine, Imperial College London; National Specialty Advisor for Multiple Long Term Conditions, NHS England; Former National Clinical Director for Obesity and Diabetes at NHS England

Dementia field

Professor Sube Banerjee - Pro-Vice-Chancellor for the Faculty of Medicine and Health Sciences, University of Nottingham

Professor Dame Louise Robinson - Professor of Primary Care and Ageing, Regius Professor of Ageing, Faculty of Medical Sciences, Newcastle University

Mental health field

Andy Bell – Chief Executive, Centre for Mental Health

Professor Helen Killaspy – Professor of Rehabilitation Psychiatry, University College London; Chair of the Advisory Group for the UK Royal College of Psychiatrists' Rehabilitation Quality Network

Professor Janet Treasure – Professor of Adult Psychiatry, Institute of Psychiatry, Psychology & Neuroscience at King's College London

Professor Dame Til Wykes – Professor of Clinical Psychology and Rehabilitation, and Head of Mental Health & Psychological Sciences, Institute of Psychiatry, Psychology & Neuroscience at King's College London

Respiratory diseases field

Professor Dougal Argreaves – Professor of Paediatrics & Population Health, Imperial College London

Professor Andy Bush - Professor of Paediatric Respirology and Consultant Paediatric Chest Physician, Imperial College London

Dr Philip Keir - Clinical Lecturer, National Heart & Lung Institute, Imperial College London

Dr Mando Watson - Consultant Paediatrician, Imperial College London NHS Trust

Siân Williams – CEO, The International Primary Care Respiratory Group

Professor Arzu Yorgancioglu - Chair of Global Initiative for Asthma Board of Directors (GINA), chair of the WHO Global Alliance against Respiratory Diseases and the Advocacy Council Chair of the European Respiratory Society

Appendix 3.1 - Cardiometabolic conditions inpatient Hospital Episode Statistics

Finished Consultant Episodes (FCE)/Completed stays (Scotland) by country

England												
Finished Consultant Episodes (FCE)					**FCE- Male**				**FCE- Female**			
	Ischemic Heart Disease	Other Heart Disease	Metabolic disease	Cerebro-vascular disease	Ischemic Heart Disease	Other heart Disease	Metabolic disease	Cerebro-vascular disease	Ischemic Heart Disease	Other heart Disease	Metabolic disease	Cerebro-vascular disease
2019/20	393,986	548,893	240,948	221,141	264,188	308,009	123,501	113,534	129,745	240,743	117,407	107,309
2021/22	367,562	554,614	252,148	228,264	210,326	310,216	128,763	119,037	204,451	244,354	123,357	109,208
2023/24	364,343	587,827	276,520	240,954	247,860	328,884	139,969	125,961	119,678	253,225	134,256	113,987
% Δ 2019/20 -2023/24	-7.3%	7.1%	14.8%	9.0%								
									Ratio M(1):F			
2019/20									0.49	0.78	0.95	0.95
2021/22									0.97	0.79	0.96	0.92
2023/24									0.48	0.77	0.96	0.90
Wales												
2019/20	21,788	28,008	8,958	12,167	14,465	15,706	4,379	6,207	7,323	12,302	4,579	5,960
2021/22	20,249	26,232	8,571	12,618	13,636	15,071	3,977	6,483	6,612	11,160	4,594	6,133
2023/24	15,654	23,706	9,495	11,291	10,643	13,667	4,677	5,999	5,008	10,038	4,818	5,292
% Δ 2019/20-2023/24	-28.2%	-15.4%	6.0%	-7.2%								
									Ratio M(1):F			
2019/20									0.51	0.78	1.05	
2021/22									0.48	0.74	1.16	
2023/24									0.47	0.73	1.03	

Northern Ireland												
	Ischemic Heart Disease	Other Heart Disease	Endocrine, nutrition, metabolic disease	Diabetes mellitus	Ischemic Heart Disease	Other Heart Disease	Endocrine, nutrition, metabolic disease	Diabetes mellitus	Ischemic Heart Disease	Other Heart Disease	Endocrine, nutrition, metabolic disease	Diabetes mellitus
2019/20	14,704	18,627	14,283	3,596	10,525	10,494	7,486	2,027	4,179	8,133	6,797	1,569
2021/22	12,458	16,880	16,133	4,173	8,972	9,688	8,535	2,416	3,486	7,192	7,598	1,757
2023/24	13,815	17,850	18,133	3,787	9,723	10,374	9,960	2,261	4,092	7,476	8,173	1,526
% Δ 2019/20-2023/24	-6.0%	-4.2%	27.0%	5.3%								
									Ratio M(1):F			
2019/20									0.40	0.78	0.91	
2021/22									0.39	0.74	0.89	
2023/24									0.42	0.72	0.82	

Scotland				
Completed stays				
	Ischemic Heart disease	Endocrine, nutritional and metabolic disease	Stroke	Other diseases of the circulatory system
2019/20	26,410	21,605	10,089	13,761
2021/22	24,099	19,121	10,212	12,241
2023/24	23,309	19,896	10,496	13,345
% Δ 2019/20-2023/24	-11.7%	-7.9%	4.0%	-3.0%

Mean length of stay (MLOS) by country

England					
	Ischemic Heart Disease	Other Heart Disease	Metabolic Disease	Cerebrovascular Disease	Diseases of arteries, arterioles and capillaries
2019/20	4.8	6.3	5.2	15.0	8.7
2021/22	5.0	6.3	5.2	14.0	8.6
2023/24	5.5	6.8	5.1	16.0	9.3
Wales					
2019/20	5.0	9.0	7.0	19.0	12.0
2021/22	5.0	9.0	7.0	18.0	11.0
2023/24	5.0	9.0	6.0	19.0	11.0
Northern Ireland					
	Ischemic Heart Disease	Other Heart Disease	Endocrine, nutritional and metabolic disease	Cerebrovascular Disease	Diabetes Mellitus
2019/20	2.3	3.3	1.4	6.5	2.4
2021/22	2.5	3.4	1.2	8.5	2.7
2023/24	2.9	3.6	1.4	7.3	3.1
Scotland					
	Ischemic Heart Disease		Endocrine, nutritional and metabolic disease	Stroke	Other diseases of the circulatory system
2019/20	5.3		3.4	27.5	7.3
2021/22	5.7		3.4	23.6	7.9
2023/24	6.1		3.9	24.7	8.0

Finished Consultant Episodes (FCE) bed days and day cases, by country (excluding Scotland)

England										
	FCE bed days					FCE day cases				
	Ischemic Heart Disease	Other Heart Disease	Metabolic Disease	Cerebro-vascular Disease	Diseases of arteries, arterioles and capillaries	Ischemic Heart Disease	Other Heart Disease	Metabolic Disease	Cerebro-vascular Disease	Diseases of arteries, arterioles and capillaries
2019/20	934,852	1,690,510	463,775	1,875,321	402,990	73,244	77,644	101,139	1,542	19,148
2021/22	902,083	1,670,982	456,702	1,752,634	372,223	77,011	13,517	105,487	1,855	16,444
2023/24	955,286	1,840,335	493,881	1,969,930	413,725	59,496	89,772	118,423	2,120	19,432
% Δ 2019/20-2023/24	2.2%	8.9%	6.5%	5.0%	2.7%	-18.8%	15.6%	17.1%	37.5%	1.5%
Wales										
2019/20	66,981	131,976	32,085	151,811	31,606	3,140	3,151	2,049	61	564
2021/22	58,151	121,455	33,023	147,869	30,017	2,477	2,821	1,692	40	328
2023/24	46,057	109,616	27,490	141,188	25,664	2,053	3,044	2,726	31	444
% Δ 2019/20-2023/24	-31.2%	-16.9%	-14.3%	-7.0%	-18.8%	-34.6%	-3.4%	33.0%	-49.2%	-21.3%
Northern Ireland										
	Ischemic Heart Disease	Other Heart Disease	Endocrine, nutritional and metabolic disease	Cerebro-vascular Disease	Diabetes Mellitus	Ischemic Heart Disease	Other Heart Disease	Endocrine, nutritional and metabolic disease	Cerebro-vascular Disease	Diabetes Mellitus
2019/20	33,972	61,848	20,526	13,549	8,770	2,633	2,817	6,386	105	46
2021/22	31,744	57,326	19,864	19,058	11,366	1,619	1,580	7,846	81	19
2023/24	39,994	65,050	24,605	19,853	11,553	1,944	2,014	8,944	53	25
% Δ 2019/20-2023/24	17.7%	5.2%	19.9%	46.5%	31.7%	-26.2%	-28.5%	40.1%	-49.5%	-45.7%

Appendix 3.2 - Search strategy (cardiometabolic conditions)

Search strategy at Ovid Embase, Emcare, Medline, and PsychInfo

1	Cardiometabolic.ti,ab.
2	Stroke.ti,ab.
3	Diabetes.ti,ab.
4	obsity.ti,ab.
5	Cardiovascular disease*.ti,ab.
6	Myocardial infarction*.ti,ab.
7	angina.ti,ab.
8	1 or 2 or 3 or 4 or 5 or 6 or 7
9	Hospital admission*.ti,ab.
10	Readmission*.ti,ab.
11	Re-hospital*.ti,ab.
12	Length of stay.ti,ab.
13	Diagnos* delay.ti,ab.
14	Emergency service*.ti,ab.
15	Angioplasty*.ti,ab.
16	angiogram.ti,ab.
17	Coronary artery bypass graft.ti,ab.
18	CABG.ti,ab.
19	Rehabilitation service*.ti,ab.
20	Community health service*.ti,ab.
21	9 or 10 or 11 or 12 or 13 or 14 or 15 or 16 or 17 or 18 or 19 or 20
22	8 and 21
23	Systematic review.ti,ab.
24	Meta-analysis.ti,ab.
25	23 or 24
26	22 and 25
27	Limit 26 to yr=”2015-current”

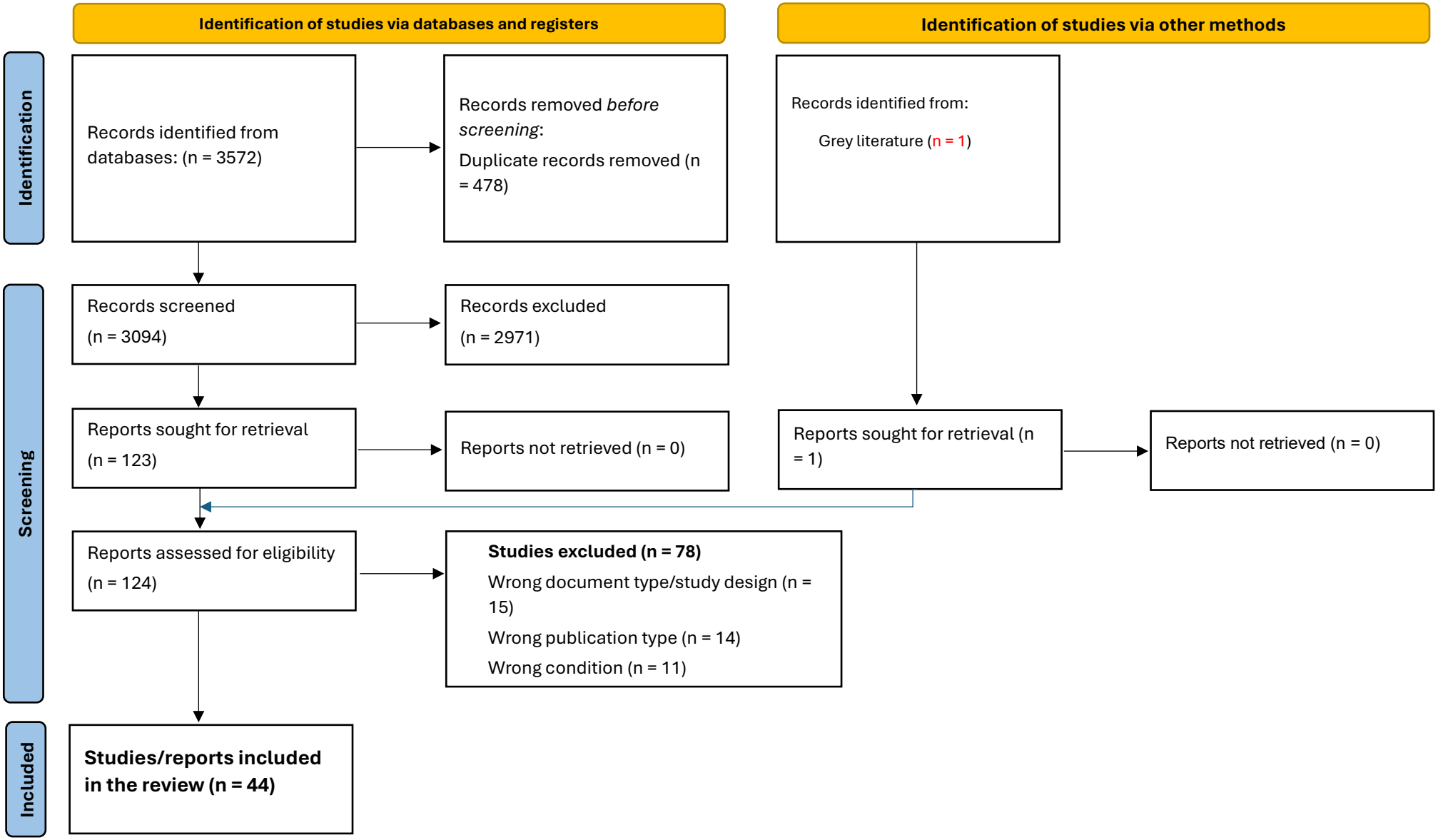
Notes: ti=title; ab=abstract

Search strategy at CINAHL Plus with full text via EBSCOhost

	Query	Limiters/Expanders
S1	TI (cardiometabolic disease or cardiovascular disease or stroke or diabetes or obesity or myocardial infarction or angina) OR AB (cardiometabolic disease or cardiovascular disease or stroke or diabetes or obesity or myocardial infarction or angina)	Expanders - Apply equivalent subjects Search modes - Find all my search terms
S2	TI (hospital admission or readmission or length of stay or diagnostic delay or emergency service* or angioplasty or angiogram or coronary artery bypass graft or CABG or rehabilitation service* or community health service*) OR AB (hospital admission or readmission or length of stay or diagnostic delay or emergency service* or angioplasty or angiogram or coronary artery bypass graft or CABG or rehabilitation service* or community health service*)	Expanders - Apply equivalent subjects Search modes - Find all my search terms
S3	S1 AND S2	Expanders - Apply equivalent subjects Search modes - Find all my search terms
S4	TI (systematic review or meta-analysis) OR AB (systematic review or meta-analysis) OR PT (systematic review or meta-analysis)	Expanders - Apply equivalent subjects Search modes - Find all my search terms
S5	S3 AND S4	Limiters – Publication Date: 20140101- Expanders - Apply equivalent subjects Search modes - Find all my search terms

Notes: TI=title; AB=abstract; PT=publication type

Appendix 3.3 - PRISMA flow chart (cardiometabolic conditions)



From: Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ 2021;372:n71. doi: 10.1136/bmj.n71. For more information, visit: http://www.prisma-statement.org/

Appendix 3.4 - Key characteristics of included reviews (cardiometabolic conditions)

Study	Period covered	Condition(s)	Types of intervention	Outcomes
Akiboye, 2021	Jan 1998 to Sep 2019	• Diabetes	• Specialist professional team	• Hospital readmission • Length of stay
Beccia, 2024	Up to Jul 2023	• Diabetes	• Professional training/supporting tool	• Diagnostic delay
Bilicki, 2024	2013 to 2023	• Heart failure • Stroke	• Outpatient follow-up visit	• Hospital readmission
Bindawas, 2017	Up to 2014	• Stroke	• Inpatient rehabilitation programme	• Length of stay
Chakraborty, 2021	2007 to 2021	• Diabetes	• Patient/carer education • Multidisciplinary care • Quality improvement • Transition of care • Outreach service	• Hospital readmission • Length of stay
Chan, 2021	2001 to 2019	• Diabetes • Hypertension	• Continuity of care	• Hospital admission
Chen, 2024	2002 to 2023	• Heart failure	• Multidisciplinary care	• Hospital admission
Dibben, 2021	Up to Sep 2020	• Coronary heart disease	• Lifestyle modification	• Hospital admission
English, 2016	Up to 2016	• Stroke	• Disease/symptom management/rehabilitation	• Length of stay
Eustace, 2025	Jan 2012 to Jan 2024	• Stroke	• Self-management • Care pathways • Transition of care • Case management • Integration of care • Patient/carer education • Disease/symptom management/rehabilitation • Psychosocial	• Hospital admission
Freund, 2022	2006 to Jun 2020	• Stroke	• Patient/carer education	• Hospital readmission
Friel, 2022	2010 to 2021	• Diabetes	• Professional training/supporting tools • Specialist professional or team • Care pathways	• Length of stay
Hamilton, 2018	2000 to Aug 2016	• Heart failure	• Telemonitoring	• Hospital admission • Length of stay
Han, 2019	Up to Mar 2018	• Coronary artery disease • Heart failure	• Telephone follow-up • Care pathways	• Hospital admission • Hospital readmission

		• Diabetes • Myocardial infarction	• Case management • Disease/symptom management/rehabilitation • Patient/carer education	
Hanlon, 2017	Jan 2000 to May 2016	• Diabetes • Heart failure	• Self-management	• Healthcare utilisation • Hospital admission • Visits to emergency department
Howard, 2022	2015 to 2020	• Stroke	• Lifestyle modification • Case management	• Hospital readmission • Length of stay
Hua, 2024	Up to 2024	• Heart failure	• Lifestyle modification	• Hospital readmission
Huang, 2015	Up to Dec 2014	• Stroke	• Care pathways	• Length of stay
Hunter, 2022	1995 to 2019	• Heart failure	• Specialist professional or team • Patient/carer education	• Hospital admission • Hospital readmission
Hussain, 2020	Up to Mar 2019	• Diabetes	• Patient/carer education	• Length of stay
Jayakody, 2016	Um to May 2015	• Stroke • Heart failure	• Discharge planning • Care pathways • Patient/carer education • Professional training/supporting tools • Telemedicine	• Hospital readmission
Kruse, 2017	2006 to 2015	• Heart failure	• Telemedicine	• Hospital admission • Length of stay
Labrosciano, 2020	2000 to 2016	• Heart failure • Atrial fibrillation	• Quality improvement • Case management • Multidisciplinary care • Medication review	• Hospital readmission
Lancey, 2024	Up to Sep 2023	• Heart failure	• Self-management • Multidisciplinary care	• Hospital readmission
Magan, 2022	Up to May 2020	• Coronary artery disease	• Psychosocial	• Hospital readmission
Mai, 2025	Up to Jan 2025	• Hypertensive disorder of pregnancy	• Self-management	• Hospital readmission
Michael, 2025	Jan 2000 to Dec 2023	• Stroke	• Transition of care	• Hospital readmission
Moulson, 2020	Up to Feb 2019	• Diabetes	• Patient/carer education • Psychosocial • Telephone follow-up	• Hospital admission
Piskulik, 2021	2015 up to Jan 2021	• Heart failure	• Telemedicine	• Hospital admission
Sauvé-Schenk, 2022	Jan 2008 to May 2020	• Stroke	• Transition of care	• Social services utilisation
Sek Ying, 2021	Jan 2000 to Mar 2020	• Heart failure	• Lifestyle modification	• Hospital admission

Sherman, 2021	Up to Dec 2019	• Stroke	• Disease/symptom management/rehabilitation	• Length of stay
Smith, 2017	Up to 2015	• Congestive cardiac failure • Heart failure	• Shared care	• Hospital admission
Su, 2020	2003 to 2017	• Coronary heart disease	• Lifestyle modification • Self-management • Disease/symptom management/rehabilitation	• Hospital readmission
Suen, 2020	Up to 2018	• Heart failure	• Discharge planning	• Hospital readmission
Tan, 2025	Up to 2023	• Stroke	• Transition of care	• Hospital readmission
Taylor, 2021	Jan 2015 to Oct 2020	• Hypertensive disorder of pregnancy • Infant heat disease • Heart failure • Patients with cardiovascular implantable electronic devices	• Telemonitoring	• Hospital admission • Length of stay
Triantafyllidis, 2024	Up to 2023	• Acute myocardial infarction	• Telemonitoring	• Hospital readmission
Waseem, 2021	2006-2019	• Stroke	• Site of service delivery	• Length of stay
Watson, 2021	2014 to 2019	• Diabetes	• Telemedicine • Patient/carer education • Integration of care • Enhanced primary care • Case management	• Hospital admission
Xiaoquin, 2021	Up to 2020	• Heart failure	• Specialist professional or team	• Hospital readmission
Yang, 2022	Up to Oct 2020	• Heart failure	• Quality improvement	• Hospital admission
Zhu, 2020	1999 to 2018	• Heart failure	• Telemonitoring	• Hospital admission • Length of stay
Zullo, 2025	Up to Nov 2023	• Hypertensive disorder of pregnancy	• Telemonitoring	• Hospital readmission

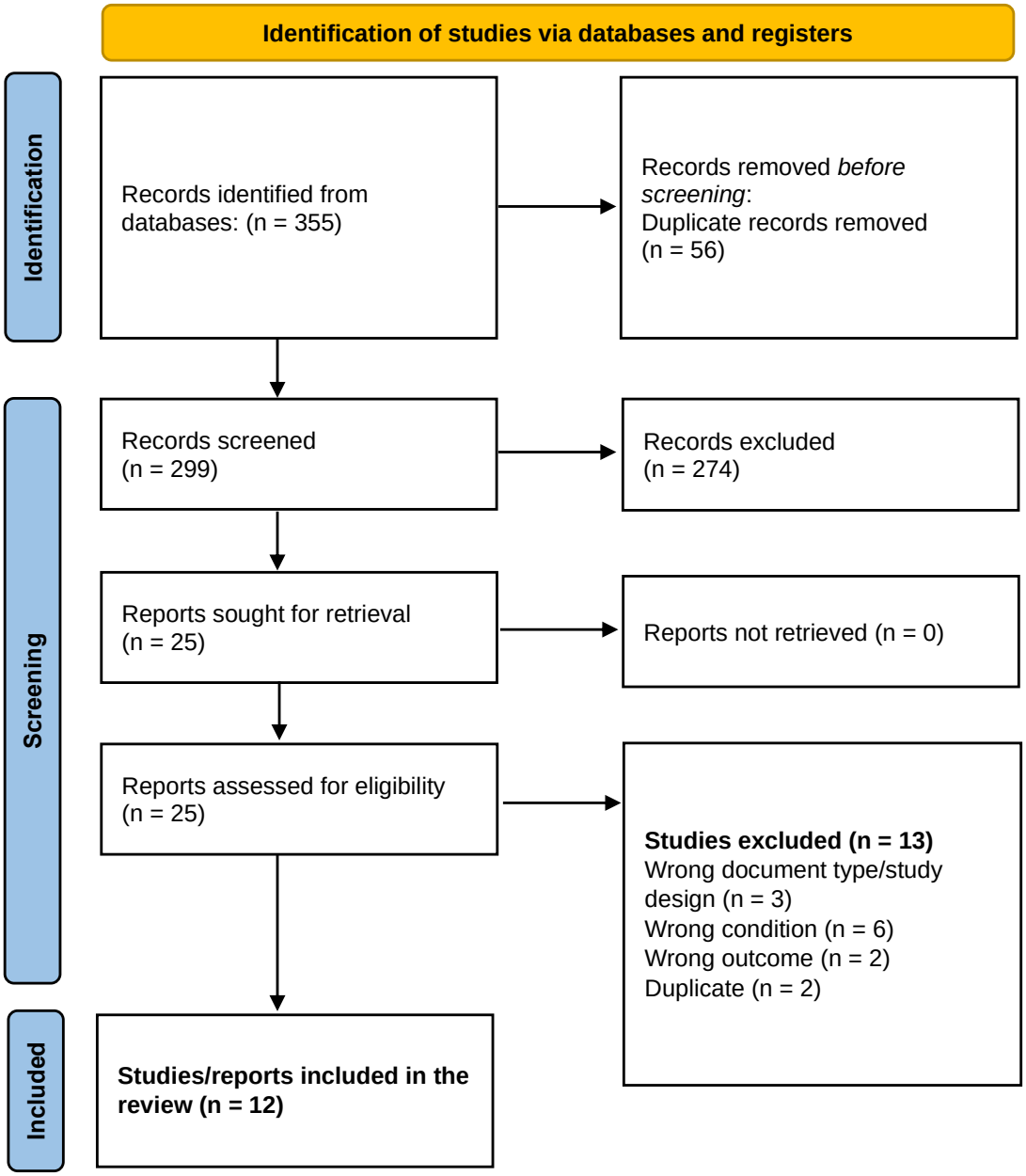
Appendix 4.1 - Taxonomy and definitions of interventions included in the dementia umbrella review

Broad area	Category*	Related terminologies from reviewed papers
(1) Care delivery & management	Case management / care coordination	Integrated working; teams; care planning
	Training	Workforce development
(2) Discharge & transition care	Discharge planning	Discharge summary
	Follow-up scheduling	Post-discharge multidisciplinary team
(3) Education & psychoeducation	Self-management	Counselling / self-help; shared care; patient / carer education
(4) Non-pharmacological intervention	Rehabilitation including exercise	Physio/occupational therapy; exercise
	Psychosocial intervention	Music; reminiscence; psychosocial support
(5) Pharmacological intervention	Deprescribing	
(6) Specialised service	Teams	Multidisciplinary teams
	Enhanced GP services / memory clinics	
	CGA	Multifactorial assessment & intervention
	SIDU	Specialist
(7) Other	Technology	Use of ICT

CGA=comprehensive geriatric assessment; SIDU=specialist inpatient dementia units

*These categories are not exhaustive, and some interventions have multiple components (e.g., case management with self-management). Other components (advance care planning/palliative care, quality improvement programmes, use of ICT, volunteer) were not included due to a lack of reviews in people with dementia with hospital use outcomes reported.

Appendix 4.2 - PRISMA flow chart of the dementia umbrella review



From: Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ 2021;372:n71. doi: 10.1136/bmj.n71. For more information, visit: http://www.prisma-statement.org/

Appendix 4.3 - Included review study characteristics in the dementia umbrella review

Authors, year	Focus	No. of studies included*	Interventions considered in this review*
Casarez & Smith, 2024[84]	Acute care features and nurse-sensitive outcomes	n=4/10	Staff training, psychosocial interventions, shared care
Feast et al., 2020[85]	General hospital care & management improvement	n=4/24	Person-centred volunteer, music, cognitive geriatric unit, multidisciplinary assessment and management
Godard-Sebillotte et al., 2019[86]	Impact of health service interventions on acute hospital use	n=17/17	case management, self-management
Lee et al., 2020[87]	Non-pharmacological interventions to prevent hospital or nursing home admissions	n=7/17	case management, care coordination, multidisciplinary intervention, exercise, telehealth education
Lewis et al., 2017[88]	Exercise programmes	n=1/7	Exercise
McCausland et al., 2019[89]	Specialist inpatient dementia care in acute care hospitals	n=2/3	SIDU
Packer et al., 2019[90]	Can non-pharmacological interventions reduce hospital admissions	n=13/17	care management, counselling/self-help, enhanced GP services/memory clinics, physio/occupational therapy
Phelan et al., 2015[91]	Interventions to prevent hospitalisation	n=9/10	Case management/care coordination, multidisciplinary assessment & management, other
Reilly et al., 2015[92]	Case management for home support	n=7/13	Case management
Robalino et al., 2018[93]	Interventions for fall-related injuries	n=6/7	Rehabilitation, acute care, comprehensive geriatric assessments
Sawan et al., 2021[94]	Hospital discharge interventions to guide carers in medication management	n=4/5	Discharge planning, follow-up scheduled, carer education
Shrestha et al., 2021[95]	Deprescribing dual-purpose medications at end-of-life	n=3/5	Deprescribing

* Excluding studies without hospital use outcomes, intervention, or (self-)controls. UK-based studies include care management,[295] comprehensive geriatric assessment,[101] deprescribing,[296] music,[98] SIDU,[103] specialist geriatric medicine ward,[297] rehabilitation,[125] A&E multifactorial assessment & intervention,[298] and reminiscence.[100]

Appendix 4.4 - Review of active research in dementia: search and synthesis approach

Data sources	Grant records were obtained from: • UKRI Gateway to Research. UKRI funding is broken down into individual councils and programmes, based on the classification given by UKRI Gateway to Research • NIHR Open Data • European Commission CORDIS • Dataset downloaded from Europe PMC, which contains data from funders such as Wellcome Trust, Alzheimer's Society, or British Heart Foundation • Alzheimer's Research UK portfolio with grants active in the calendar year 2024
Initial filtering	1. **Dementia relevance:** records were filtered using dementia-related keywords applied to titles and abstracts. 2. **Care-setting relevance:** the subset above was further filtered using hospital, community, and social-care keywords applied to titles and abstracts. 3. **Activity window:** records were retained if the grant was active at any point during **2024 or 2025** (based on start/end).
LLM screening	To reduce false positives: • Each remaining record was processed by a LLM prompted to exclude items that merely mention dementia or care settings without being substantively in scope. • Prompts specified inclusion criteria (dementia-focused work within hospital/community care) and common exclusion patterns (e.g., basic science with incidental mentions). • A light human spot-check was performed on borderline cases; no full fact-checking was undertaken.
Final corpus	After screening, the final dataset comprised **87 grants** active in 2024 or 2025.

Synthesis and categorisation	The combined text (titles, abstracts, and available summaries) for all records was passed through an LLM instructed to produce:
	• A concise narrative summary of the portfolio, and
	• A single primary category for each grant, selected from the following:
	  ○ Hospital-based dementia care (acute care, specialised units, emergency care)
	  ○ Community care transitions (hospital-to-home, discharge planning)
	  ○ Community-based dementia services (day centres, home care, primary care)
	  ○ Care coordination and integration (across hospital and community)
	  ○ Technology and innovations (supporting transitions or community care)
	  ○ Policy and service delivery models
	  ○ Patient and family support systems
	  ○ Workforce and training initiatives
	  ○ Quality improvement and outcomes measurement

Limitations	• The LLM outputs were **lightly edited for clarity** and **not independently fact-checked**. • Keyword filters and automated screening may omit relevant records that use atypical language and may retain marginal cases.

LLM=large language model

Appendix 4.5 - Review of active research in dementia: list of included projects

Funder	*ID*	*Title*
AHRC	AH/Z506527/1	GOALDen Memories
Alzheimer's Research UK	ARUK-PPG2023B-023	Spontaneous CAA-related inflammation as a model for Aβ immunotherapy-induced side effects (ARIA)
	ARUK-RADF2023B-007	Understanding infection and inflammation as risk factors for vascular dementia to inform prevention
	ARUK-CRF2018C-001	Prediction of Cognitive Decline Following PostOperative Delirium - Follow Up Of An Observational Cohort Study With Genetic, Cerebrospinal Fluid and Plasma Biomarkers
	ARUK-PG2016B-12	The impact of acute systemic inflammation upon cerebrospinal fluid and blood biomarkers of brain inflammation and injury in dementia: a study in acute hip fracture and memory clinic patients
Alzheimer's Society	374	Enhancing delirium recovery
	454	Using healthcare databases to understand whether anticholinergic bladder drugs influence dementia risk
	455	Is it feasible for the NHS to deliver a specialised mouth care programme for patients who have dementia and swallowing difficulties
	456	King's College London Multi-professional Clinical Training Partnership
	577	Accelerated Magnetic Resonance Imaging for Alzheimer's Disease (ADMIRA)
BBSRC	BB/X004260/1	Molecular imaging of neurodegenerative pathology using deuterium MRI (MINDER)
British Heart Foundation	RG/19/4/34452	The British regional heart study: a resource for studying the causes, pathways and prevention of cardiovascular disease and disability among older British men
EPSRC	2868407	Vision-Based Patient Monitoring in Inpatient Mental Health Care
	EP/T020970/1	NON-INVASIVE SINGLE NEURON ELECTRICAL MONITORING (NISNEM Technology)
	EP/W030756/2	aeon: a toolkit for machine learning with time series
	2452143	Neurotechnologies to monitor sleep and develop soft robotics for Neurodegenerative patients
	2417003	Developing a rapid MRI technique for simultaneous structural and functional susceptibility mapping
	2872635	Towards a better understanding of cardio and cerebrovascular diseases
	2441046	Advanced Machine Learning to Improve Patient Care and Outcome using Real-time Hospitalisation Data
	2719105	Development of a novel computational framework to support therapeutic-planning in selecting the optimal thromboembolic prevention treatment for AF
	2596865	novel technological solutions to perform wearable broadband spectroscopy
ESRC	ES/S010327/1	Empowering Better End of life Dementia Care (EMBED-Care Programme)
	2715816	Development & user-testing of a communication intervention decision-making support tool for non-specialist SLTs working with people with Alzheimer's
	2421040	Is 'elderspeak' always inappropriate? An empirical investigation of the use of elderspeak in dementia care
	2585149	Estimating treatment effects using real world data when there are competing risks
European Commission	945125	Ground-BrEAking Electroporation-based inTervention for Atrial Fibrillation treatment (BEAT AF)
	960327	A Methylation Profiling Diagnostic for Early Diagnosis of Alzheimerâ€™s disease
	101113566	MRI analysis tool for early detection of dementia
	101058240	Personalised Health cognitive assistance for RehAbilitation SystEm

Funder	ID	Title
	101137115	Stratification, Management, and Guidance of Hypertrophic Cardiomyopathy Patients using Hybrid Digital Twin Solutions
Horizon Europe Guarantee	EP/Y027620/1	Data and the 'Healthcare Revolution'
	10109598	Stratification, Management, and Guidance of Hypertrophic Cardiomyopathy Patients using Hybrid Digital Twin Solutions
Infrastructure Fund	MC_PC_MR/ Y002717/1	OPM-MEG for understanding neurocognitive impairment and neurodevelopmental disorder in young children
Innovate UK	10131668	Application of people-centred design methods to understand healthcare user needs for a sock-based wearable device (SmartSocks) supporting the recognition and management of distress in people living with dementia
	10035105	JellyDrops+: Transforming nutrition for elderly people with dementia
	10106945	e-CLEAR Dementia Training Platform
	10066588	BBSRC ICURe: Quantified Imaging
ISCF	10026119	Remote Incontinence Care Innovation
MRC	2604868	Augmenting clinical risk predictors through multi-omics
	MR/Y008502/1	TBI-REPORTER (UK-TBI REpository and data PORTal Enabling discoveRy)
	MR/Y014065/1	Is extracellular ferritin is an endogenous danger signal that exacerbates inflammation?
	MR/V006754/1	Elucidating the role of manganese in brain physiology and disease
	MR/T005769/1	Image-Derived Enzymatic Adrenal Lateralisation of Primary Hyperaldosteronism (IDEAL)
	MR/S010351/1	MICA: InterdisciPlInary Collaboration for efficienT and effective Use of clinical images in big data health care RESearch: PICTURES
	MR/Z504890/1	Modulating interleukin-6 pathways to understand the effect of systemic inflammation on detrimental neuroinflammation following Traumatic Brain Injury
	2470160	Using wearable technology to identify activity and sleep patterns in inpatients with delirium and Parkinson's disease
	MR/Z506618/1	Targeting the therapeutic potential of soluble epoxide hydrolase for the treatment of osteoarthritis pain
	2770521	Characterisation of longitudinal peripheral immune cellular changes in vascular dementia
	2887450	Realising the potential of retinal image analysis via AI methods for early detection of brain disease in the community
	2770620	Predicting post-stroke dementia: mechanisms and markers
	MR/W030098/1	Investigating Shunt-Responsiveness in Idiopathic Normal Pressure Hydrocephalus Using White Matter Tractography and Degenerative Biomarker Profiles
	MR/W016095/1	Noradrenergic Biomarkers and their relationship to Therapeutic Response in Clinical Alzheimer's Disease
	MR/T023791/1	Blood-brain barrier dysfunction and risk of dementia following blood-stream infections
	2443765	Delirium as an acute brain injury in hospital inpatients: can clinical features and biomarkers predict outcomes?
	2885909	Delirium and Dementia in Hospitalised Older People with Acute Illness: Risk Factors, Mechanisms and Prognosis
NIHR	12/1/1938	Add-Aspirin Trial: A phase III double-blind placebo-controlled randomized trial assessing the addition of aspirin after standard primary therapy in early stage common solid tumours
	16/82/01	A multicentre randomised controlled trial, with process evaluation, to test the clinical and cost-effectiveness of self-management of vaginal pessaries to treat pelvic organ prolapse, compared to standard care to improve women's quality of life. TOPSY trial: Treatment Of Prolapse with Self-care pessarY

Funder	ID	Title
	17/145/40	Carbon Dioxide Insufflation and Brain Protection During Open Heart Surgery. A Randomized Controlled Trial (CO-Two)
	NIHR160824	Understanding the support needs of African and African-Caribbean people living with dementia, their care partners and families and the impacts of delayed support: identifying inclusive strategies to facilitate timely and culturally appropriate social care support.
	NIHR132455	NIHR Global Health Research Group on Acquired Brain and Spine Injury (ABSI)
	NIHR132718	A multi-centre randomised controlled non-inferiority and cost effectiveness trial comparing Polyhexanide and Chlorhexidine with Neomycin to Mupiricon for nasal meticillin-resistant Staphylococcus aureus (MRSA) decolonisation amongst adult hospital in-patients
	NIHR134221	Development and testing of communication skills training for hospital healthcare practitioners caring for people living with dementia to avoid or resolve episodes of distress and challenging behaviour (VOICE2): a mixed-methods study
	NIHR203127	WHiTE-DECI: World Hip Trauma Evaluation â€“ Delirium and Cognitive Impairment; a randomised feasibility trial comparing severity of delirium symptomatology between hip fracture patients 60 years and over treated with a peri-operative infusion of anti-TNF or placebo.
	NIHR204928	MELODIC: co-developing a Music therapy intervention Embedded in the Life Of Dementia Inpatient psychiatric Care to reduce agitation and related physical assaults
	NIHR204992	Understanding and optimising hospital outpatient services for people living with dementia: an ethnographic and intervention development study
	NIHR157899	Selecting reablement models that best support people leaving hospital after an unplanned admission
	NIHR159009	LACunar Intervention (LACI) Trial-3: Assessment of efficacy and safety of cilostazol and isosorbide mononitrate to prevent adverse outcomes in patients with cerebral small vessel disease (lacunar) ischaemic stroke
	NIHR201943	WHiTE-LITâ€“ World Hip Trauma Evaluation - Lidocaine Intravenous Trial: a feasibility study for a randomised controlled trial of the effect of intravenous lidocaine at the time of surgery on outcomes following hip fracture
	NIHR300669	The clinical and cost-effectiveness of contemporary diagnostics for patients with suspected Hospital-Acquired Pneumonia (HAP).
	NIHR132903	Understanding the everyday use of restrictive practices in the care of people living with dementia during a hospital admission: reducing inappropriate use, identifying good practice and alternative approaches to reduce risk and improve care
	NIHR204290	Identifying older patients at high short-term risk of dementia and cognitive decline using routinely collected hospital electronic clinical and brain imaging data to improve care
	NIHR155567	CRASH-4 trial (Clinical Randomisation of an Anti-fibrinolytic in Symptomatic mild Head injury in older adults) Intramuscular tranexamic acid for the treatment of symptomatic mild traumatic brain injury in older adults: a randomised, double-blind, placebo-controlled trial
	NIHR303253	Can we lessen the symptoms of delirium in patients having major surgery using non-invasive brain monitoring?
	NIHR206836	Identifying socioeconomic and ethnic disparities in key health outcomes by hormone replacement therapy use in older women
	NIHR161439	Family Interventions iN Dementia Mental health Environments (FIND ME)
	NIHR207260	WHiTE 10-LIT: World Hip Trauma Evaluation 10 - Lidocaine Intravenous Trial: a randomised controlled trial of the effect of intravenous lidocaine at the time of surgery on delirium following hip fracture

Funder	*ID*	*Title*
	NIHR202338	Development and testing of an intervention to improve Recovery after an Episode of Delirium (RecoverED study)
	NIHR301287	BRAIN AI: Biomarker Research to Assess Inflammation in Neurodegeneration using Artificial Intelligence
	NIHR202743	ACT for Functional Cognitive Disorders - feasibility study
	RP-PG-1016-20007	Supported exercise TrAining for Men with prostate caNcer on Androgen deprivation therapy - STAMINA
	MIC-2016-009	NIHR Brain Injury MedTech Co-operative
SPF	MR/V033654/1	ADMISSION UK Multimorbidity Research Collaborative on Multiple Long-Term Conditions in Hospital: from burden and inequalities to underlying mechanisms
The Dunhill Medical Trust	JBGS21\14	Exaggerated Immune Ageing and Pro-inflammatory Immune to Brain Communication in Delirium Pathophysiology
	PDM2310\26	Dunhill Medical Trust Doctoral Training Programme for Ageing Research
UKRI FLF	MR/T019050/1	Enabling the Development and Application of Artificial Intelligence in the NHS
Wellcome Trust	221934	Epilepsy and neurodegeneration : disease mechanisms and early detection

Appendix 4.6 - Ongoing and recently completed study review (dementia): LLM synthesis findings

Area	Summary of findings	Comments
Hospital-based dementia care	Research is heavily focused on improving care within acute and specialist hospital settings, particularly around managing distressing events and common complications. Multiple projects are investigating the causes, prevention, and management of delirium in older hospitalised patients, especially those undergoing surgery for hip fractures [ID: NIHR203127, NIHR201943, NIHR207260, NIHR303253, ARUK-CRF2018C-001]. There is a significant effort to understand and improve staff-patient interactions, including communication techniques and the use of restrictive practices [ID: NIHR134221, 2421040, NIHR132903]. Other projects target specific clinical needs such as malnutrition, incontinence, and specialised oral care for patients with dementia and dysphagia [ID: 10035105, 10026119, 455]. A notable theme is the use of technology, from wearable sensors for monitoring patient distress to AI-driven analysis of hospital data, to enhance safety, care, and resource management within general wards, intensive care units (ICUs), and specialist psychiatric wards [ID: 10131668, 2868407, 2441046, NIHR204928].	• Several studies focus on preventing or reducing the severity of post-operative delirium in older adults, particularly following hip fracture surgery [ID: NIHR203127, NIHR201943, NIHR207260]. • Research is underway to understand and reduce the use of restrictive practices in the care of people with dementia during acute hospital admissions [ID: NIHR132903]. • Efforts are being made to improve care in specialist inpatient psychiatric dementia wards by developing non-pharmacological interventions like music therapy to manage agitation and physical assaults [ID: NIHR204928]. • The experiences of patients and staff in outpatient departments are being studied to co-design interventions that optimize this care setting for people living with dementia [ID: NIHR204992]. • Researchers are investigating specific communication strategies used by healthcare professionals in acute hospital settings to avoid or de-escalate distress and challenging behaviour [ID: NIHR134221, 2421040]. • The high prevalence of malnutrition (70%) and its impact on recovery and length of stay for hospitalised people with dementia is a target for intervention [ID: 10035105]. • Unnecessary hospital admissions are identified as a consequence of poor dementia understanding, with research highlighting the significant costs of specialist inpatient stays [ID: 10106945, NIHR160824]. • Studies are exploring why people with advanced dementia attend Emergency Departments to inform decision-making and potentially reduce avoidable admissions [ID: 456]. • Technology is being piloted in inpatient settings to monitor patient behaviour and emotional states, aiming to provide more continuous data than current manual recording practices [ID: 10131668, 2868407]. • A key challenge being addressed is the need for better resource management between general wards and ICUs for patients with complex conditions like sepsis [ID: 2441046]. • Feasibility studies are assessing the implementation of new care programmes, such as specialised mouth care for patients with dementia and dysphagia, within acute hospitals [ID: 455]. • The physical hospital environment is also a focus, with projects investigating how to support safe mobility, for instance by augmenting physiotherapy with technology to monitor walking frame use [ID: PDM2310\26].
Community care transitions	The transition from hospital to community settings is a critical area of investigation, with a clear focus on improving outcomes and preventing deterioration after discharge.	• An integrated inpatient/outpatient delirium recovery programme is being developed and tested, with the intervention delivered in the patient's home after discharge from the hospital [ID: 374, NIHR202338].

Area	Summary of findings	Comments
	Research is actively developing and evaluating models of care designed to support patients leaving the hospital [ID: NIHR157899, 374, NIHR202338]. These projects aim to understand what constitutes effective reablement and how to create integrated recovery programs that bridge the gap between inpatient and outpatient or home-based care [ID: NIHR157899, 374, NIHR202338]. There's also an emphasis on preventing avoidable hospital admissions in the first place, particularly for minority ethnic groups who may only access services at a crisis point, and on facilitating earlier discharge through pre-hospital interventions [ID: NIHR160824, NIHR155567]. Technology is seen as a potential enabler for smoother transitions, for example by supporting continuous rehabilitation at home [ID: EP/T020970/1].	• The effectiveness of different models of reablement for people leaving acute hospital care is being evaluated to identify which approaches lead to better outcomes [ID: NIHR157899]. • Research highlights that some populations, such as African and African Caribbean people living with dementia, are often identified by services only at a crisis point, leading to potentially avoidable hospital admissions that perpetuate inequalities [ID: NIHR160824]. • The challenge of patient deterioration after hospital discharge is being addressed through new rehabilitation systems designed to maintain the gains made during inpatient therapy [ID: 101058240]. • The journey of patients with multimorbidity through the healthcare system is being mapped using data from ambulance services, A&E, acute admissions, and GP records to identify opportunities for improvement [ID: MR/V033654/1]. • Pre-hospital treatment for conditions like mild traumatic brain injury is being trialled to reduce the need for hospital admission and facilitate direct discharge from the emergency department [ID: NIHR155567]. • A comparison of patient activity levels in the hospital versus at home is being conducted using wearable technology to better understand the transition process [ID: 2470160].
Community-based dementia services	Research into community-based services aims to improve care delivery in settings where most people with dementia live, including their own homes and care homes. A significant focus is on early, community-based identification of individuals at risk of cognitive decline, utilising routine data sources like retinal images from optometrists and GP records [ID: 2887450]. Interventions are being developed to support people at home, such as reminiscence therapy delivered via digital platforms and remote monitoring technologies [ID: AH/Z506527/1, 10026119, 2596865]. There is also a strong emphasis on understanding and improving access to social care, particularly for underserved populations who face	• The potential for community-based early identification of dementia risk is being explored by applying AI to retinal images routinely collected by high-street optometrists [ID: 2887450]. • Digital reminiscence packs ("Lightboxes") are being created for use in various community contexts, including care homes and private residences, to trigger memories and support wellbeing [ID: AH/Z506527/1]. • Non-invasive, remote monitoring technology for incontinence is being validated for use in domiciliary/home care and nursing home settings [ID: 10026119]. • The experiences of African and African Caribbean people living with dementia in seeking support from Adult Social Care are being investigated to improve service recognition and access [ID: NIHR160824]. • Decision-making support tools are being developed for non-specialist speech and language therapists working in general community therapy teams to better manage communication difficulties in people with dementia [ID: 2715816]. • Home-based clinical trials are utilising wearables for real-time data capture, changing the dynamic of research and care delivery [ID: EP/Y027620/1].

Area	Summary of findings	Comments
	significant barriers [ID: NIHR160824]. The need for specialised support from allied health professionals, such as speech and language therapists in community teams, is also being addressed [ID: 2715816].	
Care coordination & integration	Several grants highlight the necessity of integrating care across different settings and health data platforms to provide seamless services for people with dementia. The research emphasizes linking routinely collected data from primary care (GPs), secondary care (hospitals), community services (optometrists), and specialist services (mental health trusts) to create comprehensive datasets [ID: ES/S010327/1, 2887450, MR/S010351/1, MR/T023791/1]. This integration is crucial for understanding patient journeys, predicting risk, and developing new models of care, such as integrated palliative dementia care that bridges settings [ID: MR/V033654/1, ES/S010327/1]. The ultimate goal is to create systems where critical information, like dementia risk scores, can be automatically shared between hospital and primary care providers to improve ongoing management [ID: NIHR204290].	• A model of integrated palliative dementia care is being developed to bridge moves between settings and provide seamless care [ID: ES/S010327/1]. • Projects are linking community-acquired retinal images with hospital inpatient/outpatient electronic health records to create a more complete picture of a patient's health trajectory [ID: 2887450]. • Large-scale data platforms aim to provide streamlined access to linked datasets from various sources, including hospital TBI data, trauma networks, and intensive care audits [ID: MR/Y008502/1]. • Risk stratification tools developed from hospital data are designed to have their results automatically transmitted to GPs to inform both inpatient and outpatient care [ID: NIHR204290]. • The linkage of GP, hospital, and public health data is being used to establish dementia risk at a population level following events like blood-stream infections [ID: MR/T023791/1]. • Research is exploring how to better coordinate care for patients with multimorbidity, including dementia, by analysing their journeys through the entire healthcare system [ID: MR/V033654/1]. • The linkage of imaging data with genomic data and medical records is being pursued to facilitate advanced research into predicting dementia risk [ID: MR/S010351/1].
Policy & service delivery models	The grants indicate a clear drive to develop, test, and implement new models of care and service delivery that are better suited to the needs of people with dementia. This includes creating comprehensive frameworks for integrated palliative dementia care and developing interventions to improve recovery after delirium [ID: ES/S010327/1, 374, NIHR202338]. There is a focus on evaluating	• A new model of integrated palliative dementia care is being co-designed and tested with the goal of informing policymakers about future service needs [ID: ES/S010327/1]. • The clinical and cost-effectiveness of different models of reablement for patients leaving the hospital are being evaluated to guide service commissioning [ID: NIHR157899]. • An evidence-based intervention to improve recovery after an episode of delirium is being developed, tested in a randomised controlled trial, and assessed for implementation in the NHS [ID: NIHR202338, 374].

Area	Summary of findings	Comments
	different existing models, such as various types of reablement services, to determine their cost-effectiveness and impact on patient outcomes [ID: NIHR157899]. Research also aims to directly inform national policy and guidelines by addressing priorities outlined in the NHS Long Term Plan and by generating evidence to change clinical practice around issues like restrictive practices and the use of AI in healthcare [ID: 10106945, MR/T019050/1, NIHR132903].	• Research is examining how health data is reshaping healthcare, including the rise of 'health data nationalism' in dementia and the values embedded in government blueprints for digital transformation [ID: EP/Y027620/1]. • There is a specific focus on developing alternative, evidence-based strategies to reduce the reliance on restrictive practices in acute hospital care [ID: NIHR132903]. • The use of real-world data from electronic health records is being explored to evaluate treatment effects and inform regulatory and healthcare decision-making [ID: 2585149].
Technology & innovations	A substantial proportion of the research focuses on developing and applying technology to improve the diagnosis, monitoring, and care of people with dementia. This includes a strong emphasis on machine learning and AI to analyse complex datasets, such as predicting hospitalisation risk from health records, identifying dementia risk from retinal scans, or developing diagnostic support tools [ID: 2441046, 2887450, NIHR301287, 2770620]. Wearable and contactless sensor technology is another major theme, with projects developing devices to monitor emotional states, sleep patterns, activity levels, and incontinence remotely in both hospital and community settings [ID: 10131668, 2452143, 2470160, 10026119, 2868407]. Advanced medical imaging techniques are also being refined to provide earlier and more accurate diagnoses, with a push to make these technologies faster, more accessible, and suitable for routine clinical use [ID: 577, 10066588, 2417003].	• Wearable technologies like "SmartSocks" and accelerometry-based sensors are being developed and tested to monitor distress, activity, and sleep patterns in both hospital and home environments [ID: 10131668, 2470160, 2452143]. • AI and machine learning are being leveraged to predict hospitalisation for dementia patients months in advance, predict dementia risk from routine retinal images, and create prognostic tools from clinical brain scans [ID: 2441046, 2887450, 2770620, MR/S010351/1]. • Contactless monitoring systems, including vision-based algorithms and ambient air scanners for incontinence, are being developed as alternatives to wearable devices in care settings [ID: 2868407, 10026119]. • Advanced MRI techniques are being developed to make scans faster and more informative, enabling their use in routine clinical settings for early diagnosis [ID: 577, 2417003, 10066588]. • Novel interventions are being created, such as "JellyDrops+" for nutrition delivery and digital "Lightboxes" for reminiscence therapy, to address specific challenges in dementia care [ID: 10035105, AH/Z506527/1]. • Digital platforms, including mobile applications and software toolkits, are being created to facilitate remote monitoring, deliver training, and enable researchers and clinicians to share code and findings [ID: 2452143, EP/W030756/2]. • Risk prediction algorithms are being designed to be embedded directly into hospital electronic patient record (EPR) systems to support clinical decision-making at the point of care [ID: NIHR204290].

Area	Summary of findings	Comments
Support for person and family	Several grants emphasize the central role of patients and their families, incorporating their perspectives directly into the research and development process. Experience-based co-design is a frequently mentioned methodology, used to create new interventions and tools for outpatient care, carer support on mental health wards, and technology design [ID: NIHR204992, NIHR161439, 10131668, 2452143]. The specific support needs of carers are a key focus, particularly in high-stress environments like inpatient mental health wards and for specific communities such as African and African Caribbean families [ID: NIHR161439, NIHR160824]. The aim is to develop interventions that not only improve patient outcomes but also empower carers, enhance their involvement in decision-making, and reduce their burden [ID: NIHR161439, NIHR202338].	• The support needs and experiences of carers, particularly when a person with dementia is detained on a mental health ward, are being investigated to co-design evidence-based support strategies [ID: NIHR161439]. • The specific needs of African and African-Caribbean people living with dementia and their families are being studied to facilitate more timely and culturally appropriate social care support [ID: NIHR160824]. • Interventions for outpatient care are being co-designed with people living with dementia, families, and staff to ensure they are relevant and practical [ID: NIHR204992]. • Participatory design approaches are being used to develop new technologies, involving people with dementia and family caregivers in focus groups and co-design workshops [ID: 10131668, 2452143]. • Research is exploring what women with dementia and their welfare guardians want from services for conditions like pelvic organ prolapse [ID: 16/82/01]. • Decision-making tools are being created to aid both staff and carers in providing the right care at the right time [ID: ES/S010327/1].
Workforce & training	Improving the skills and knowledge of the healthcare workforce is a significant theme across the grants. This involves developing and delivering targeted training on specific aspects of dementia care, such as communication skills, management of challenging behaviours, and specialised oral care [ID: NIHR134221, 10106945, 455]. Several projects aim to create practical, evidence-based tools and resources to support clinical decision-making for non-specialist staff who frequently care for people with dementia [ID: 2715816]. A key strategy is the "train-the-trainer" model, designed to build capacity within NHS trusts and ensure the sustainability and widespread	• A communication skills training course for hospital healthcare practitioners is being developed and evaluated, including a "train-the-trainers" component to enable widespread delivery by Trust clinical educators [ID: NIHR134221]. • The e-CLEAR Dementia Training platform is being created to provide carers with effective engagement strategies for managing behaviours that challenge, aiming to reduce staff turnover and absence [ID: 10106945]. • A decision-making support tool is being co-produced for non-specialist Speech and Language Therapists to help them manage communication interventions for people with Alzheimer's disease [ID: 2715816]. • Training packages are being developed as part of a new model of palliative dementia care to empower staff and carers to assess and monitor patient needs effectively [ID: ES/S010327/1]. • Research is evaluating the best ways to train ward staff to implement new clinical protocols, such as a specialised mouth care programme [ID: 455]. • Online training and guidance are being produced to support the use of new digital reminiscence resources by facilitators in community and care settings [ID: AH/Z506527/1].

Area	Summary of findings	Comments
	uptake of new training programmes [ID: NIHR134221]. The ultimate goal is to empower staff with the confidence and competence to provide better, more person-centred care [ID: ES/S010327/1].	
Quality improvement & outcome measurement	A core objective running through the research is the measurement and improvement of outcomes for people with dementia. This involves defining and tracking key metrics such as quality of life, length of hospital stay, readmission rates, and the incidence of complications like delirium or a new dementia diagnosis [ID: ES/S010327/1, 2443765, 2443765]. Many projects are focused on developing predictive tools to identify patients at high risk of poor outcomes, enabling targeted interventions [ID: 2441046, ARUK-CRF2018C-001]. The research aims not just to implement new interventions but to rigorously test their clinical and cost-effectiveness through randomised controlled trials and other robust evaluation methods, ensuring that changes to practice are evidence-based [ID: NIHR202338].	• A primary goal of new care models is to maximise quality of life (QoL) for people with dementia, particularly towards the end of life [ID: ES/S010327/1]. • Studies are using large-scale electronic health records to examine the risks and outcomes associated with delirium, including 30-day mortality, length of stay, readmission, and subsequent development of dementia [ID: 2443765]. • The long-term cognitive prognosis following an episode of postoperative delirium is being investigated to determine if it independently predicts cognitive decline years later [ID: ARUK-CRF2018C-001]. • Novel clinical outcomes are being measured, such as the impact of interventions on the severity of delirium symptomatology, to provide more nuanced data than simple incidence rates [ID: NIHR203127, NIHR201943]. • The development of new diagnostic and prognostic tools aims to improve patient outcomes by enabling earlier intervention and more personalised treatment strategies [ID: 2770620, MR/W016095/1]. • New care programmes, such as specialised mouth care, are being evaluated for their ability to reduce hospital-acquired infections and improve clinical outcomes [ID: 455].
Cross-cutting themes	Several overarching themes emerge from the analysis of these grants. • **Focus on Delirium and Acute Hospital Care:** There is a substantial concentration of research on the hospital setting, particularly concerning the prevention, management, and long-term consequences of delirium [ID: NIHR203127, NIHR201943, 2443765, NIHR202338, ARUK-CRF2018C-001]. This reflects the significant impact of acute illness and hospitalisation on people with dementia and highlights a major area of unmet need and potential for improving outcomes. • **The Rise of Technology and Data Linkage:** A dominant theme is the application of technology—from wearable sensors to AI—to tackle long-standing problems in dementia care [ID: 10131668, 2868407, 2441046, 2887450]. This is coupled with a move towards linking large, routinely collected datasets (EPR, imaging, primary care) to create powerful resources for predicting risk, understanding disease trajectories, and evaluating services at a population level [ID: MR/V033654/1, 2887450, MR/S010351/1]. • **Emphasis on Co-design and Implementation:** Many projects have moved beyond purely academic inquiry to embrace co-design methodologies, actively involving patients, families, and front-line staff in the development of interventions [ID: NIHR204992, NIHR161439,	

Area	Summary of findings	Comments
	NIHR134221]. This is often paired with implementation science principles to ensure that research findings are practical, acceptable, and can be translated into real-world clinical practice and sustainable service models [ID: 2715816, NIHR202338]. • **Addressing Inequalities and Underserved Groups:** There is a growing recognition of the need to address health inequalities in dementia care. Specific projects are dedicated to understanding the unique needs and barriers faced by minority ethnic communities, aiming to develop more inclusive and culturally appropriate services that are accessible before a point of crisis [ID: NIHR160824]. • **Bridging Hospital and Community Care:** A clear gap being addressed is the transition between hospital and home. Research is increasingly focused on creating integrated care pathways and interventions that span this divide, aiming to improve recovery post-discharge and prevent readmissions [ID: 374, NIHR202338, NIHR157899, ES/S010327/1]. This reflects a systemic view of the patient journey rather than focusing on isolated episodes of care.	

Appendix 4.7 - Summary of the UK Dementia research landscape report

1. Areas of current research that could facilitate the transition from hospital-based to community-based dementia care

Therapeutic interventions and support people with dementia and carers: this was the largest applied research category, receiving 20% of total funding (£22.65 million). It included music therapy, virtual reality interventions, conversation training, and personalised care approaches.
Sub-topics:

- Post-diagnostic support and care transitions for people with dementia and their families (58% of funding within this topic)
- Community-based dementia support and social inclusion programmes (11% of funding)

Technology integration in care delivery: seen as promising for community implementation.

- Smart home technologies and digital solutions for dementia care (39% of grants in therapeutic interventions category, although only 23% of funding)
Example: The North West Coast Living Lab in Ageing & Dementia, enables testing innovations in real-world care environments, launched in 2024.

Diagnostic innovations: seen as potentially enabling earlier identification in the community.

- Blood-based biomarkers could offer more accessible alternatives to cerebrospinal fluid analysis and PET imaging
- Some initiatives (e.g. Blood Biomarker Challenge and Dementia Trials Accelerator) facilitate the rapid clinical testing and implementation of innovations, although there is a need for stronger collaboration between academia and industry.

2. Identified gaps in innovation, readiness and implementation

Innovation gaps

- **Prevention research:** severely underfunded, despite evidence suggesting that up to 45% of dementia cases may be prevented by addressing modifiable risk factors. Although the UK hosts some resources (e.g. PREVENT and PROTECT programmes), its involvement in international prevention initiatives is limited. E.g. within the WW-FINGERS network of around 35 RCTs on dementia prevention, the UK is represented by only a single clinical site (the MET-FINGERS study).
- **Gender-specific research**: highlighted as an important but underexplored area.
- **Technology development in dementia care:** lacking adequate funding streams. Some initiatives (e.g. the Alzheimer's Society innovation programme, NIHR HealthTech Research Centres, and the Longitude Prize on Dementia) provide some support, but current funding is insufficient to address the impending crisis of 40-70% projected increase in dementia prevalence by 2040.

Readiness gaps

- **Workforce shortages:** present significant barriers, including insufficient MRI and infusion capacity for biological therapies, difficulties recruiting and retaining clinical academics, and the ongoing migration of talent from universities to industry.
- **Barriers to data sharing:** limit research progress, with industry often reluctant to share RCT data and academic researchers getting slower access compared to industry researchers.
- **Geographic concentration of expertise:** creates disparities in research readiness, with 46% of funding allocated to just six institutions within the "golden triangle" of London, Oxford, and Cambridge, limiting capacity development across other regions.

Implementation gaps

There is a persistent gap between research discoveries and their implementation in social care and policy, including barriers such as local authority resource constraints, and difficulties demonstrating the impact of applied health and social care research.

- The absence of a **national dementia strategy** in England is seen as an impediment to research impact and effective implementation.
- There is a need for **funding diversification** in applied research, due to existing over-reliance on the NIHR, which provides 54% of funding for therapeutic interventions. Such dependence creates vulnerabilities and bias in research, if dominant funders constrain the scope of supported studies.
- Increasing **health inequalities** are a growing risk, especially as disease-modifying therapies and blood biomarker tests are initially available only through private clinics, creating a two-tier system that excludes people unable to afford private care.

NB: Some **research infrastructure** development was mentioned, such as:

- The Dementia Trials Accelerator (partnership between UK Dementia Research Institute and Health Data Research UK), aiming to increase participation in late-stage clinical trials
- The NIHR Research Dementia Trials Network, designed to accelerate and increase patients access to trials
- Two new NIHR Policy Research Units, to generate evidence to inform policy, and the NHS and social care operations

However, **infrastructure limitations** include a shortage of "living labs" for real-world testing of dementia care technologies, and underdeveloped pathways to move early-stage research into implementation in publicly-funded health and social care systems.

Appendix 5.1 – Breakdown of 'Other Mental Health Conditions' category used in Global Burden of Disease Study

ICD-10 codes	Mental Health
F04-F06.1, F06.3-F07.0, F08-F09.9, F21-F24, F26-F29.9, F34, F34.8-F34.9, F38-F39, F45-F49, F51-F52.9, F55-F55.8, F56-F69.0, F80.0 – F82, F88-F89.0, F93.3-F99.0, G47-G47.29, G47.4-G47.9, R40-R40.4, R45-R46.89, R55-R55.0, Z03.2, Z04.6-Z04.72, Z13.4, Z64, Z81, Z81.8, Z86.5-Z86.59	Organic amnesic syndrome, not induced by alcohol and other psychoactive substances; Delirium, not induced by alcohol and other psychoactive substances; Organic hallucinosis; Organic catatonic disorder; Organic mood [affective] disorders; Organic anxiety disorder; Organic dissociative disorder; Organic emotionally labile [asthenic] disorder; Mild cognitive disorder; Other specified mental disorders due to brain damage and dysfunction and to physical disease; Unspecified mental disorder due to brain damage and dysfunction and to physical disease; Organic personality disorder; Unspecified organic or symptomatic mental disorder;
	Schizotypal disorder; Persistent delusional disorders; Acute and transient psychotic disorders; Induced delusional disorder; Other nonorganic psychotic disorders; Unspecified nonorganic psychosis; Other persistent mood [affective] disorders; Persistent mood [affective] disorder, unspecified; Other mood [affective] disorders; Unspecified mood [affective] disorder; Somatoform disorders; Other neurotic disorders; Nonorganic sleep disorders; Sexual dysfunction, not caused by organic disorder or disease; Abuse of non-dependence-producing substances;
	Unspecified behavioural syndromes associated with physiological disturbances and physical factors; Specific personality disorders; Mixed and other personality disorders; Enduring personality changes, not attributable to brain damage and disease; Habit and impulse disorders; Gender identity disorders; Disorders of sexual preference; Psychological and behavioural disorders associated with sexual development and orientation; Other disorders of adult personality and behaviour; Unspecified disorder of adult personality and behaviour; Specific developmental disorders of speech and language; Specific developmental disorders of scholastic skills; Specific developmental disorder of motor function; Other disorders of psychological development; Unspecified disorder of psychological development; Sibling rivalry disorder; Other childhood emotional disorders; Childhood emotional disorder, unspecified; Disorders of social functioning with onset specific to childhood and adolescence; Tic disorders; Other behavioural and emotional disorders with

	onset usually occurring in childhood and adolescence; Mental disorder, not otherwise specified; Disorders of initiating and maintaining sleep [insomnias]; Disorders of excessive somnolence [hypersomnias]; Disorders of the sleep-wake schedule; Somnolence, stupor and coma; Symptoms and signs involving emotional state; Symptoms and signs involving appearance and behaviour; Syncope and collapse; Observation for suspected mental and behavioural disorders; General psychiatric examination, requested by authority; Special screening examination for mental and behavioural disorders; Problems related to certain psychosocial circumstances; Family history of other mental and behavioural disorders; Personal history of other mental and behavioural disorders.

Appendix 5.2 Open ward stays in England under the Mental Health Act July 20205

The majority of mental health specific hospital stays at any point in time in the UK are now detentions under mental health legislation. The most recent data for England[299] indicate that in July 2025 there were 21,494 open adult ward mental health stays[4]. 15,104 (70%) of these places were for adults (aged 18 and over) detained under the Mental Health Act [300]. Similarly for people under the age of 18, there were 695 open mental health ward stays in England in July 2025, of which 438 (63%) were detained under the Mental Health Act. This means that any interventions that are intended to reduce hospitalisations and the length of hospitalisation, will have to factor in issues around safeguarding of individuals and general public safety in addition to issues around health.

Appendix 5.3 : Admission by mental health concern for children and young people in England 2021/22 (Adapted from [157])

Mental Health Concern	2012/2013	%	2021/2022	%	Change
Anxiety	615	3%	1,603	4%	261%
Depression	530	2%	775	2%	146%
Eating Disorder	478	2%	2,938	7%	615%
Self-harm	13,618	56%	21,337	53%	157%
Substance Abuse	2,274	9%	1,487	4%	65%
Other mental health concerns*	6,683	28%	11,785	30%	165%
All	**24198**		**39925**		

*42% of this group was for ICD code R45.8 for 'other symptoms and signs involving emotional states' which includes signs of suicidal ideation and 31% for the ICD code R55.0 for 'syncope and collapse' (which includes blackouts and fainting). Other reasons all contributing between 1% and 2% of the total include tic disorder (unspecified), unspecified non-organic psychosis, childhood autism, emotionally unstable personality disorder, other signs and symptoms involving appearance and behaviour

When admitted to hospital the risk of having a stay of more than a week had more than doubled from 3.5% to 7.8% over the decade from 2012 to 2022 [157]. One potential reason for this was a lack of alternative places being available in community or inpatient child and adolescent mental health services. In 2021/2022 of the 3,130 stays over 7 days 1,314 (42%) were for eating disorders followed by 965 (31%) for other mental health concerns and 566 (18%) for self-harm. The adjusted odds ratio of risk of a more than 7 day admission was 65 times higher for eating disorder relative to self-harm.

Appendix 5.4 – Search strategy results (update to previous Value for Money review)

APA PsycInfo <1806 to July 2025 Week 2>

1	exp Mental Disorders/	1,121823
2	exp Mental Health/	111150
3	1 OR 2	1194749
4	exp "Costs and Cost Analysis"/	53515
5	3 AND 4	10107
6	LIMIT 5 to (("0800literature review" OR "0830systematic review" OR 1200 meta analysis) AND last 3 years)	77
7	LIMIT 5 to last 2 years	763
8	6 OR 7	793

[4] An open ward stay means that a bed has been allocated to an individual; they may not always be using the bed as they may be on periods of therapeutic leave from hospital.

Embase <1974 to 2025 July 24>

1	exp mental disease/	3148744
2	exp community mental health service/	1778
3	1 OR 2	3149171
4	exp economic evaluation/	397852
5	3 AND 4	30322
6	LIMIT 5 to ("systematic review" AND last 3 years)	527
7	exp dementia/	515449
8	LIMIT 7 to ("systematic review" AND last 3 years)	4902
9	6 NOT 7	448
10	LIMIT 2 to ("systematic review" AND last 3 years)	51
11	exp community mental health/	4499
12	4 AND 11	155
13	LIMIT 9 to (abstracts AND last 2 years)	319
14	LIMIT 12 to (abstracts AND last 3 years)	7
15	9 OR 14	455

Ovid MEDLINE(R) ALL <1946 to July 24, 2025>

1	exp mental disorders/	1558135
2	exp mental health/	73883
3	exp community mental health services/	19417
4	exp "costs and cost analysis"/	280593
5	1 OR 2 OR 3	1614936
6	4 AND 5	18815
7	LIMIT 6 to ((meta analysis OR "systematic review") AND last 3 years)	126
8	LIMIT 6 to (abstracts AND last 2 years)	1194
9	exp dementia/	229610
10	8 NOT 9	901
11	exp "cost benefit analysis"/	98386
12	6 AND 11	5930
13	LIMIT 12 to last 2 years	430
14	7 OR 13	501

Appendix 5.5 – Results of original search (Value for Money Study)[158]

APA PsycInfo <1806 to January Week 4 2023>

1	exp Mental Disorders/	955871
2	exp Mental Health/	85027
3	1 OR 2	1014332
4	exp "Costs and Cost Analysis"/	47958
5	3 AND 4	8856
6	LIMIT 5 to (("0800literature review" OR "0830systematic review" OR 1200 meta analysis) AND last 10 years)	225

Embase <1974 to 2023 January 30>

1	exp mental disease/	2542915
2	exp community mental health service/	782
3	1 OR 2	2543127

4	exp economic evaluation/	345077
5	3 AND 4	24049
6	LIMIT 5 to ("systematic review" AND last 10 years)	969
7	exp dementia/	429120
8	LIMIT 7 to ("systematic review" AND last 10 years)	7244
9	6 NOT 7	837
10	LIMIT 2 to ("systematic review" AND last 10 years)	44
11	exp community mental health/	4023
12	4 AND 11	144
13	LIMIT 12 to (systematic review AND last 10 years)	5
14	LIMIT 12 to (abstracts AND last 10 years)	44
15	9 OR 14	876

Ovid MEDLINE(R) ALL <1946 to January 30, 2023>

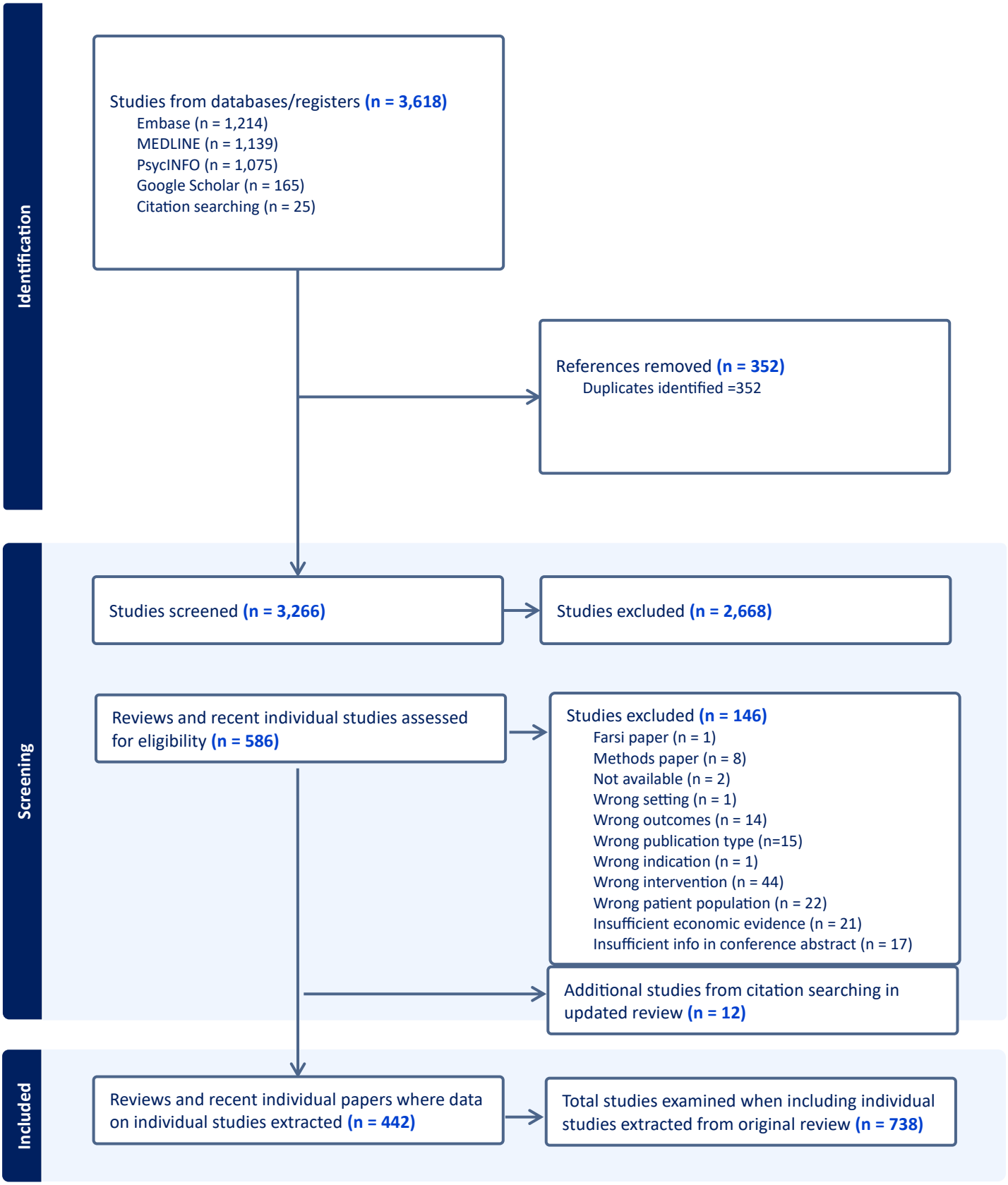
1	exp mental disorders/	1409685
2	exp mental health/	58088
3	exp community mental health services/	19008
4	exp "costs and cost analysis"/	262398
5	1 OR 2 OR 3	1455600
6	4 AND 5	17523
7	LIMIT 6 to ((meta analysis OR "systematic review") AND last 10 years)	381
8	LIMIT 6 to (abstracts AND last 2 years)	912
9	exp dementia/	199697
10	8 NOT 9	747
11	exp "cost benefit analysis"/	91580
12	6 AND 11	5490
13	LIMIT 12 to last 2 years	378
14	7 OR 13	705

Appendix 5.6 Inclusion and exclusion criteria

We included economic evaluation or return on investment studies that reported effectiveness of any mental health-related intervention on A&E visits, outpatient consultations and inpatient stays were included. This included interventions delivered outside the health sector (e.g., housing, employment, education, criminal justice services). Economic modelling studies synthesising data on effectiveness from multiple studies were included.

We excluded studies focused on promotion or primary prevention, as well as those on dementia (they were forwarded to the dementia-theme team). For substance abuse /alcohol disorders, neurodiverse conditions, including autism, and psychological development interventions including learning disabilities, we only looked at interventions for people with co-morbid mental health conditions. We excluded studies looking at treatment of common mental health conditions in people in hospital for other reasons, e.g. cancer. There were no language or geographical restrictions, but letters, commentaries and conference abstracts were excluded. We did not search legal databases and may have missed interventions such as legal safeguards for people at risk of compulsory admission/long hospital stays.

Appendix 5.7 – PRISMA* flow chart for combined and updated mental health review



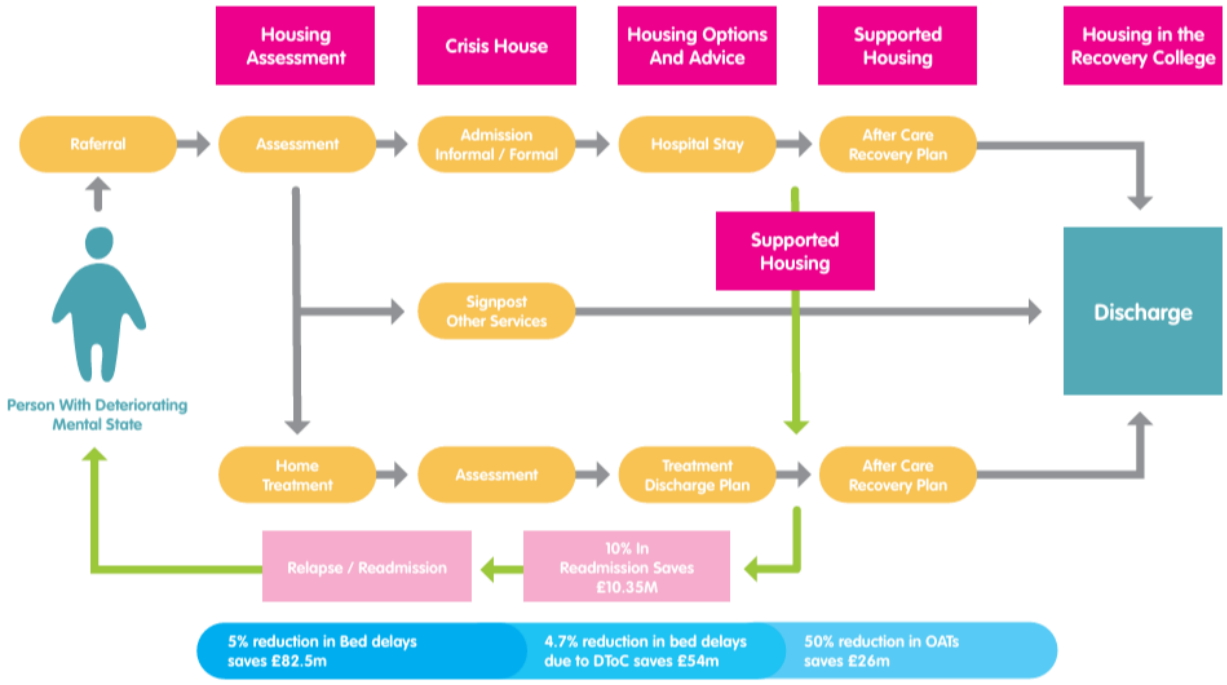
*Using PRISMA 2020 Flow diagram [10]

Appendix 5.8 – Interface between housing and specialist mental health system

Care Pathway Stage	Potential Opportunities
Initial (and subsequent) referral for assessment	Opportunities to develop services to reduce risk of deterioration in initial mental health state, and in ongoing mental health following recovery from acute poor mental health event.
Admissions to psychiatric inpatient unit	Making use of appropriate alternatives to hospital admission. Greater avoidance of admission to out-of-area placements.
Treatment by specialist home treatment teams	Greater collaboration with housing services in provision of home treatment
Discharge from inpatient care	Opportunities for improved discharge planning, including greater involvement of specialist housing support services. Increase availability of step-down / crisis beds delivered by housing sector. Reduce delays in discharge due to lack of appropriate accommodation and support
Post discharge from inpatient or home treatment teams	Provision of appropriate support services in community to aid in recovery and reduce risk of relapse and readmission.

Source: [199]

Interface between housing and mental health services



The above figure illustrates the complex links between housing and mental health. It also shows results of economic modelling analysis from a decade ago[199] illustrating costs that could be avoided in England through use of housing, with a 5% reduction in inpatient bed days through better access to housing meaning costs averted of £82.5m, a 4.7% reduction in bed days due to elimination of delayed discharges averting £54m and halving out-of-area placements averting £26 million. The analysis did not, however, look at outcomes.

Evidence on Housing First

The evidence identified on Housing First is from outside the UK. Evidence from the US and Canada shows that HF improves housing stability compared standard support arrangements,[188,189] but with limited impact on clinical or social outcomes.[190] In North America, HF has also demonstrated effectiveness and cost-effectiveness across diverse groups, including those with criminal justice involvement.[191] European evidence is limited: an RCT in France found that HF reduced inpatient days and was cost-saving for homeless people with schizophrenia or

bipolar disorder but had no impact on hospital admissions or emergency department visits. It improved housing stability, autonomy, and quality of life.[192] Improvements were sustained over 4 years, although alcohol consumption persisted, and mental or physical health outcomes remained unchanged.[193] Benefits such as greater sense of security and identity were also reported.[194] An Australian study found that costs in the HF group were greater than treatment as usual, but argued that the extra costs were justified by additional days of secure housing obtained.[195] HF potentially has wider benefits beyond hospitalisation: a systematic review showed that combining housing (mostly HF) with mental health or substance use services achieved some reduction in substance use.[196] HF was cost-effective and reduced mortality for homeless people with opioid use disorder in the US.[197] Housing combined with supportive services was cost-effective for reduced drug use in young mothers with substance use disorder.[198]

Appendix 5.9 – Overview of UK empirical studies included in the review (mental health)

Our scoping review has identified 738 empirical studies and reviews that have some effectiveness and economic evidence on the impact of various interventions on hospital contacts for people of all ages with mental health conditions. This includes 161 papers on studies from the UK, published between 1998 and 2025, including 52 studies published in the last five years. 107 papers reported on the results of randomised controlled trials, with 17 linked to quasi-experimental or observational studies. 39 economic modelling studies synthesising data on outcomes and effectiveness from multiple sources were also identified.

86 (53%) studies looked at some form of psychological therapy delivered face to face or remotely. The remaining studies covered a very broad range of interventions including advanced crisis planning, alternative accommodation, supported employment, supported housing, inpatient rehabilitation, various community mental health teams, case management, street triage, midwifery/health visitor delivered perinatal depression. Only two studies (1%) specifically focused on older populations while 30 (20%) were focused on children and young people.

In many cases studies covered multiple mental health conditions or unspecified general mental health. Where there was a specific focus on a condition 43 (27%) papers looked at depression, followed by 35 (22%) on psychosis, 22 (14%) on anxiety, 16 (10%) on personality disorders, 14(9%)on perinatal depression and 11 (7%) on bipolar disorder. 6 (4%) were on eating disorders. 22 studies (12%) looked at impacts on self-harm and/or suicidal behaviour.

Assessment of economic evidence.

When looking at evidence on economic impact for this scoping review we crudely divided studies into those that were positive, negative or inclusive, using the criteria in Box 1. 78 (48%) of UK set papers had a positive economic evaluation while 27 (17%) were negative. 53 (33%) were inconclusive and three were not classified as economic evaluations.

Coding criteria on economic case

Positive evaluation if intervention either had

a) significantly better outcomes with the same or lower costs than comparators, or

b) *an additional cost per Quality Adjusted Life Year (QALY) gained or Disability Adjusted Life Year (DALY) averted considered to be good value for money (no more than £30,000 in a UK context)*

c) *a return on investment ratio greater than 1*.

Negative evaluation if intervention either had

a) significantly worse outcomes

b) *an additional cost per Quality Adjusted Life Year (QALY) gained or DALY averted above £30,000*

Inconclusive evaluation if intervention either had

a) no significant difference in both outcomes and costs to comparators, or

b) *used an outcome measure other than QALY, DALY or where there is no accepted societal threshold to judge whether extra costs are worth the additional benefits gained (e.g. additional cost per depression free day gained, or additional cost per point change on a clinical scale), or*

c) *a return on investment ratio of 1 or less*

Mapping impacts on hospital inpatient stays and/or contacts with A&E departments

We also separately looked at the evidence on use of inpatient hospital services (both number of inpatient admissions and length of stay) and contacts with A&E departments. In most cases changes in patterns of hospitalisation were not the primary focus of the study, so the level of detail on changes in hospitalisation and contacts with A&E departments were varied. Moreover, when changes in use of hospital services were reported they often were not significant because the study was not powered to detect significant changes in hospitalisation. In other cases, studies indicated that their analysis did look at impacts on hospitalisation but no detailed information was available in the manuscript or supplements.

41 papers (25%) reported a positive reduction in inpatient stays and/or A&E contacts, with another 47 (29%) not finding any significant difference in utilisation. Only 5 papers (3%) reported a significant increase in hospital inpatient stays through intervention. Another 41 (25%) studies did indicate that they looked at inpatient stays and/or A&E contacts, but were difficult to interpret because they did not provide a breakdown of the different types of health care resource use. The remaining 37 studies (23%) only contained information on hospital outpatient contacts only.

We have listed below bibliographic information including abstracts on studies that fall into each of these groups. This mapping should be treated cautiously as there are some studies that report positive impacts on hospitalisation but were not found to be cost effective; we also have not assessed the methodological qualities of these studies. Multiple papers may also report findings from the same study.

UK Studies reporting a positive reduction in inpatient stays and/or A&E contacts.

Barnhofer, T., et al. (2025). "Mindfulness-based cognitive therapy versus treatment as usual after non-remission with NHS Talking Therapies high-intensity psychological therapy for depression: A UK-based clinical effectiveness and cost-effectiveness randomised, controlled, superiority trial." The Lancet Psychiatry 12(6): 433-446.

The article presents a study with aim to investigate the clinical effectiveness and cost-effectiveness of adding MBCT, delivered via videoconference, to treatment as usual in reducing symptoms of depression for people who had not shown resolution of symptoms after NHS Talking Therapies high-intensity therapy. Authors conducted a parallel, randomised, controlled, superiority trial in three sites in the UK (Devon, London, and Sussex). Patients with current major depressive disorder whose symptoms had not reached remission (assessed as Patient Health Questionnaire-9 [PHQ-9] score >=10) after an adequate dose of NHS Talking Therapies high-intensity therapy (>=12 sessions) were recruited from 20 NHS Talking Therapies services. Participants were allocated through remote random assignment (1:1) to MBCT plus treatment as usual or treatment as usual alone at the UK Clinical Research Collaboration-registered Exeter Clinical Trials Unit with minimisation on depression severity (PHQ-9 score <19 vs >=19), antidepressant use at baseline (yes vs no), and recruitment site (Devon vs London vs Sussex). MBCT was delivered via videoconference and comprised an individual orientation session and eight weekly group sessions. The primary clinical outcome was reduction in depression symptomatology at 34 weeks after randomisation, using the PHQ-9. Cost-effectiveness was evaluated in terms of costs to primary, secondary, and tertiary health and social care services collected using the Adult Service Use Schedule and quality-adjusted life-years (QALYs) via health utilities derived from the EQ-5D. Primary outcome analyses were masked in the intention-to-treat population using observed data only. Lived experience experts were integral to all stages of this research. The findings show that mindfulness-based treatment can be beneficial after non-remission from major depressive disorder following psychological, stepped care treatments. Together with evidence from previous studies of non-remission after pharmacological treatment, our findings establish MBCT, an easily scalable group-based intervention, as a further-line treatment. Implementation of MBCT for patients who continue to have major depressive disorder in routine care settings (NHS Talking Therapies and beyond) is warranted. (PsycInfo Database Record (c) 2025 APA, all rights reserved)

Bateman, A. and P. Fonagy (2003). "Health service utilization costs for borderline personality disorder patients treated with psychoanalytically oriented partial hospitalization versus general psychiatric care." Am J Psychiatry 160(1): 169-171.

OBJECTIVE: The authors assessed health care costs associated with psychoanalytically oriented partial hospital treatment for borderline personality disorder compared with treatment as usual within general psychiatric services. METHOD: Health care utilization of all borderline personality disorder patients who participated in a previous trial of partial hospital treatment compared with treatment as usual was assessed by using information from case notes and service providers. Costs were compared for the 6 months before treatment, 18 months of treatment, and an 18-month follow-up period. RESULTS: There were no cost differences between the groups during pretreatment or treatment. Costs of partial hospital treatment were offset by less psychiatric inpatient care and reduced emergency room treatment. The trend for costs to decrease in the partial hospitalization group during the follow-up period was not apparent in the treatment-as-usual group. CONCLUSIONS: Specialist partial hospital treatment for borderline personality disorder is no more expensive than treatment as usual and shows considerable cost savings after treatment.

Casetta, C., et al. (2020). "Real-world effectiveness of admissions to a tertiary treatment-resistant psychosis service: 2-year mirror-image study." BJPsych Open 6(5): e82.

BACKGROUND: Treatment-resistant schizophrenia is a major disabling illness which often proves challenging to manage in a secondary care setting. The National Psychosis Unit (NPU) is a specialised tertiary in-patient facility that provides evidence-based, personalised, multidisciplinary interventions for complex treatment-resistant psychosis, in order to reduce the risk of readmission and long-term care costs. AIMS: This study aimed to assess the long-term effectiveness of treatment at the NPU by considering naturalistic outcome measures. METHOD: Using a mirror image design, we compared the numbers of psychiatric and general hospital admissions, in-patient days, acuity of placement, number of psychotropic medications and dose of antipsychotic medication prescribed before and following NPU admission. Data were obtained from the Clinical Records Interactive Search system, an anonymised database sourced from the South London and Maudsley NHS Trust electronic records, and by means of anonymous linkage to the Hospital Episode Statistics system. RESULTS: Compared with the 2 years before NPU admission, patients had fewer mental health admissions (1.65 ± 1.44 v. 0.87 ± 0.99, z = 5.594, P < 0.0001) and less mental health bed usage (335.31 ± 272.67 v. 199.42 ± 261.96, z = 5.195 P < 0.0001) after NPU admission. Total in-patient days in physical health hospitals and total number of in-patient days were also significantly reduced (16.51 ± 85.77 v. 2.83 ± 17.38, z = 2.046, P = 0.0408; 351.82 ± 269.09 v. 202.25 ± 261.05, z = 5.621, P < 0.0001). The reduction in level of support required after treatment at the NPU was statistically significant (z = -8.099, P < 0.0001). CONCLUSIONS: This study demonstrates the long-term effectiveness of a tertiary service specialising in treatment-resistant psychosis.

Cella, M., et al. (2024). "Evaluating remote delivery of cognitive remediation in people with psychosis." Schizophrenia Research 267: 367-372.

Background: Cognitive Remediation (CR) is an evidence-based therapy targeting cognitive difficulties in people with psychosis to promote functional recovery, but it is rarely implemented routinely. To reach more individuals, CR is beginning to be delivered remotely, but there is limited evidence to support the acceptability of this method. Aims: To evaluate the acceptability and feasibility of remote therapist-supported CR in people with psychosis and estimate its cost and potential benefits. Methods: A case-series with all participants assessed before and after therapy with measures of personal goal attainment (main outcome), cognition, functioning and symptoms. Acceptability was assessed with post-therapy interviews. Feasibility was assessed using proportions and confidence intervals on pre-specified parameters. Indication of benefits was assessed with exploratory analyses comparing baseline and post-therapy scores on the pre-specified outcomes. The cost of providing remote CR was assessed from both healthcare and societal perspectives. Results: Twenty-nine participants started therapy with two dropping out; on average participants attended 25.5 sessions. Interviews suggested that remote CR had good acceptability and led to perceived benefits. Significant and large improvements were observed on goal attainment. Cost analyses suggest that remote CR has the same health care cost as face-to-face therapy but a lower societal cost. Conclusions: Our results support the use of remote CR in psychosis services as an alternative delivery modality. This method may improve adherence, attendance and be more convenient for service users. Possible barriers such as poor digital literacy or appropriate device ownership should be addressed before starting therapy. (PsycInfo Database Record (c) 2024 APA, all rights reserved)

Crawford, M. J., et al. (2012). "Group art therapy as an adjunctive treatment for people with schizophrenia: a randomised controlled trial (MATISSE)." Health Technol Assess 16(8): iii-iv, 1-76.

OBJECTIVE: To examine the clinical effectiveness and cost-effectiveness of referral to group art therapy plus standard care, compared with referral to an activity group plus standard care and standard care alone, among people with schizophrenia. DESIGN: A three-arm, parallel group, single-blind, pragmatic, randomised controlled trial. Participants were randomised via an independent and remote telephone randomisation service using permuted blocks, stratified by study centre. SETTING: Study participants were recruited from secondary care mental health and social services in four UK centres. PARTICIPANTS: Potential participants were aged 18 years or over, had a clinical diagnosis of schizophrenia, confirmed by an examination of case notes, and provided written informed consent. We excluded those who were unable to speak sufficient English to complete the baseline assessment, those with severe cognitive impairment and those already receiving arts therapy. INTERVENTIONS: Group art therapy was delivered by registered art therapists according to nationally agreed standards. Groups had up to eight members, lasted for 90 minutes and ran for 12 months. Members were given access to a range of art materials and encouraged to use these to express themselves freely. Activity groups were designed to control for the non-specific effects of group art therapy. Group facilitators offered various activities and encouraged participants to collectively select those they wanted to pursue. Standard care involved follow-up from secondary care mental health services and the option of referral to other services, except arts therapies, as required. MAIN OUTCOME MEASURES: Our co-primary outcomes were global functioning (measured using the Global Assessment of Functioning Scale - GAF) and mental health symptoms (measured using the Positive and Negative Syndrome Scale - PANSS) at 24 months. The main secondary outcomes were level of group attendance, social functioning, well-being, health-related quality of life, service utilisation and other costs measured 12 and 24 months after randomisation. RESULTS: Four hundred and seventeen people were recruited, of whom 355 (85%) were followed up at 2 years. Eighty-six (61%) of those randomised to art therapy and 73 (52%) of those randomised to activity groups attended at least one group. No differences in primary outcomes were found between the three study arms. The adjusted mean difference between art therapy and standard care at 24 months was -0.9 [95% confidence interval (CI) -3.8 to 2.1] on the GAF Scale and 0.7 (95% CI -3.1 to 4.6) on the PANSS Scale. Differences in secondary outcomes were not found, except that those referred to an activity group had fewer positive symptoms of schizophrenia at 24 months than those randomised to art therapy. Secondary analysis indicated that attendance at art therapy groups was not associated with improvements in global functioning or mental health. Although the total cost of the art therapy group was lower than the cost of the two comparison groups, referral to group art therapy did not appear to provide a cost-effective use of resources. CONCLUSIONS: Referring people with established schizophrenia to group art therapy as delivered in this randomised trial does not appear to improve global functioning or mental health of patients or provide a more cost-effective use of resources than standard care alone. TRIAL REGISTRATION: Current Controlled Trials ISRCTN 46150447. FUNDING: This project was funded by the NIHR Health Technology Assessment programme and will be published in full in Health Technology Assessment; Vol. 16, No. 8. See the HTA programme website for further project information.

Dalton-Locke, C., et al. (2025). "In-patient service use before and after a mental health in-patient rehabilitation admission." BJPsych Open 11(3): e80.

BACKGROUND: In-patient mental health rehabilitation services provide specialist treatment to people with complex psychosis. On average, rehabilitation admissions last around a year and usually follow several years of recurrent and often lengthy psychiatric hospital admissions. AIMS: To compare in-patient service use before and after an in-patient rehabilitation admission, using electronic patient healthcare records in one National Health Service Trust in London. METHOD: We carried out a retrospective cohort study comprised of individuals with an in-patient rehabilitation admission lasting ≥84 days between 1 January 2010 and 30 April 2019, with at least ≥365 days of records available before and after their rehabilitation admission. We used negative binomial regression models to compare the number of in-patient days before and after the rehabilitation admission. RESULTS: A total of 172 individuals met our eligibility criteria. The median percentage of days spent as an in-patient before the rehabilitation admission was 29% (interquartile range 18-52%), and 8% (interquartile range 0-31%) after the admission. The regression model adjusted for potential confounder variables produced an incidence rate ratio of 0.520 (95% CI 0.367-0.737). CONCLUSIONS: The rate of in-patient service use was halved in the period after an in-patient rehabilitation admission compared with the period before. This suggests that in-patient rehabilitation is a clinical and cost-effective intervention in the treatment and support of people with complex psychosis.

Davidson, K. M., et al. (2010). "Cognitive therapy v. usual treatment for borderline personality disorder: prospective 6-year follow-up." Br J Psychiatry 197(6): 456-462.

BACKGROUND: Longer-term follow-up of patients with borderline personality disorder have found favourable clinical outcomes, with long-term reduction in symptoms and diagnosis. AIMS: We examined the 6-

year outcome of patients with borderline personality disorder who were randomised to 1 year of cognitive-behavioural therapy for personality disorders (CBT-PD) or treatment as usual (TAU) in the BOSCOT trial, in three centres across the UK (trial registration: ISRCTN86177428). METHOD: In total, 106 participants met criteria for borderline personality disorder in the original trial. Patients were interviewed at follow-up by research assistants masked to the patient's original treatment group, CBT-PD or TAU, using the same measures as in the original randomised trial. Statistical analyses of data for the group as a whole are based on generalised linear models with repeated measures analysis of variance type models to examine group differences. RESULTS: Follow-up data were obtained for 82% of patients at 6 years. Over half the patients meeting criteria for borderline personality disorder at entry into the study no longer did so 6 years later. The gains of CBT-PD over TAU in reduction of suicidal behaviour seen after 1-year follow-up were maintained. Length of hospitalisation and cost of services were lower in the CBT-PD group compared with the TAU group. CONCLUSIONS: Although the use of CBT-PD did not demonstrate a statistically significant cost-effective advantage, the findings indicate the potential for continued long-term cost-offsets that accrue following the initial provision of 1 year of CBT-PD. However, the quality of life and affective disturbance remained poor.

Flood, C., et al. (2006). "Joint crisis plans for people with psychosis: economic evaluation of a randomised controlled trial." Bmj 333(7571): 729.

OBJECTIVE: To investigate the cost effectiveness of joint crisis plans, a form of advance agreement for people with severe mental illness. DESIGN: Single blind randomised controlled trial. SETTING: Eight community mental health teams in southern England. PARTICIPANTS: 160 people with a diagnosis of psychotic illness or non-psychotic bipolar disorder who had been admitted to hospital at least once within the previous two years. INTERVENTION: Joint crisis plan formulated by the patient, care coordinator, psychiatrist, and project worker containing contact information, details of illnesses, treatments, relapse indicators, and advance statements of preferences for care for future relapses. Control group was standardised service information. MAIN OUTCOME MEASURES: Admission to hospital; service use over 15 months. RESULTS: Use of a joint crisis plan was associated with less service use and lower costs on average than in the standardised service information group, but differences were not significant. Total costs during follow-up were 7264 pounds sterling (10,616 euros, 13,560 dollars) for each participant with a joint crisis plan and 8359 pounds sterling (12,217 euros, 15,609 dollars) for each participant with standardised service information (mean difference 1095 pounds sterling; 95% confidence interval -2814 to 5004). Cost effectiveness acceptability curves, used to explore uncertainty in estimates of costs and effects, suggest there is a greater than 78% probability that joint crisis plans are more cost effective than standardised service information in reducing the proportion of patients admitted to hospital. CONCLUSION: Joint crisis plans produced a non-significant decrease in admissions and total costs. Though the cost estimates had wide confidence intervals, the associated uncertainty suggests there is a relatively high probability of the plans being more cost effective than standardised service information for people with psychotic disorders.

Gater, R., et al. (1997). "The care of patients with chronic schizophrenia: a comparison between two services." Psychol Med 27(6): 1325-1336.

BACKGROUND: There has been a widespread development of community multi-disciplinary teams aimed to deliver coordinated comprehensive mental health care, yet there is little published evidence on the quality of care and economics of providing such care for people with severe mental illness. METHOD: This is a clustered randomized controlled economic comparison of the quality of care for patients with chronic schizophrenia by a multi-disciplinary community team with close links with primary care, and a traditional psychiatric service in a district general hospital psychiatric unit. RESULTS: Two years after it was established, patients with access to the community team had more of their needs met; they had fewer unmet needs; and they were more satisfied with the care they had received. They had more service contacts and received more interventions. The community team resulted in savings in the use of some hospital resources but these were not sufficient to offset the cost of the new service. The community team successfully directed care to patients with more needs, whereas no such relationship was evident for the traditional hospital-based service. Four years after the team was established, it met a greater proportion of needs for underactivity, daily living skills, use of public amenities and managing finances. CONCLUSIONS: Better quality care was provided at 2 and 4 years after its establishment by the multi-disciplinary community service than the traditional hospital-based service. Resources were targeted more efficiently by the community service.

Glasgow Association for Mental Health (2011). Scotia Clubhouse. Social Return on Investment. Glasgow, Glasgow Association for Mental Health.

Greenwood, K., et al. (2025). "The Early Youth Engagement (EYE-2) intervention in first-episode psychosis services: Pragmatic cluster randomised controlled trial and cost-effectiveness evaluation." The British Journal of Psychiatry 226(3): 144-152.

Background Early intervention in psychosis (EIP) services improve outcomes for young people, but approximately 30% disengage. Aims To test whether a new motivational engagement intervention would prolong engagement and whether it was cost-effective. Method We conducted a multicentre, single-blind, parallel-group, cluster randomised controlled trial involving 20 EIP teams at five UK National Health Service (NHS) sites. Teams were randomised using permuted blocks stratified by NHS trust. Participants were all young people (aged 14-35 years) presenting with a first episode of psychosis between May 2019 and July 2020 (N = 1027). We compared the novel Early Youth Engagement (EYE-2) intervention plus standardised EIP (sEIP) with sEIP alone. The primary outcome was time to disengagement over 12-26 months. Economic outcomes were mental health costs, societal costs and socio-occupational outcomes over 12 months. Assessors were masked to treatment allocation for primary disengagement and cost-effectiveness outcomes. Analysis followed intention-to-treat principles. The trial was registered at ISRCTN51629746. Results Disengagement was low at 15.9% overall in standardised stand-alone services. The adjusted hazard ratio for EYE-2 + sEIP (n = 652) versus sEIP alone (n = 375) was 1.07 (95% CI 0.76-1.49; P = 0.713). The health economic evaluation indicated lower mental healthcare costs linked to reductions in unplanned mental healthcare with no compromise of clinical outcomes, as well as some evidence for lower societal costs and more days in education, training, employment and stable accommodation in the EYE-2 group. Conclusions We found no evidence that EYE-2 increased time to disengagement, but there was some evidence for its cost-effectiveness. This is the largest study to date reporting positive engagement, health and cost outcomes in a total EIP population sample. Limitations included high loss to follow-up for secondary outcomes and low completion of societal and socio-occupational data. COVID-19 affected fidelity and implementation. Future engagement research should target engagement to those in greatest need, including in-patients and those with socio-occupational goals. (PsycInfo Database Record (c) 2025 APA, all rights reserved)

Heslin, M., et al. (2016). "Decision analytic model exploring the cost and cost-offset implications of street triage." BMJ open 6(2): e009670.

Objectives To determine if street triage is effective at reducing the total number of people with mental health needs detained under section 136, and is associated with cost savings compared to usual police response.Design Routine data from a 6-month period in the year before and after the implementation of a street triage scheme were used to explore detentions under section 136, and to populate a decision analytic model to explore the impact of street triage on the cost to the NHS and the criminal justice sector of supporting people with a mental health need.Setting A predefined area of Sussex, South East England, UK.Participants All people who were detained under section 136 within the predefined area or had contact with the street triage team.Interventions The street triage model used here was based on a psychiatric nurse attending incidents with a police constable.Primary and secondary outcome measures The primary outcome was change in the total number of detentions under section 136 between the before and after periods assessed. Secondary analysis focused on whether the additional costs of street triage were offset by cost savings as a result of changes in detentions under section 136.Results Detentions under section 136 in the street triage period were significantly lower than in the usual response period (118 vs 194 incidents, respectively; χ2 (1df) 18.542, p<0.001). Total NHS and criminal justice costs were estimated to be £1043 in the street triage period compared to £1077 in the usual response period.Conclusions Investment in street triage was offset by savings as a result of reduced detentions under section 136, particularly detentions in custody. Data available did not include assessment of patient outcomes, so a full economic evaluation was not possible.

Hogan, N., et al. (2021). "Cost-effectiveness of 'screen-and-treat' interventions for post-traumatic stress disorder following major incidents." BMJ open 11(10): e049472.

OBJECTIVES: Post-traumatic stress disorder (PTSD) is commonly experienced in the aftermath of major incidents such as terrorism and pandemics. Well-established principles of response include effective and scalable treatment for individuals affected by PTSD. In England, such responses have combined proactive outreach, screening and evidence-based interventions (a 'screen-and-treat' approach), but little is known about its cost-effectiveness. The objective of this paper is to report the first systematic attempt to assess the cost-effectiveness of this approach., METHODS: A decision modelling analysis was undertaken to estimate the costs per quality-adjusted life-year (QALY) gained from a screen-and-treat approach compared with treatment-as-usual, the latter involving identification of PTSD by general practitioners and referral to psychological therapy services. Model input variables were drawn from relevant empirical studies in the context of terrorism and the unit

costs of health and social care in England. The model was run over a 5-year time horizon for a hypothetical cohort of 1000 exposed adults from the perspective of the National Health Service and Personal Social Services in England., RESULTS: The incremental cost per QALY gained was 7931. This would be considered cost-effective 88% of the time at a willingness-to-pay threshold of 20 000 per QALY gained, the threshold associated with the National Institute for Health and Care Excellence in England. Sensitivity analysis confirmed this result was robust., CONCLUSIONS: A screen-and-treat approach for identifying and treating PTSD in adults following terrorist attacks appears cost-effective in England compared with treatment-as-usual through conventional primary care routes. Although this finding was in the context of terrorism, the implications might be translatable into other major incident-related scenarios including the current COVID-19 pandemic.

Howard, L. M., et al. (2010). "Supported employment: randomised controlled trial." The British Journal Of Psychiatry: The Journal Of Mental Science 196(5): 404-411.

Background: There is evidence from North American trials that supported employment using the individual placement and support (IPS) model is effective in helping individuals with severe mental illness gain competitive employment. There have been few trials in other parts of the world.; Aims: To investigate the effectiveness and cost-effectiveness of IPS in the UK.; Method: Individuals with severe mental illness in South London were randomised to IPS or local traditional vocational services (treatment as usual) (ISRCTN96677673).; Results: Two hundred and nineteen participants were randomised, and 90% assessed 1 year later. There were no significant differences between the treatment as usual and intervention groups in obtaining competitive employment (13% in the intervention group and 7% in controls; risk ratio 1.35, 95% CI 0.95-1.93, P = 0.15), nor in secondary outcomes.; Conclusions: There was no evidence that IPS was of significant benefit in achieving competitive employment for individuals in South London at 1-year follow-up, which may reflect suboptimal implementation. Implementation of IPS can be challenging in the UK context where IPS is not structurally integrated with mental health services, and economic disincentives may lead to lower levels of motivation in individuals with severe mental illness and psychiatric professionals.

Jin, H., et al. (2020). "Evaluation of the Cost-effectiveness of Services for Schizophrenia in the UK Across the Entire Care Pathway in a Single Whole-Disease Model." JAMA Netw Open 3(5): e205888.

IMPORTANCE: The existing economic models for schizophrenia often have 3 limitations; namely, they do not cover nonpharmacologic interventions, they report inconsistent conclusions for antipsychotics, and they have poor methodologic quality. OBJECTIVES: To develop a whole-disease model for schizophrenia and use it to inform resource allocation decisions across the entire care pathway for schizophrenia in the UK. DESIGN, SETTING, AND PARTICIPANTS: This decision analytical model used a whole-disease model to simulate the entire disease and treatment pathway among a simulated cohort of 200 000 individuals at clinical high risk of psychoses or with a diagnosis of psychosis or schizophrenia being treated in primary, secondary, and tertiary care in the UK. Data were collected March 2016 to December 2018 and analyzed December 2018 to April 2019. EXPOSURES: The whole-disease model used discrete event simulation; its structure and input data were informed by published literature and expert opinion. Analyses were conducted from the perspective of the National Health Service and Personal Social Services over a lifetime horizon. Key interventions assessed included cognitive behavioral therapy, antipsychotic medication, family intervention, inpatient care, and crisis resolution and home treatment team. MAIN OUTCOMES AND MEASURES: Life-time costs and quality-adjusted life-years. RESULTS: In the simulated cohort of 200 000 individuals (mean [SD] age, 23.5 [5.1] years; 120 800 [60.4%] men), 66 400 (33.2%) were not at risk of psychosis, 69 800 (34.9%) were at clinical high risk of psychosis, and 63 800 (31.9%) had psychosis. The results of the whole-disease model suggest the following interventions are likely to be cost-effective at a willingness-to-pay threshold of £20 000 ($25 552) per quality-adjusted life-year: practice as usual plus cognitive behavioral therapy for individuals at clinical high risk of psychosis (probability vs practice as usual alone, 0.96); a mix of hospital admission and crisis resolution and home treatment team for individuals with acute psychosis (probability vs hospital admission alone, 0.99); amisulpride (probability vs all other antipsychotics, 0.39), risperidone (probability vs all other antipsychotics, 0.30), or olanzapine (probability vs all other antipsychotics, 0.17) combined with family intervention for individuals with first-episode psychosis (probability vs family intervention or medication alone, 0.58); and clozapine for individuals with treatment-resistant schizophrenia (probability vs other medications, 0.81). CONCLUSIONS AND RELEVANCE: The results of this study suggest that the current schizophrenia service configuration is not optimal. Cost savings and/or additional quality-adjusted life-years may be gained by replacing current interventions with more cost-effective interventions.

Killaspy, H., et al. (2020). "Predictors of moving on from mental health supported accommodation in England: national cohort study." Br J Psychiatry 216(6): 331-337.

BACKGROUND: Around 60 000 people in England live in mental health supported accommodation. There are three main types: residential care, supported housing and floating outreach. Supported housing and floating outreach aim to support service users in moving on to more independent accommodation within 2 years, but there has been little research investigating their effectiveness. AIMS: A 30-month prospective cohort study investigating outcomes for users of mental health supported accommodation. METHOD: We used random sampling, accounting for relevant geographical variation factors, to recruit 87 services (22 residential care, 35 supported housing and 30 floating outreach) and 619 service users (residential care 159, supported housing 251, floating outreach 209) across England. We contacted services every 3 months to investigate the proportion of service users who successfully moved on to more independent accommodation. Multilevel modelling was used to estimate how much of the outcome and cost variations were due to service type and quality, after accounting for service-user characteristics. RESULTS: Overall 243/586 participants successfully moved on (residential care 15/146, supported housing 96/244, floating outreach 132/196). This was most likely for floating outreach service users (versus residential care: odds ratio 7.96, 95% CI 2.92-21.69, P < 0.001; versus supported housing: odds ratio 2.74, 95% CI 1.01-7.41, P < 0.001) and was associated with reduced costs of care and two aspects of service quality: promotion of human rights and recovery-based practice. CONCLUSIONS: Most people do not move on from supported accommodation within the expected time frame. Greater focus on human rights and recovery-based practice may increase service effectiveness.

Knapp, M., et al. (2013). "Supported employment: cost-effectiveness across six European sites." World Psychiatry: Official Journal Of The World Psychiatric Association (WPA) 12(1): 60-68.

A high proportion of people with severe mental health problems are unemployed but would like to work. Individual Placement and Support (IPS) offers a promising approach to establishing people in paid employment. In a randomized controlled trial across six European countries, we investigated the economic case for IPS for people with severe mental health problems compared to standard vocational rehabilitation. Individuals (n=312) were randomized to receive either IPS or standard vocational services and followed for 18 months. Service use and outcome data were collected. Cost-effectiveness analysis was conducted with two primary outcomes: additional days worked in competitive settings and additional percentage of individuals who worked at least 1 day. Analyses distinguished country effects. A partial cost-benefit analysis was also conducted. IPS produced better outcomes than alternative vocational services at lower cost overall to the health and social care systems. This pattern also held in disaggregated analyses for five of the six European sites. The inclusion of imputed values for missing cost data supported these findings. IPS would be viewed as more cost-effective than standard vocational services. Further analysis demonstrated cost-benefit arguments for IPS. Compared to standard vocational rehabilitation services, IPS is, therefore, probably cost-saving and almost certainly more cost-effective as a way to help people with severe mental health problems into competitive employment.; Copyright © 2013 World Psychiatric Association.

Lam, D. H., et al. (2005). "Cost-effectiveness of relapse-prevention cognitive therapy for bipolar disorder: 30-month study." Br J Psychiatry 186: 500-506.

BACKGROUND: We have reported the advantageous clinical outcome of adding cognitive therapy to medication in the prevention of relapse of bipolar disorder. AIMS: This 30-month study compares the cost-effectiveness of cognitive therapy with standard care. METHOD: We randomly allocated 103 individuals with bipolar 1 disorder to standard treatment and cognitive therapy plus standard treatment. Service use and costs were measured at 3-month intervals and cost-effectiveness was assessed using the net-benefit approach. RESULTS: The group receiving cognitive therapy had significantly better clinical outcomes. The extra costs were offset by reduced service use elsewhere. The probability of cognitive therapy being cost-effective was high and robust to different therapy prices. CONCLUSIONS: Combination of cognitive therapy and mood stabilizers was superior to mood stabilizers alone in terms of clinical outcome and cost-effectiveness for those with frequent relapses of bipolar disorder.

McCrone, P., et al. (2010). "Cost-effectiveness of an early intervention service for people with psychosis." Br J Psychiatry 196(5): 377-382.

BACKGROUND: There is concern that delaying treatment for psychosis may have a negative impact on its long-term course. A number of countries have developed early intervention teams but there is limited evidence regarding their cost-effectiveness. AIMS: To compare the costs and cost-effectiveness of an early intervention

service in London with standard care. METHOD: Individuals in their first episode of psychosis (or those who had previously discontinued treatment) were recruited to the study. Clinical variables and costs were measured at baseline and then at 6- and 18-month follow-up. Information on quality of life and vocational outcomes were combined with costs to assess cost-effectiveness. RESULTS: A total of 144 people were randomised. Total mean costs were 11,685 pounds sterling in the early intervention group and 14,062 pounds sterling in the standard care group, with the difference not being significant (95% CI -8128 pounds sterling to 3326 pounds sterling). When costs were combined with improved vocational and quality of life outcomes it was shown that early intervention would have a very high likelihood of being cost-effective. CONCLUSIONS: Early intervention did not increase costs and was highly likely to be cost-effective when compared with standard care.

McCrone, P., et al. (2009). "Economic evaluation of a crisis resolution service: a randomised controlled trial." Epidemiol Psichiatr Soc 18(1): 54-58.

AIMS: The use of specialised services to avoid admission to hospital for people experiencing mental health crises is seen as an integral part of psychiatric services in some countries. The aim of this paper is to assess the impact on costs and cost-effectiveness of a crisis resolution team (CRT). METHODS: Patients who were experiencing mental health crises sufficient for admission to be considered were randomised to either care provided by a CRT or standard services. The primary outcome measure was inpatient days over a six-month follow-up period. Service use was measured, costs calculated and cost-effectiveness assessed. RESULTS: Patients receiving care from the CRT had non-inpatient costs pounds sterling 768 higher than patients receiving standard care (90% CI, pounds sterling 153 to pounds sterling 1375). With the inclusion of inpatient costs the costs for the CRT group were pounds sterling 2438 lower for the CRT group (90% CI, pounds sterling 937 to pounds sterling 3922). If one less day spent as an inpatient was valued at pounds sterling 100, there would be a 99.5% likelihood of the CRT being cost-effective. CONCLUSION: This CRT was shown to be cost-effective for modest values placed on reductions in inpatient stays.

McCrone, P., et al. (2013). "The economic impact of early intervention in psychosis services for children and adolescents." Early Interv Psychiatry 7(4): 368-373.

AIMS: To develop and populate a plausible model of the impact of early intervention (EI) for children and adolescents with psychosis to estimate potential short-term health-related cost savings compared to generic Child and Adolescent Mental Health Services (CAMHS). METHOD: A decision-tree-based model for EI in CAMHS was developed. The model was populated using data relating to the use of inpatient care and EI service activity for people aged under 18 from an area of North East England. Data were abstracted from the National Health Service clinical reporting systems for 2001-2008. Sensitivity analyses were performed to examine costs associated with the model under differing assumptions. RESULTS: EI delivered cost savings of £4814 per patient compared to care provided by generic CAMHS. Cost savings were predominantly a consequence of reduced length of hospital admissions for patients served by the EI team. The findings were robust to sensitivity analyses. CONCLUSIONS: These findings suggest that EI services for children and adolescents with psychosis provide potential direct health cost savings comparable to those observed for working-age adults.

McDaid, D. and A. L. Park (2016). Mental health and housing: Potential economic benefits of improved transitions along the acute care pathway to support recovery for people with mental health needs. London, Housing and Health.

McDaid, D., et al. (2022). "Cost-effectiveness of psychosocial assessment for individuals who present to hospital following self-harm in England: A model-based retrospective analysis." Eur Psychiatry 65(1): e16.

BACKGROUND: Guidance in England recommends psychosocial assessment when presenting to hospital following self-harm but adherence is variable. There is some evidence suggesting that psychosocial assessment is associated with lower risk of subsequent presentation to hospital for self-harm, but the potential cost-effectiveness of psychosocial assessment for hospital-presenting self-harm is unknown. METHODS: A three-state four-cycle Markov model was used to assess cost-effectiveness of psychosocial assessment after self-harm compared with no assessment over 2 years. Data on risk of subsequent self-harm and hospital costs of treating self-harm were drawn from the Multicentre Study of Self-Harm in England, while estimates of effectiveness of psychosocial assessment on risk of self-harm, quality of life, and other costs were drawn from literature. Incremental cost-effectiveness ratios (ICERs) for cost per Quality Adjusted Life Year (QALY) gained were estimated. Parameter uncertainty was addressed in univariate and probabilistic sensitivity analyses. RESULTS: Cost per QALY gained from psychosocial assessment was £10,962 (95% uncertainty interval [UI] £15,538-£9,219) from the National Health Service (NHS) perspective and £9,980 (95% UI £14,538-£6,938) from the societal

perspective. Results were generally robust to changes in model assumptions. The probability of the ICER being below £20,000 per QALY gained was 78%, rising to 91% with a £30,000 threshold. CONCLUSIONS: Psychosocial assessment as implemented in the English NHS is likely to be cost-effective. This evidence could support adherence to NICE guidelines. However, further evidence is needed about the precise impacts of psychosocial assessment on self-harm repetition and costs to individuals and their families beyond immediate hospital stay.

McDaid, D., et al. (2024). "Quantifying the economic value of earlier and enhanced management of anorexia nervosa for adults in England, Germany and Spain: improving the care pathway." European psychiatry : the journal of the Association of European Psychiatrists 67(1): e43.

BACKGROUND: Anorexia nervosa (AN) is a serious mental illness. One-third of people develop severe, enduring, illness, adversely impacting quality of life with high health system costs. This study assessed the economic case for enhanced care for adults newly diagnosed with AN., METHODS: A five-state 312-month-cycle Markov model assessed the economic impact of four enhanced care pathways for adults newly diagnosed with AN in England, Germany, and Spain. Enhancements were halving wait times for any outpatient care, receiving specialist outpatient treatment post-referral, additional transitional support post-referral, and all enhancements combined. Care pathways, estimates of impact, resource use, and costs were drawn from literature. Net monetary benefits (NMBs), impacts on health system costs, and disability-adjusted life years (DALYs) averted were estimated. Parameter uncertainty was addressed in multi-way sensitivity analyses. Costs are presented in 2020 purchasing power parity adjusted Euros., RESULTS: All four enhanced care pathways were superior to usual care, with the combined intervention scenario having the greatest NMBs of 248,575, 259,909, and 258,167 per adult in England, Germany, and Spain, respectively. This represented maximum NMB gains of 9.38% (21,316), 4.3% (10,722), and 4.66% (11,491) in England, Germany and Spain compared to current care. Healthcare costs would reduce by more than 50%., CONCLUSIONS: Early and effective treatment can change the trajectory of AN. Reducing the untreated duration of the disorder is crucial. There is a good economic case in different country contexts for measures to reduce waiting times between diagnosis and treatment and increase access to enhanced outpatient treatment.

McMurran, M., et al. (2016). "Psychoeducation with problem-solving (PEPS) therapy for adults with personality disorder: a pragmatic randomised controlled trial to determine the clinical effectiveness and cost-effectiveness of a manualised intervention to improve social functioning." Health Technol Assess 20(52): 1-250.

BACKGROUND: If effective, less intensive treatments for people with personality disorder have the potential to serve more people. OBJECTIVES: To compare the clinical effectiveness and cost-effectiveness of psychoeducation with problem-solving (PEPS) therapy plus usual treatment against usual treatment alone in improving social problem-solving with adults with personality disorder. DESIGN: Multisite two-arm, parallel-group, pragmatic randomised controlled superiority trial. SETTING: Community mental health services in three NHS trusts in England and Wales. PARTICIPANTS: Community-dwelling adults with any personality disorder recruited from community mental health services. INTERVENTIONS: Up to four individual sessions of psychoeducation, a collaborative dialogue about personality disorder, followed by 12 group sessions of problem-solving therapy to help participants learn a process for solving interpersonal problems. MAIN OUTCOME MEASURES: The primary outcome was measured by the Social Functioning Questionnaire (SFQ). Secondary outcomes were service use (general practitioner records), mood (measured via the Hospital Anxiety and Depression Scale) and client-specified three main problems rated by severity. We studied the mechanism of change using the Social Problem-Solving Inventory. Costs were identified using the Client Service Receipt Inventory and quality of life was identified by the European Quality of Life-5 Dimensions questionnaire. Research assistants blinded to treatment allocation collected follow-up information. RESULTS: There were 739 people referred for the trial and 444 were eligible. More adverse events in the PEPS arm led to a halt to recruitment after 306 people were randomised (90% of planned sample size); 154 participants received PEPS and 152 received usual treatment. The mean age was 38 years and 67% were women. Follow-up at 72 weeks after randomisation was completed for 62% of participants in the usual-treatment arm and 73% in the PEPS arm. Intention-to-treat analyses compared individuals as randomised, regardless of treatment received or availability of 72-week follow-up SFQ data. Median attendance at psychoeducation sessions was approximately 90% and for problem-solving sessions was approximately 50%. PEPS therapy plus usual treatment was no more effective than usual treatment alone for the primary outcome [adjusted difference in means for SFQ -0.73 points, 95% confidence interval (CI) -1.83 to 0.38 points; p = 0.19], any of the secondary outcomes or social problem-solving. Over the follow-up, PEPS costs were, on average, £182 less than for usual treatment. It also resulted in 0.0148 more quality-adjusted life-years. Neither difference was statistically significant. At the National Institute for Health and Care Excellence thresholds, the intervention had a

64% likelihood of being the more cost-effective option. More adverse events, mainly incidents of self-harm, occurred in the PEPS arm, but the difference was not significant (adjusted incidence rate ratio 1.24, 95% CI 0.93 to 1.64). LIMITATIONS: There was possible bias in adverse event recording because of dependence on self-disclosure or reporting by the clinical team. Non-completion of problem-solving sessions and non-standardisation of usual treatment were limitations. CONCLUSIONS: We found no evidence to support the use of PEPS therapy alongside standard care for improving social functioning of adults with personality disorder living in the community. FUTURE WORK: We aim to investigate adverse events by accessing centrally held NHS data on deaths and hospitalisation for all PEPS trial participants. TRIAL REGISTRATION: Current Controlled Trials ISRCTN70660936. FUNDING: This project was funded by the National Institute for Health Research (NIHR) Health Technology Assessment programme and will be published in full in Health Technology Assessment; Vol. 20, No. 52. See the NIHR Journals Library website for further project information.

Mizen, S., et al. (2025). "Out of area placements for people with "Personality Disorder": Making the case for a local intensive psychotherapeutic alternative." Personality and mental health 19(1): e1649.

OBJECTIVES: The use of Out of Area (OoA) psychiatric placements for people with "Personality Disorder" (PD) is widespread in the UK. An innovative local intensive psychotherapeutic service, adapted to the transdiagnostic presentations of the most complex PD patients, likely to be placed out of the area, was devised in the English County of Devon. This paper reports the findings of a Freedom of Information (FOI) request to commissioners attempting to quantify PD OoA placements in England and the cost offset of the local therapeutic alternative to OoA placements in Devon., DESIGN AND METHODS: Data from FOI requests was combined with publicly available sources to assess the scale of OoA placements for people with PD in England. OoA service use and cost data were used to examine the cost offset and effectiveness of the local alternative to OoA placements in Devon. The results found a lack of transparency and excessive use of OoA placements despite UK Government intentions. Data from the local therapeutic service demonstrated cost-effectiveness, reducing OoA placements and increasing the availability of psychotherapeutic services. This paper suggests the number of OoA placements can be reduced for people with severe and complex PD. The local therapeutic service provides a model for future rehabilitation pathways.

One Housing (2016). One Housing: A success story at Tile House. London, One Housing.

Ougrin, D., et al. (2018). "Comparison of effectiveness and cost-effectiveness of an intensive community supported discharge service versus treatment as usual for adolescents with psychiatric emergencies: a randomised controlled trial." Lancet Psychiatry 5(6): 477-485.

BACKGROUND: Intensive community treatment to reduce dependency on adolescent psychiatric inpatient care is recommended in guidelines but has not been assessed in a randomised controlled trial in the UK. We designed a supported discharge service (SDS) provided by an intensive community treatment team and compared outcomes with usual care. METHODS: Eligible patients for this randomised controlled trial were younger than 18 years and had been admitted for psychiatric inpatient care in the South London and Maudsley NHS Foundation Trust. Patients were assigned 1:1 to either the SDS or to usual care by use of a computer-generated pseudorandom code with random permuted blocks of varying sizes. The primary outcome was number of inpatient bed-days, change in Strengths and Difficulties Questionnaire (SDQ) scores, and change in Children's Global Assessment Scale (CGAS) scores at 6 months, assessed by intention to treat. Cost-effectiveness was explored with acceptability curves based on CGAS scores and quality-adjusted life-years (QALYs) calculated from the three-level EuroQol measure of health-related quality of life (EQ-5D-3L), taking a health and social care perspective. This study is registered with the ISRCTN Registry, number ISRCTN82129964. FINDINGS: Hospital use at 6 months was significantly lower in the SDS group than in the usual care group (unadjusted median 34 IQR 17-63 vs 50 days, 19-125, p=0·04). The ratio of mean total inpatient days for usual care to SDS was 1·67 (95% CI 1·02-2·81, p=0·04), which decreased to 1·65 (0·99-2·77, p=0·057) when adjusted for differences in hospital use before randomisation. Scores for SDQ and CGAS did not differ between groups. The cost-effectiveness acceptability curve based on QALYs showed that the probability of SDS being cost-effective compared with usual care was around 60% with a willingness-to-pay threshold of £20 000-30 000 per QALY, and that based on CGAS showed at least 58% probability of SDS being cost-effective compared with usual care irrespective of willingness to pay. We recorded no adverse events attributable to SDS or usual care. INTERPRETATION: SDS provided by an intensive community treatment team reduced bed usage at 6 months' follow-up but had no effect on functional status and symptoms of mental health disorders compared with usual care. The possibility of preventing admissions,

particularly through features such as reduced self-harm and improved reintegration into school, with intensive community treatment should be investigated in future studies. FUNDING: South London and Maudsley NHS Trust.

Palmer, S., et al. (2006). "The cost-effectiveness of cognitive behavior therapy for borderline personality disorder: results from the BOSCOT trial." J Pers Disord 20(5): 466-481.

Borderline personality disorder places a significant burden on healthcare providers and other agencies. This study evaluated the cost-effectiveness of cognitive behavior therapy plus treatment as usual compared to treatment as usual alone for patients with borderline personality disorder. The economic analysis was conducted alongside a multi-center, randomized controlled trial. The costs of primary and secondary healthcare utilization, alongside the wider economic costs, were estimated from medical records and patient self-report. The primary outcome measure used was the quality-adjusted life year (QALY), assessed using EuroQol. On average, total costs per patient in the cognitive behavior therapy group were lower than patients receiving usual care alone (-689 pounds sterling), although this group also reported a lower quality of life (-0.11 QALYs). These differences were small and did not approach conventional levels of statistical significance. The use of cognitive therapy for borderline personality disorder does not appear to demonstrate any significant cost-effective advantage based on the results of this study.

Park, A. L., et al. (2016). "Early intervention for first-episode psychosis: broadening the scope of economic estimates." Early Interv Psychiatry 10(2): 144-151.

AIM: To explore the economic impacts of early intervention in England on outcomes and costs for people with first-episode psychosis. METHODS: Three decision analytical models were constructed to compare treatment by early intervention for first-episode psychosis with standard care in relation to employment, education, homicide and suicide. Data on effectiveness and costs were taken from previous studies and expert opinion. Sensitivity analyses tested the robustness of assumptions. RESULTS: Our models indicate that early intervention demonstrates savings of £2087 per person over 3 years from improved employment and education outcomes. In addition, the annual costs over 10 years related to homicide after early intervention were £80 lower than for standard care. There were also annual savings of £957 per person for early intervention over 4 years compared to standard care as a result of suicides averted. CONCLUSIONS: Not only can investment in early intervention help reduce some of the long-term costs and consequences of mental disorders to the health-care system. In addition, there are broader economic benefits that strengthen the potential cost savings to society.

Priebe, S., et al. (2012). "Effectiveness and cost-effectiveness of dialectical behaviour therapy for self-harming patients with personality disorder: a pragmatic randomised controlled trial." Psychother Psychosom 81(6): 356-365.

BACKGROUND: A primary goal of dialectical behaviour therapy (DBT) is to reduce self-harm, but findings from empirical studies are inconclusive. The aim of this study was to assess the effectiveness and cost-effectiveness of DBT in reducing self-harm in patients with personality disorder. METHODS: Participants with a personality disorder and at least 5 days of self-harm in the previous year were randomised to receive 12 months of either DBT or treatment as usual (TAU). The primary outcome was the frequency of days with self-harm; secondary outcomes included borderline personality disorder symptoms, general psychiatric symptoms, subjective quality of life, and costs of care. RESULTS: Forty patients each were randomised to DBT and TAU. In an intention-to-treat analysis, there was a statistically significant treatment by time interaction for self-harm (incidence rate ratio 0.91, 95% CI 0.89-0.92, $p < 0.001$). For every 2 months spent in DBT, the risk of self-harm decreased by 9% relative to TAU. There was no evidence of differences on any secondary outcomes. The economic analysis revealed a total cost of a mean of 5,685 GBP (6,786 EUR) in DBT compared to a mean of 3,754 GBP (4,481 EUR) in TAU, but the difference was not significant (95% CI -603 to 4,599 GBP). Forty-eight per cent of patients completed DBT. They had a greater reduction in self-harm compared to dropouts (incidence rate ratio 0.78, 95% CI 0.76-0.80, $p < 0.001$). CONCLUSIONS: DBT can be effective in reducing self-harm in patients with personality disorder, possibly incurring higher total treatment costs. The effect is stronger in those who complete treatment. Future research should explore how to improve treatment adherence.

Ranger, M., et al. (2009). "Cost-effectiveness of nidotherapy for comorbid personality disorder and severe mental illness: randomized controlled trial." Epidemiol Psichiatr Soc 18(2): 128-136.

AIMS: Nidotherapy is the systematic modification of the environment to create a better fit for people. This is the first randomized controlled trial of its efficacy in an assertive community team. METHODS: Patients in an assertive outreach team with continued management problems together with comorbid personality disturbance and severe mental illness were randomized to nidotherapy enhanced assertive treatment (up to 12 sessions) or to

continued assertive outreach care. Use of psychiatric beds over one years (primary outcome) and change from base-line in other health service resources, psychiatric symptoms, social functioning and engagement with services were measured at 6 and 12 months (secondary outcomes). RESULTS: 52 patients were recruited over 13 months, with 49 and 37 assessed at 6 and 12 months. Patients referred to nidotherapy had a 63% reduction in hospital bed use after one year compared with control assertive care (P = 0.13) and showed non-significant improvement in psychiatric symptoms, social functioning and engagement than the control group. The mean cost savings for each patient allocated to nidotherapy was 4,112 pounds sterling per year, mainly as a consequence of reduced psychiatric bed use. CONCLUSION: Nidotherapy may be a cost-effective option in the management of comorbid serious mental illness and personality disorder, but larger confirmatory trials are necessary.

Scott, J., et al. (2009). "Long-term mental health resource utilization and cost of care following group psychoeducation or unstructured group support for bipolar disorders: a cost-benefit analysis." J Clin Psychiatry 70(3): 378-386.

OBJECTIVE: To explore the short- and long-term mental health resource utilization and cost of care in a sample of 120 individuals with bipolar disorders who participated in a randomized controlled efficacy trial of group psychoeducation versus unstructured group support. METHOD: Prospective, independent monitoring of DSM-IV bipolar disorder type I or II patients aged 18 to 65 years was conducted during the intervention phase (6 months) and follow-up phase (5-year postintervention) of a randomized controlled trial reporting clinical outcomes and inpatient and outpatient mental health service utilization, with estimation of cost of treatment per patient. The study was conducted from October 1997 through October 2006. RESULTS: Compared with individuals with bipolar disorder receiving the control intervention, psychoeducated patients had twice as many planned outpatient appointments, but the estimated mean cost of emergency consultation utilization was significantly less. There were trends for psychoeducated patients to opt for self-funded psychotherapy after completing group psychoeducation and to utilize more medications. However, inpatient care accounted for 40% estimated total cost in the control group but only about 15% in the psychoeducation group. CONCLUSIONS: This study demonstrates the importance of taking a long-term overview of the cost versus benefits of adjunctive psychological therapy in bipolar disorders. If viewed only in the short-term, the psychoeducation group used more mental health care resources without clear additional health gain. However, extended follow-up demonstrated a long-term advantage for psychoeducated individuals, such that, compared to an unstructured support group intervention, group psychoeducation is less costly and more effective.

Scott, J., et al. (2003). "Use of cognitive therapy for relapse prevention in chronic depression. Cost-effectiveness study." Br J Psychiatry 182: 221-227.

BACKGROUND: There is a lack of data on the cost-effectiveness of relapse prevention in depression. METHOD: A total of 158 subjects with partially remitted major depression despite adequate clinical treatment were randomly allocated to cognitive therapy in addition to antidepressants and clinical management v. antidepressants and clinical management alone. Relapse rates and health care resource utilisation were measured prospectively over 17 months. RESULTS: Cumulative relapse rates in the cognitive therapy group were significantly lower than in the control group (29% v. 47%). The incremental cost incurred in subjects receiving cognitive therapy over 17 months (pound sterling 779; 95% CI pound sterling 387- pound sterling 1170) was significantly lower than the overall mean costs of cognitive therapy (pound sterling 1164; 95% CI pound sterling 1084- pound sterling 1244). The incremental cost-effectiveness ratio ranged from pound sterling 4328 to pound sterling 5027 per additional relapse prevented. CONCLUSIONS: In individuals with depressive symptoms that are resistant to standard treatment, adjunctive cognitive therapy is more costly but more effective than intensive clinical treatment alone.

Senker, S. and M. Scott (2016). Essex Street Triage Evaluation December 2015. Witham, Police, Fire and Crime Commissioner for Essex.

Shearer, J., et al. (2018). "Cost-effectiveness of cognitive therapy as an early intervention for post-traumatic stress disorder in children and adolescents: a trial based evaluation and model." J Child Psychol Psychiatry 59(7): 773-780.

BACKGROUND: Untreated post-traumatic stress disorder (PTSD) in children and adolescents is associated with a considerable economic burden on the health system, families and society. Recent research has demonstrated the potential efficacy of cognitive therapy as an early intervention for PTSD in children and adolescents. Children who experienced a single traumatic event in the previous two to six months and were randomized to cognitive therapy for PTSD (CT-PTSD) were significantly more likely to be PTSD-free compared to

those randomized to usual care represented by waitlist control. The current study evaluated the economic impact of improvements in the treatment of PTSD in children and adolescents. METHODS: A cost-effectiveness analysis was conducted from the national health service/personal social services perspective with outcomes expressed as quality-adjusted life years (QALYs). Patient level costs and outcomes were collected during the 11 week clinical trial and extrapolated to a three year time horizon using economic modelling methods. Uncertainty was estimated using probabilistic sensitivity analysis and assumptions were tested using one way sensitivity analysis. RESULTS: The incremental cost-effectiveness ratio at 3 years was £2,205 per QALY with a 60%-69% probability of CT-PTSD being cost-effective compared to usual care at the UK £20,000 to £30,000 per QALY decision threshold. CONCLUSIONS: This study provides preliminary evidence for the cost-effectiveness of cognitive therapy in this treatment population. Larger pragmatic trials with longer follow-up are indicated.

Slade, M., et al. (2010). "Alternatives to standard acute in-patient care in England: short-term clinical outcomes and cost-effectiveness." Br J Psychiatry Suppl 53: s14-19.

BACKGROUND: Outcomes following admission to residential alternatives to standard in-patient mental health services are underresearched. AIMS: To explore short-term outcomes and costs of admission to alternative and standard services. METHOD: Health of the Nation Outcome Scales (HoNOS), Threshold Assessment Grid (TAG), Global Assessment of Functioning (GAF) and admission cost data were collected for six alternative services and six standard services. RESULTS: All outcomes improved during admission for both types of service (n = 433). Adjusted improvement was greater for standard services in scores on HoNOS (difference 1.99, 95% CI 1.12-2.86), TAG (difference 1.40, 95% CI 0.39-2.51) and GAF functioning (difference 4.15, 95% CI 1.08-7.22) but not GAF symptoms. Admissions to alternatives were 20.6 days shorter, and hence cheaper (UK pound3832 v. pound9850). Standard services cost an additional pound2939 per unit HoNOS improvement. CONCLUSIONS: The absence of clear-cut advantage for either type of service highlights the importance of the subjective experience and longer-term costs.

Smith, J. G., et al. (2024). "The effect of psychiatric decision unit services on inpatient admissions and mental health presentations in emergency departments: an interrupted time series analysis from two cities and one rural area in England." Epidemiol Psychiatr Sci 33: e15.

AIMS: High-quality evidence is lacking for the impact on healthcare utilisation of short-stay alternatives to psychiatric inpatient services for people experiencing acute and/or complex mental health crises (known in England as psychiatric decision units [PDUs]). We assessed the extent to which changes in psychiatric hospital and emergency department (ED) activity were explained by implementation of PDUs in England using a quasi-experimental approach. METHODS: We conducted an interrupted time series (ITS) analysis of weekly aggregated data pre- and post-PDU implementation in one rural and two urban sites using segmented regression, adjusting for temporal and seasonal trends. Primary outcomes were changes in the number of voluntary inpatient admissions to (acute) adult psychiatric wards and number of ED adult mental health-related attendances in the 24 months post-PDU implementation compared to that in the 24 months pre-PDU implementation. RESULTS: The two PDUs (one urban and one rural) with longer (average) stays and high staff-to-patient ratios observed post-PDU decreases in the pattern of weekly voluntary psychiatric admissions relative to pre-PDU trend (Rural: -0.45%/week, 95% confidence interval [CI] = -0.78%, -0.12%; Urban: -0.49%/week, 95% CI = -0.73%, -0.25%); PDU implementation in each was associated with an estimated 35-38% reduction in total voluntary admissions in the post-PDU period. The (urban) PDU with the highest throughput, lowest staff-to-patient ratio and shortest average stay observed a 20% (-20.4%, CI = -29.7%, -10.0%) level reduction in mental health-related ED attendances post-PDU, although there was little impact on long-term trend. Pooled analyses across sites indicated a significant reduction in the number of voluntary admissions following PDU implementation (-16.6%, 95% CI = -23.9%, -8.5%) but no significant (long-term) trend change (-0.20%/week, 95% CI = -0.74%, 0.34%) and no short- (-2.8%, 95% CI = -19.3%, 17.0%) or long-term (0.08%/week, 95% CI = -0.13, 0.28%) effects on mental health-related ED attendances. Findings were largely unchanged in secondary (ITS) analyses that considered the introduction of other service initiatives in the study period. CONCLUSIONS: The introduction of PDUs was associated with an immediate reduction of voluntary psychiatric inpatient admissions. The extent to which PDUs change long-term trends of voluntary psychiatric admissions or impact on psychiatric presentations at ED may be linked to their configuration. PDUs with a large capacity, short length of stay and low staff-to-patient ratio can positively impact ED mental health presentations, while PDUs with longer length of stay and higher staff-to-patient ratios have potential to reduce voluntary psychiatric admissions over an extended period. Taken as a whole, our analyses suggest that when establishing a PDU, consideration of the primary crisis-care need that underlies the creation of the unit is key.

Tsiachristas, A., et al. (2016). "Economic impact of early intervention in psychosis services: Results from a longitudinal retrospective controlled study in England." BMJ open 6(10): e012611.

Objectives To demonstrate the costs, outcomes and economic impact of early intervention in psychosis (EIP) services. Design Longitudinal retrospective observational study of service usage and outcome data from mental health and acute care services for all those with a diagnosis of psychosis in contact with mental health services over a 3-year period (April 2010-March 2013). Setting Thames Valley and South Midlands region in England (region covered by Oxford Academic Health Science Network). Participants 3674 people with psychosis, aged 16-35 years. Interventions EIP team or other community mental health teams. Main outcome measures Change in housing status, change in employment status and improvement on each of the four domains of the Health of the Nation Outcome Scale (HONOS) questionnaire. Costs of mental and acute health inpatient, outpatient and community service use were also included in the study. Results Patients in EIP services were 116% more likely (95% CI 1.263 to 3.708) to gain employment, 52% more likely to become accommodated in a mainstream house (95% CI 0.988 to 2.326) and 17% more likely to have an improvement in the emotional well-being domain of the HONOS questionnaire (95% CI 1.067 to 1.285), as compared to those in non-EIP services. Annual National Health Service (NHS) costs were also significantly lower for patients using EIP services compared to non-users. The mean annual NHS cost savings associated with EIP were 4031 (95% CI 1281 to 6780). These mostly came from lower mental health inpatient costs (4075, 95% CI 1164 to 6986), lower acute hospital outpatient costs (59, 95% CI 9 to 109), lower accident and emergency costs (31, 95% CI 12 to 51), and higher mental health community costs (648, 95% CI 122 to 1175). If all people with a first-episode psychosis across England were to be treated by EIP services, the savings in societal costs would be an estimated 63.3 million per year, of which 33.5 million would be in NHS costs. Conclusions Treatment within an EIP service is associated with better health and social outcomes, and reduced costs.

Tyrer, P., et al. (2011). "Nidotherapy in the treatment of substance misuse, psychosis and personality disorder: secondary analysis of a controlled trial." The Psychiatrist 35(1): 9-14.

Aims and methodTo examine the clinical outcome and bed usage in patients with comorbid substance misuse and psychosis. The patients were randomised to ordinary assertive outreach team care or to enhanced assertive outreach with nidotherapy. Ratings of clinical symptoms, social function, engagement with services, bed usage (primary outcome after 1 year) and economic costs were assessed at baseline and at 6 and 12 months after randomisation.ResultsPatients referred to nidotherapy had similar reduction in symptoms and engagement, with marginal superiority in social function (P = 0.045). There was a 110% reduction in hospital bed use after 1 year compared with control assertive care (P = 0.03). The mean cost savings for each patient allocated to nidotherapy was £14705 per year, mainly as a consequence of reduced psychiatric bed use.Clinical implicationsNidotherapy shows promise in the treatment of substance misuse and psychosis and may reduce hospital bed usage.

Zala, D., et al. (2019). "The Cost-Effectiveness of the Improving Access to Psychological Therapies (IAPT) Programme in Severe Mental Illness: A Decision Analytical Model Using Routine Data." Community Ment Health J 55(5): 873-883.

This is the first site level economic evaluation of the Improving Access to Psychological Therapies programme for severe mental illness (IAPT-SMI) that is funded by NHS England. It also aims to illustrate the challenges involved in evaluations based on routine data with low internal validity. Six IAPT-SMI pilot sites treated 1 of 2 clinical groups: (i) psychosis or bipolar disorder; (ii) personality disorder. A decision analytical model nested in a before-after framework- the same patients 12 months after treatment versus 12 months before treatment-was used to compare the cost-effectiveness of IAPT-SMI with treatment as usual (TAU). IAPT-SMI appears to be more costly overall but save non-psychological treatment costs. There is evidence it may improve function and lower incidence of harmful behaviour. However, there is a need for evaluations with a more conventional study design that measure a more comprehensive array of resource use and clinical outcomes.

UK Studies reporting no significant change in inpatient stays and/or A&E contacts.

Anderson, R., et al. (2014). "Cost-effectiveness of classroom-based cognitive behaviour therapy in reducing symptoms of depression in adolescents: a trial-based analysis." J Child Psychol Psychiatry 55(12): 1390-1397.

BACKGROUND: A substantial minority of adolescents suffer from depression and it is associated with increased risk of suicide, social and educational impairment, and mental health problems in adulthood. A recently conducted randomized controlled trial in England evaluated the effectiveness of a manualized universally delivered age-appropriate CBT programme in school classrooms. The cost-effectiveness of the programme for

preventing low mood and depression for all participants from a health and social care sector perspective needs to be determined. METHODS: A trial-based cost-effectiveness analysis based on a cluster-randomized controlled trial (trial registration--ISRCTN 19083628) comparing classroom-based CBT with usual school provision of Personal Social and Health Education. Per-student cost of intervention was estimated from programme records. The study was undertaken in eight mixed-sex U.K. secondary schools, and included 3,357 school children aged 12 to 16 years (in the two trial arms evaluated in the cost-effectiveness analysis). The main outcome measures were individual self-reported data on care costs, Quality-Adjusted Life-Years (QALYs, based on the EQ-5D health-related quality-of-life instrument) and symptoms of depression (Short Mood and Feelings Questionnaire) at baseline, 6 and 12 months. RESULTS: Although there was lower quality-adjusted life-years over 12 months (-.05 QALYs per person, 95% confidence interval -.09 to -.005, p = .03) with CBT, this is a 'clinically' negligible difference, which was not found in the complete case analyses. There was little evidence of any between-arm differences in SMFQ scores (0.19, 95% CI -0.57 to 0.95, p = .62), or costs (£142, 95% CI -£132 to £415, p = .31) per person for CBT versus usual school provision. CONCLUSIONS: Our analysis suggests that the universal provision of classroom-based CBT is unlikely to be either more effective or less costly than usual school provision.

Barrett, B., et al. (2013). "Randomised controlled trial of joint crisis plans to reduce compulsory treatment for people with psychosis: economic outcomes." PLoS One 8(11): e74210.

BACKGROUND: Compulsory admission to psychiatric hospitals may be distressing, disruptive to patients and families, and associated with considerable cost to the health service. Improved patient experience and cost reductions could be realised by providing cost-effective crisis planning services. METHODS: Economic evaluation within a multi-centre randomised controlled trial comparing Joint Crisis Plans (JCP) plus treatment as usual (TAU) to TAU alone for patients aged over 16, with at least one psychiatric hospital admission in the previous two years and on the Enhanced Care Programme Approach register. JCPs, containing the patient's treatment preferences for any future psychiatric emergency, are a form of crisis intervention that aim to mitigate the negative consequences of relapse, including hospital admission and use of coercion. Data were collected at baseline and 18-months after randomisation. The primary outcome was admission to hospital under the Mental Health Act. The economic evaluation took a service perspective (health, social care and criminal justice services) and a societal perspective (additionally including criminal activity and productivity losses). FINDINGS: The addition of JCPs to TAU had no significant effect on compulsory admissions or total societal cost per participant over 18-months follow-up. From the service cost perspective, however, evidence suggests a higher probability (80%) of JCPs being the more cost-effective option. Exploration by ethnic group highlights distinct patterns of costs and effects. Whilst the evidence does not support the cost-effectiveness of JCPs for White or Asian ethnic groups, there is at least a 90% probability of the JCP intervention being the more cost-effective option in the Black ethnic group. INTERPRETATION: The results by ethnic group are sufficiently striking to warrant further investigation into the potential for patient gain from JCPs among black patient groups. TRIAL REGISTRATION: Current Controlled Trials ISRCTN11501328.

Borschmann, R., et al. (2013). "Joint crisis plans for people with borderline personality disorder: feasibility and outcomes in a randomised controlled trial." Br J Psychiatry 202(5): 357-364.

BACKGROUND: People with borderline personality disorder frequently experience crises. To date, no randomised controlled trials (RCTs) of crisis interventions for this population have been published. AIMS: To examine the feasibility of recruiting and retaining adults with borderline personality disorder to a pilot RCT investigating the potential efficacy and cost-effectiveness of using a joint crisis plan. METHOD: An RCT of joint crisis plans for community-dwelling adults with borderline personality disorder (trial registration: ISRCTN12440268). The primary outcome measure was the occurrence of self-harming behaviour over the 6-month period following randomisation. Secondary outcomes included depression, anxiety, engagement and satisfaction with services, quality of life, well-being and cost-effectiveness. RESULTS: In total, 88 adults out of the 133 referred were eligible and were randomised to receive a joint crisis plan in addition to treatment as usual (TAU; n = 46) or TAU alone (n = 42). This represented approximately 75% of our target sample size and follow-up data were collected on 73 (83.0%) participants. Intention-to-treat analysis revealed no significant differences in the proportion of participants who reported self-harming (odds ratio (OR) = 1.9, 95% CI 0.53-6.5, P = 0.33) or the frequency of self-harming behaviour (rate ratio (RR) = 0.74, 95% CI 0.34-1.63, P = 0.46) between the two groups at follow-up. No significant differences were observed between the two groups on any of the secondary outcome measures or costs. CONCLUSIONS: It is feasible to recruit and retain people with borderline personality disorder to a trial of joint crisis plans and the intervention appears to have high face validity with this population. However, we found no evidence of clinical efficacy in this feasibility study.

Brabyn, S., et al. (2016). "The second Randomised Evaluation of the Effectiveness, cost-effectiveness and Acceptability of Computerised Therapy (REEACT-2) trial: does the provision of telephone support enhance the effectiveness of computer-delivered cognitive behaviour therapy? A randomised controlled trial." Health Technol Assess 20(89): 1-64.

BACKGROUND: Computerised cognitive behaviour therapy (cCBT) is an efficient form of therapy potentially improving access to psychological care. Indirect evidence suggests that the uptake and effectiveness of cCBT can be increased if facilitated by telephone, but this is not routinely offered in the NHS. OBJECTIVES: To compare the clinical effectiveness and cost-effectiveness of telephone-facilitated free-to-use cCBT [e.g. MoodGYM (National Institute for Mental Health Research, Australian National University, Canberra, ACT, Australia)] with minimally supported cCBT. DESIGN: This study was a multisite, pragmatic, open, two-arm, parallel-group randomised controlled trial with a concurrent economic evaluation. SETTING: Participants were recruited from GP practices in Bristol, Manchester, Sheffield, Hull and the north-east of England. PARTICIPANTS: Potential participants were eligible to participate in the trial if they were adults with depression scoring ≥ 10 on the Patient Health Questionnaire-9 (PHQ-9). INTERVENTIONS: Participants were randomised using a computer-generated random number sequence to receive minimally supported cCBT or telephone-facilitated cCBT. Participants continued with usual general practitioner care. MAIN OUTCOME MEASURES: The primary outcome was self-reported symptoms of depression, as assessed by the PHQ-9 at 4 months post randomisation. SECONDARY OUTCOMES: Secondary outcomes were depression at 12 months and anxiety, somatoform complaints, health utility (as assessed by the European Quality of Life-5 Dimensions questionnaire) and resource use at 4 and 12 months. RESULTS: Clinical effectiveness: 182 participants were randomised to minimally supported cCBT and 187 participants to telephone-facilitated cCBT. There was a difference in the severity of depression at 4 and 12 months, with lower levels in the telephone-facilitated group. The odds of no longer being depressed (defined as a PHQ-9 score of < 10) at 4 months were twice as high in the telephone-facilitated cCBT group [odds ratio (OR) 2.05, 95% confidence interval (CI) 1.23 to 3.42]. The benefit of telephone-facilitated cCBT was no longer significant at 12 months (OR 1.63, 95% CI 0.98 to 2.71). At 4 months the between-group difference in PHQ-9 scores was 1.9 (95% CI 0.5 to 3.3). At 12 months the results still favoured telephone-facilitated cCBT but were no longer statistically significant, with a difference in PHQ-9 score of 0.9 (95% CI -0.5 to 2.3). When considering the whole follow-up period, telephone-facilitated cCBT was asssociated with significantly lower PHQ-9 scores than minimally supported cCBT (mean difference -1.41, 95% CI -2.63 to -0.17; p = 0.025). There was a significant improvement in anxiety scores over the trial period (between-group difference 1.1, 95% CI 0.1 to 2.3; p = 0.037). In the case of somatic complaints (assessed using the Patient Health Questionnaire-15), there was a borderline statistically significant difference over the trial period (between-group difference 1.1, 95% CI 0.0 to 1.8; p = 0.051). There were gains in quality-adjusted life-years at reduced cost when telephone facilitation was added to MoodGYM. However, the results were subject to uncertainty. CONCLUSIONS: The results showed short-term benefits from the addition of telephone facilitation to cCBT. The effect was small to moderate and comparable with that of other primary care psychological interventions. Telephone facilitation should be considered when offering cCBT for depression. LIMITATIONS: Participants' depression was assessed with the PHQ-9, cCBT use was quite low and there was a slightly greater than anticipated loss to follow-up. FUTURE RESEARCH RECOMMENDATIONS: Improve the acceptability of cCBT and its capacity to address coexisting disorders. Large-scale pragmatic trials of cCBT with bibliotherapy and telephone-based interventions are required. TRIAL REGISTRATION: Current Controlled Trials ISRCTN55310481. FUNDING: This project was funded by the National Institute for Health Research (NIHR) Health Technology Assessment programme and will be published in full in Health Technology Assessment; Vol. 20, No. 89. See the NIHR Journals Library website for further project information.

Bray, G., et al. (2025). "Cost-utility analysis of antipsychotic reduction and discontinuation in patients with long-term schizophrenia and psychosis in English mental health trusts: The RADAR study." Value in Health 28(3): 358-367.

Objectives: The current recommended treatment for patients with recurrent episodes of schizophrenia and related conditions is antipsychotic medication. However, many antipsychotic users remain functionally impaired and experience serious physical and mental side effects. This study aims to assess the cost-effectiveness of a gradual antipsychotic reduction and discontinuation strategy compared with maintenance treatment over 24 months from mental health services, health and social care, and societal perspectives. Methods: Nineteen mental health trusts recruited patients to the Research into Antipsychotic Discontinuation and Reduction (RADAR) randomized controlled trial. Quality-adjusted life-years were calculated from patient-reported EQ-5D-5L, with years of full capability calculated from the patient-reported ICECAP-A. Mental health

services use and medication was collected from medical records. Other resource use and productivity loss was collected using self-completed questionnaires. Costs were calculated from published sources. Results: A total of 253 participants were randomized: 126 assigned to antipsychotic dose reduction and 127 to maintenance. There were no significant differences between arms in total costs for any perspectives. There were no significant difference in quality-adjusted life-years (-0.035; 95% CI: -0.123 to 0.052), whereas years of full capability were significantly lower in the reduction arm compared with the maintenance arm (baseline-adjusted difference: -0.103; 95% CI: -0.192 to -0.014). The reduction strategy was dominated by maintenance for all analyses and was not likely to be cost-effective. Conclusions: It is unlikely that gradual antipsychotic reduction and discontinuation strategy is cost-effective compared with maintenance over 2-years for patients with schizophrenia and other recurrent psychotic disorders who are on long-term antipsychotics. (PsycInfo Database Record (c) 2025 APA, all rights reserved)

Byford, S., et al. (2007). "Economic evaluation of a randomised controlled trial for anorexia nervosa in adolescents." Br J Psychiatry 191: 436-440.

BACKGROUND: Young people with anorexia nervosa are often admitted to hospital for treatment. As well as being disruptive to school, family and social life, in-patient treatment is expensive, yet cost-effectiveness evidence is lacking. AIMS: Cost-effectiveness analysis of three treatment strategies for adolescents with anorexia nervosa. METHOD: UK multicentre randomised, controlled trial comparing in-patient psychiatric treatment, specialist out-patient treatment and general out-patient treatment. Outcomes and costs assessed at baseline, 1 and 2 years. RESULTS: There were 167 young people in the trial. There were no statistically significant differences in clinical outcome between the three groups at 2 years. The specialist out-patient group was less costly over the 2-year follow-up (mean total cost 26 738 UK pounds) than the in-patient (34 531 UK pounds) and general out-patient treatment (40 794 UK pounds) groups, but this result was not statistically significant. Exploration of the uncertainty associated with the costs and effects of the three treatments suggests that specialist out-patient treatment has the highest probability of being cost-effective. CONCLUSIONS: On the basis of cost-effectiveness, these results support the provision of specialist out-patient services for adolescents with anorexia nervosa.

Byford, S., et al. (2019). Health Services and Delivery Research. Alternative community-based models of care for young people with anorexia nervosa: the CostED national surveillance study. Southampton (UK), NIHR Journals Library.

BACKGROUND: Evidence suggests that investing in specialist eating disorders services for young people with anorexia nervosa could have important implications for the NHS, with the potential to improve health outcomes and reduce costs through reductions in the number and length of hospital admissions. OBJECTIVES: The primary objectives were to evaluate the costs and cost-effectiveness of alternative community-based models of service provision for young people with anorexia nervosa and to model the impact of potential changes to the provision of specialist services. DESIGN: Observational surveillance study using the Child and Adolescent Psychiatry Surveillance System. SETTING: Community-based secondary or tertiary child and adolescent mental health services (CAMHS) in the UK and the Republic of Ireland. PARTICIPANTS: A total of 298 young people aged 8–17 years in contact with CAMHS for a first episode of anorexia nervosa in accordance with Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, diagnostic criteria. INTERVENTIONS: Community-based specialist eating disorders services and generic CAMHS. MAIN OUTCOME MEASURES: Children's Global Assessment Scale (CGAS) score (primary outcome) and percentage of median expected body mass index (BMI) for age and sex (%mBMI) (secondary outcome) were assessed at baseline and at 6 and 12 months. DATA SOURCES: Data were collected by clinicians from clinical records. RESULTS: Total costs incurred by young people initially assessed in specialist eating disorders services were not significantly different from those incurred by young people initially assessed in generic CAMHS. However, adjustment for baseline covariates resulted in observed differences favouring specialist services (costs were lower, on average) because of the significantly poorer clinical status of the specialist group at baseline. At the 6-month follow-up, mean %mBMI was significantly higher in the specialist group, but no other significant differences in outcomes were evident. Cost-effectiveness analyses suggest that initial assessment in a specialist service has a higher probability of being cost-effective than initial assessment in generic CAMHS, as determined by CGAS score and %mBMI. However, no firm conclusion can be drawn without knowledge of society's willingness to pay for improvements in these outcomes. Decision modelling did not support the hypothesis that changes to the provision of specialist services would generate savings for the NHS, with results suggesting that cost per 10-point improvement in CGAS score (improvement from one CGAS category to the next) varies little as the percentage of participants taking the specialist or generic pathway is varied. LIMITATIONS: Follow-up rates were lower than expected, but the sample was still larger than has been achieved to date in RCTs carried out in this population in the UK, and an exploration

of the impact of missing cost and outcome data produced very similar results to those of the main analyses. CONCLUSIONS: The results of this study suggest that initial assessment in a specialist eating disorders service for young people with anorexia nervosa may have a higher probability of being cost-effective than initial assessment in generic CAMHS, although the associated uncertainty makes it hard to draw firm conclusions. Although costs and outcomes were similar, young people in specialist services were more severely ill at baseline, suggesting that specialist services were achieving larger clinical effectiveness gains without the need for additional expenditure. The results did not suggest that providing more specialist services would save money for the NHS, given similar costs and outcomes, so decisions about which service type to fund could be made with reference to other factors, such as the preferences of patients and carers. FUTURE WORK: Data on measures of quality of life capable of generating quality-adjusted life-years are needed to confirm the cost-effectiveness of specialist services. TRIAL REGISTRATION: Current Controlled Trials ISRCTN12676087. FUNDING: This project was funded by the National Institute for Health Research (NIHR) Health Services and Delivery Research programme and will be published in full in Health Services and Delivery Research; Vol. 7, No. 37. See the NIHR Journals Library website for further project information.

Specialist and generic services for young people with anorexia nervosa achieve similar outcomes for a similar cost, despite patients in specialist services being typically more severely ill when diagnosed.

Byford, S., et al. (2010). "Alternatives to standard acute in-patient care in England: readmissions, service use and cost after discharge." Br J Psychiatry Suppl 53: s20-25.

BACKGROUND: Residential alternatives to standard psychiatric admissions are associated with shorter lengths of stay, but little is known about the impact on readmissions. AIMS: To explore readmissions, use of community mental health services and costs after discharge from alternative and standard services. METHOD: Data on use of hospital and community mental health services were collected from clinical records for participants in six alternative and six standard services for 12 months from the date of index admission. RESULTS: After discharge, the mean number and length of readmissions, use of community mental health services and costs did not differ significantly between standard and alternative services. Cost of index admission and total 12-month cost per participant were significantly higher for standard services. CONCLUSIONS: Shorter lengths of stay in residential alternatives are not associated with greater frequency or length of readmissions or greater use of community mental health services after discharge.

Cardi, V., et al. (2024). "Efficacy and cost-effectiveness of a digital guided self-management intervention to support transition from intensive care to community care in anorexia nervosa (TRIANGLE): pragmatic multicentre randomised controlled trial and economic evaluation." eClinicalMedicine 73: 102645.

BACKGROUND: There is uncertainty regarding how best to support patients with anorexia nervosa following inpatient or day care treatment. This study evaluated the impact of augmenting intensive treatment with a digital, guided, self-management intervention (ECHOMANTRA) for patients with anorexia nervosa and their carers. METHODS: In this pragmatic multicentre randomised controlled trial and economic evaluation, patients with a diagnosis of anorexia nervosa or atypical anorexia nervosa, aged 16+ and attending one of the 31 inpatient or day-patient services in the UK were randomised with one of their carers to receive ECHOMANTRA plus treatment as usual (TAU), or TAU alone. ECHOMANTRA was hosted on a digital platform and included a workbook, recovery-oriented video-clips and online facilitated groups (patients only, carers only, joint patient-carer). Participants were randomised on a 1:1 ratio using a minimisation algorithm to stratify by site (N = 31) and severity (defined by BMI <15 and ≥ 15 kg/m(2) at baseline). The primary outcome was patient depression, anxiety, and stress at 12 months. Primary and secondary outcomes were compared between trial arms on an intention-to-treat basis (ITT). This trial is registered with the ISRSTN registry, ISRCTN14644379. FINDINGS: Between July 01, 2017 and July 20, 2020, 371 patient-carer dyads were enrolled and randomly assigned to ECHOMANTRA + TAU (N = 185) or TAU alone (N = 186). There were no significant differences between trial arms with regards to the primary outcome (completed by N = 143 patients in the TAU group, Mean = 61.7, SD = 29.4 and N = 109 patients in the ECHOMANTRA + TAU group, Mean = 58.3, SD = 26.9; estimated mean difference 0.48 points; 95% CI -5.36 to 6.33; p = 0.87). Differences on secondary outcomes were small and non-significant (standardised effect size estimates ≤0.25). Five patients died (2 from suicide and 3 from physical complications) over the course of the trial, and this was unrelated to their participation in the study. INTERPRETATION: ECHOMANTRA added to TAU was not superior to TAU alone in reducing patient depression, anxiety, and stress symptoms. This may be explained by limited engagement with the intervention materials and changes in usual care practices since the beginning of the trial. FUNDING: National Institute for Health Research (NIHR), under its Health Technology Assessment Programme (HTA) Programme (Grant Reference Number 14/68/09). NIHR Maudsley Biomedical Research Centre (BRC), South

London and Maudsley NHS Foundation Trust and Institute of Psychiatry, Psychology and Neuroscience, and King's College London. NIHR Applied Research Collaboration South London (NIHR ARC South London) at King's College Hospital NHS Foundation Trust.

Cottrell, D. J., et al. (2018). "A pragmatic randomised controlled trial and economic evaluation of family therapy versus treatment as usual for young people seen after second or subsequent episodes of self-harm: the Self-Harm Intervention - Family Therapy (SHIFT) trial." Health Technol Assess 22(12): 1-222.

BACKGROUND: Self-harm in adolescents is common and repetition rates high. There is limited evidence of the effectiveness of interventions to reduce self-harm. OBJECTIVES: To assess the clinical effectiveness and cost-effectiveness of family therapy (FT) compared with treatment as usual (TAU). DESIGN: A pragmatic, multicentre, individually randomised controlled trial of FT compared with TAU. Participants and therapists were aware of treatment allocation; researchers were blind to allocation. SETTING: Child and Adolescent Mental Health Services (CAMHS) across three English regions. PARTICIPANTS: Young people aged 11-17 years who had self-harmed at least twice presenting to CAMHS following self-harm. INTERVENTIONS: Eight hundred and thirty-two participants were randomised to manualised FT delivered by trained and supervised family therapists (n = 415) or to usual care offered by local CAMHS following self-harm (n = 417). MAIN OUTCOME MEASURES: Rates of repetition of self-harm leading to hospital attendance 18 months after randomisation. RESULTS: Out of 832 young people, 212 (26.6%) experienced a primary outcome event: 118 out of 415 (28.4%) randomised to FT and 103 out of 417 (24.7%) randomised to TAU. There was no evidence of a statistically significant difference in repetition rates between groups (the hazard ratio for FT compared with TAU was 1.14, 95% confidence interval 0.87 to 1.49; p = 0.3349). FT was not found to be cost-effective when compared with TAU in the base case and most sensitivity analyses. FT was dominated (less effective and more expensive) in the complete case. However, when young people's and caregivers' quality-adjusted life-year gains were combined, FT incurred higher costs and resulted in better health outcomes than TAU within the National Institute for Health and Care Excellence cost-effectiveness range. Significant interactions with treatment, indicating moderation, were detected for the unemotional subscale on the young person-reported Inventory of Callous-Unemotional Traits (p = 0.0104) and the affective involvement subscale on the caregiver-reported McMaster Family Assessment Device (p = 0.0338). Caregivers and young people in the FT arm reported a range of significantly better outcomes on the Strengths and Difficulties Questionnaire. Self-reported suicidal ideation was significantly lower in the FT arm at 12 months but the same in both groups at 18 months. No significant unexpected adverse events or side effects were reported, with similar rates of expected adverse events across trial arms. CONCLUSIONS: For adolescents referred to CAMHS after self-harm, who have self-harmed at least once before, FT confers no benefits over TAU in reducing self-harm repetition rates. There is some evidence to support the effectiveness of FT in reducing self-harm when caregivers reported poor family functioning. When the young person themselves reported difficulty expressing emotion, FT did not seem as effective as TAU. There was no evidence that FT is cost-effective when only the health benefits to participants were considered but there was a suggestion that FT may be cost-effective if health benefits to caregivers are taken into account. FT had a significant, positive impact on general emotional and behavioural problems at 12 and 18 months. LIMITATIONS: There was significant loss to follow-up for secondary outcomes and health economic analyses; the primary outcome misses those who do not attend hospital following self-harm; and the numbers receiving formal FT in the TAU arm were higher than expected. FUTURE WORK: Evaluation of interventions targeted at subgroups of those who self-harm, longer-term follow-up and methods for evaluating health benefits for family groups rather than for individuals. TRIAL REGISTRATION: Current Controlled Trials ISRCTN59793150. FUNDING: This project was funded by the NIHR Health Technology Assessment programme and will be published in full in Health Technology Assessment; Vol. 22, No. 12. See the NIHR Journals Library website for further project information.

Creswell, C., et al. (2024). "Digitally augmented, parent-led CBT versus treatment as usual for child anxiety problems in child mental health services in England and northern Ireland: A pragmatic, non-inferiority, clinical effectiveness and cost-effectiveness randomised controlled trial." The Lancet Psychiatry 11(3): 193-209.

Background: Anxiety problems are common in children, yet few affected children access evidence-based treatment. Digitally augmented psychological therapies bring potential to increase availability of effective help for children with mental health problems. This study aimed to establish whether therapist-supported, digitally augmented, parent-led cognitive behavioural therapy (CBT) could increase the efficiency of treatment without compromising clinical effectiveness and acceptability. Methods: We conducted a pragmatic, unblinded, two-arm, multisite, randomised controlled non-inferiority trial to evaluate the clinical effectiveness and cost-effectiveness of therapist-supported, parent-led CBT using the Online Support and Intervention (OSI) for child anxiety platform

compared with treatment as usual for child (aged 5-12 years) anxiety problems in 34 Child and Adolescent Mental Health Services in England and Northern Ireland. We examined acceptability of OSI plus therapist support via qualitative interviews. Participants were randomly assigned (1:1) to OSI plus therapist support or treatment as usual, minimised by child age, gender, service type, and baseline child anxiety interference. Outcomes were assessed at week 14 and week 26 after randomisation. The primary clinical outcome was parent-reported interference caused by child anxiety at week 26 assessment, using the Child Anxiety Impact Scale-parent report (CAIS-P). The primary measure of health economic effect was quality-adjusted life-years (QALYs). Outcome analyses were conducted blind in the intention-to-treat (ITT) population with a standardised non-inferiority margin of 0.33 for clinical analyses. The trial was registered with ISRCTN, 12890382. Findings: Between Dec 5, 2020, and Aug 3, 2022, 706 families (706 children and their parents or carers) were referred to the study information. 444 families were enrolled. Parents reported 255 (58%) child participants' gender to be female, 184 (41%) male, three (< 1%) other, and one (< 1%) preferred not to report their child's gender. 400 (90%) children were White and the mean age was 9.20 years (SD 1.79). 85% of families for whom clinicians provided information in the treatment as usual group received CBT. OSI plus therapist support was non-inferior for parent-reported anxiety interference on the CAIS-P (SMD 0.01, 95% CI -0.15 to 0.17; p < 0.0001) and all secondary outcomes. The mean difference in QALYs across trial arms approximated to zero, and OSI plus therapist support was associated with lower costs than treatment as usual. OSI plus therapist support was likely to be cost effective under certain scenarios, but uncertainty was high. OSI plus therapist support acceptability was good. No serious adverse events were reported. Interpretation: Digitally augmented intervention brought promising savings without compromising outcomes and as such presents a valuable tool for increasing access to psychological therapies and meeting the demand for treatment of child anxiety problems. (PsycInfo Database Record (c) 2025 APA, all rights reserved)

Dixon, P., et al. (2016). "Cost-effectiveness of telehealth for patients with depression: evidence from the Healthlines randomised controlled trial." BJPsych Open 2(4): 262-269.

BACKGROUND: Depression is a prevalent long-term condition that is associated with substantial resource use. Telehealth may offer a cost-effective means of supporting the management of people with depression. AIMS: To investigate the cost-effectiveness of a telehealth intervention ('Healthlines') for patients with depression. METHOD: A prospective patient-level economic evaluation conducted alongside a randomised controlled trial. Patients were recruited through primary care, and the intervention was delivered via a telehealth service. Participants with a confirmed diagnosis of depression and PHQ-9 score ≥10 were recruited from 43 English general practices. A series of up to 10 scripted, theory-led, telephone encounters with health information advisers supported participants to affect a behaviour change, use online resources, optimise medication and improve adherence. The intervention was delivered alongside usual care and was designed to support rather than duplicate primary care. Cost-effectiveness from a combined health and social care perspective was measured by net monetary benefit at the end of 12 months of follow-up, calculated from incremental cost and incremental quality-adjusted life years (QALYs). Cost-consequence analysis included cost of lost productivity, participant out-of-pocket expenditure and the clinical outcome. RESULTS: A total of 609 participants were randomised - 307 to receive the Healthlines intervention plus usual care and 302 to receive usual care alone. Forty-five per cent of participants had missing quality of life data, 41% had missing cost data and 51% of participants had missing data on either cost or utility, or both. Multiple imputation was used for the base-case analysis. The intervention was associated with incremental mean per-patient National Health Service/personal social services cost of £168 (95% CI £43 to £294) and an incremental QALY gain of 0.001 (95% CI -0.023 to 0.026). The incremental cost-effectiveness ratio was £132 630. Net monetary benefit at a cost-effectiveness threshold of £20 000 was -£143 (95% CI -£164 to -£122) and the probability of the intervention being cost-effective at this threshold value was 0.30. Productivity costs were higher in the intervention arm, but out-of-pocket expenses were lower. CONCLUSIONS: The Healthlines service was acceptable to patients as a means of condition management, and response to treatment after 4 months was higher for participants randomised to the intervention. However, the positive average intervention effect size was modest, and incremental costs were high relative to a small incremental QALY gain at 12 months. The intervention is not likely to be cost-effective in its current form. DECLARATION OF INTEREST: None. COPYRIGHT AND USAGE: © The Royal College of Psychiatrists 2016. This is an open access article distributed under the terms of the Creative Commons Attribution (CC BY) licence.

Gillard, S., et al. (2023). "Evaluating mental health decision units in acute care pathways (DECISION): a quasi-experimental, qualitative and health economic evaluation." Health and social care delivery research 11(25): 1-221.

Background: People experiencing mental health crises in the community often present to emergency departments and are admitted to a psychiatric hospital. Because of the demands on emergency department and

inpatient care, psychiatric decision units have emerged to provide a more suitable environment for assessment and signposting to appropriate care., Objectives: The study aimed to ascertain the structure and activities of psychiatric decision units in England and to provide an evidence base for their effectiveness, costs and benefits, and optimal configuration., Design: This was a mixed-methods study comprising survey, systematic review, interrupted time series, synthetic control study, cohort study, qualitative interview study and health economic evaluation, using a critical interpretive synthesis approach., Setting: The study took place in four mental health National Health Service trusts with psychiatric decision units, and six acute hospital National Health Service trusts where emergency departments referred to psychiatric decision units in each mental health trust., Participants: Participants in the cohort study (n = 2110) were first-time referrals to psychiatric decision units for two 5-month periods from 1 October 2018 and 1 October 2019, respectively. Participants in the qualitative study were first-time referrals to psychiatric decision units recruited within 1 month of discharge (n = 39), members of psychiatric decision unit clinical teams (n = 15) and clinicians referring to psychiatric decision units (n = 19)., Outcomes: Primary mental health outcome in the interrupted time series and cohort study was informal psychiatric hospital admission, and in the synthetic control any psychiatric hospital admission; primary emergency department outcome in the interrupted time series and synthetic control was mental health attendance at emergency department. Data for the interrupted time series and cohort study were extracted from electronic patient record in mental health and acute trusts; data for the synthetic control study were obtained through NHS Digital from Hospital Episode Statistics admitted patient care for psychiatric admissions and Hospital Episode Statistics Accident and Emergency for emergency department attendances. The health economic evaluation used data from all studies. Relevant databases were searched for controlled or comparison group studies of hospital-based mental health assessments permitting overnight stays of a maximum of 1 week that measured adult acute psychiatric admissions and/or mental health presentations at emergency department. Selection, data extraction and quality rating of studies were double assessed. Narrative synthesis of included studies was undertaken and meta-analyses were performed where sufficient studies reported outcomes., Results: Psychiatric decision units have the potential to reduce informal psychiatric admissions, mental health presentations and wait times at emergency department. Cost savings are largely marginal and do not offset the cost of units. First-time referrals to psychiatric decision units use more inpatient and community care and less emergency department-based liaison psychiatry in the months following the first visit. Psychiatric decision units work best when configured to reduce either informal psychiatric admissions (longer length of stay, higher staff-to-patient ratio, use of psychosocial interventions), resulting in improved quality of crisis care or demand on the emergency department (higher capacity, shorter length of stay). To function well, psychiatric decision units should be integrated into the crisis care pathway alongside a range of community-based support., Limitations: The availability and quality of data imposed limitations on the reliability of some analyses., Future work: Psychiatric decision units should not be commissioned with an expectation of short-term financial return on investment but, if appropriately configured, they can provide better quality of care for people in crisis who would not benefit from acute admission or reduc pressure on emergency department., Study registration: The systematic review was registered on the International Prospective Register of Systematic Reviews as CRD42019151043., Funding: This award was funded by the National Institute for Health and Care Research (NIHR) Health and Social Care Delivery Research programme (NIHR award ref: 17/49/70) and is published in full in Health and Social Care Delivery Research; Vol. 11, No. 25. See the NIHR Funding and Awards website for further award information.

Goodyer, I. M., et al. (2008). "A randomised controlled trial of cognitive behaviour therapy in adolescents with major depression treated by selective serotonin reuptake inhibitors. The ADAPT trial." Health Technol Assess 12(14): iii-iv, ix-60.

OBJECTIVES: To determine if, in the short term, depressed adolescents attending routine NHS Child and Adolescent Mental Health Services (CAMHS), and receiving ongoing active clinical care, treatment with selective serotonin reuptake inhibitors (SSRIs) plus cognitive behaviour therapy (CBT) compared with SSRI alone, results in better healthcare outcomes. DESIGN: A pragmatic randomised controlled trial (RCT) was conducted on depressed adolescents attending CAMHS who had not responded to a psychosocial brief initial intervention (BII) prior to randomisation. SETTING: Six English CAMHS participated in the study. PARTICIPANTS: A total of 208 patients aged between 11 and 17 years were recruited and randomised. INTERVENTIONS: All participants received active routine clinical care in a CAMHS outpatient setting and an SSRI and half were offered CBT. MAIN OUTCOME MEASURES: The duration of the trial was a 12-week treatment phase, followed by a 16-week maintenance phase. Follow-up assessments were at 6, 12 and 28 weeks. The primary outcome measure was the Health of the Nation Outcome Scales for Children and Adolescents (HoNOSCA). Secondary outcome measures were self-report depressive symptoms, interviewer-rated depressive signs and symptoms, interviewer-rated psychosocial impairment and clinical global impression of response to treatment. Information on resource use

was collected in interview at baseline and at the 12- and 28-week follow-up assessments using the Child and Adolescent Service Use Schedule (CA-SUS). RESULTS: Of the 208 patients randomised, 200 (96%) completed the trial to the primary end-point at 12 weeks. By the 28-week follow-up, 174 (84%) participants were re-evaluated. Overall, 193 (93%) participants had been assessed at one or more time points. Clinical characteristics indicated that the trial was conducted on a severely depressed group. There was significant recovery at all time points in both arms. The findings demonstrated no difference in treatment effectiveness for SSRI + CBT over SSRI only for the primary or secondary outcome measures at any time point. This lack of difference held when baseline and treatment characteristics where taken into account (age, sex, severity, co-morbid characteristics, quality and quantity of CBT treatment, number of clinic attendances). The SSRI + CBT group was somewhat more expensive over the 28 weeks than the SSRI-only group (p=0.057) and no more cost-effective. Over the trial period there was on average a decrease in suicidal thoughts and self-harm compared with levels recorded at baseline. There was no significant increase in disinhibition, irritability and violence compared with levels at baseline. Around 20% (n=40) of patients in the trial were non-responders. Of these, 17 (43%) showed no improvement by 28 weeks and 23 (57%) were considered minimally (n=10) or moderately to severely worse (n=13). CONCLUSIONS: For moderately to severely depressed adolescents who are non-responsive to a BII, the addition of CBT to fluoxetine plus routine clinical care does not improve outcome or confer protective effects against adverse events and is not cost-effective. SSRIs (mostly fluoxetine) are not likely to result in harmful adverse effects. The findings are broadly consistent with existing guidelines on the treatment of moderate to severe depression. Modification is advised for those presenting with moderate (6-8 symptoms) to severe depressions (>8 symptoms) and in those with either overt suicidal risk and/or high levels of personal impairment. In such cases, the time allowed for response to psychosocial interventions should be no more than 2-4 weeks, after which fluoxetine should be prescribed. Further research should focus on evaluating the efficacy of specific psychological treatments against brief psychological intervention, determining the characteristics of patients with severe depression who are non-responsive to fluoxetine, relapse prevention in severe depression and improving tools for determining treatment responders and non-responders.

Green, C., et al. (2014). "Cost-effectiveness of collaborative care for depression in UK primary care: economic evaluation of a randomised controlled trial (CADET)." PLoS One 9(8): e104225.

BACKGROUND: Collaborative care is an effective treatment for the management of depression but evidence on its cost-effectiveness in the UK is lacking. AIMS: To assess the cost-effectiveness of collaborative care in a UK primary care setting. METHODS: An economic evaluation alongside a multi-centre cluster randomised controlled trial comparing collaborative care with usual primary care for adults with depression (n = 581). Costs, quality-adjusted life-years (QALYs), and incremental cost-effectiveness ratios (ICER) were calculated over a 12-month follow-up, from the perspective of the UK National Health Service and Personal Social Services (i.e. Third Party Payer). Sensitivity analyses are reported, and uncertainty is presented using the cost-effectiveness acceptability curve (CEAC) and the cost-effectiveness plane. RESULTS: The collaborative care intervention had a mean cost of £272.50 per participant. Health and social care service use, excluding collaborative care, indicated a similar profile of resource use between collaborative care and usual care participants. Collaborative care offered a mean incremental gain of 0.02 (95% CI: -0.02, 0.06) quality-adjusted life-years over 12 months, at a mean incremental cost of £270.72 (95% CI: -202.98, 886.04), and resulted in an estimated mean cost per QALY of £14,248. Where costs associated with informal care are considered in sensitivity analyses collaborative care is expected to be less costly and more effective, thereby dominating treatment as usual. CONCLUSION: Collaborative care offers health gains at a relatively low cost, and is cost-effective compared with usual care against a decision-maker willingness to pay threshold of £20,000 per QALY gained. Results here support the commissioning of collaborative care in a UK primary care setting.

Green, J. M., et al. (2011). "Group therapy for adolescents with repeated self harm: randomised controlled trial with economic evaluation." Bmj 342: d682.

OBJECTIVE: To examine the effectiveness and cost-effectiveness of group therapy for self harm in young people. DESIGN: Two arm, single (assessor) blinded parallel randomised allocation trial of a group therapy intervention in addition to routine care, compared with routine care alone. Randomisation was by minimisation controlling for baseline frequency of self harm, presence of conduct disorder, depressive disorder, and severity of psychosocial stress. PARTICIPANTS: Adolescents aged 12-17 years with at least two past episodes of self harm within the previous 12 months. Exclusion criteria were: not speaking English, low weight anorexia nervosa, acute psychosis, substantial learning difficulties (defined by need for specialist school), current containment in secure care. Setting Eight child and adolescent mental health services in the northwest UK. INTERVENTIONS: Manual based developmental group therapy programme specifically designed for adolescents who harm themselves, with

an acute phase over six weekly sessions followed by a booster phase of weekly groups as long as needed. Details of routine care were gathered from participating centres. MAIN OUTCOME MEASURES: Primary outcome was frequency of subsequent repeated episodes of self harm. Secondary outcomes were severity of subsequent self harm, mood disorder, suicidal ideation, and global functioning. Total costs of health, social care, education, and criminal justice sector services, plus family related costs and productivity losses, were recorded. RESULTS: 183 adolescents were allocated to each arm (total n = 366). Loss to follow-up was low (<4%). On all outcomes the trial cohort as a whole showed significant improvement from baseline to follow-up. On the primary outcome of frequency of self harm, proportional odds ratio of group therapy versus routine care adjusting for relevant baseline variables was 0.99 (95% confidence interval 0.68 to 1.44, P = 0.95) at 6 months and 0.88 (0.59 to 1.33, P = 0.52) at 1 year. For severity of subsequent self harm the equivalent odds ratios were 0.81 (0.54 to 1.20, P = 0.29) at 6 months and 0.94 (0.63 to 1.40, P = 0.75) at 1 year. Total 1 year costs were higher in the group therapy arm (£21,781) than for routine care (£15,372) but the difference was not significant (95% CI -1416 to 10782, P = 0.132). CONCLUSIONS: The addition of this targeted group therapy programme did not improve self harm outcomes for adolescents who repeatedly self harmed, nor was there evidence of cost effectiveness. The outcomes to end point for the cohort as a whole were better than current clinical expectations. Trial registration ISRCTN 20496110.

Haddock, G., et al. (2003). "Cognitive-behavioural therapy and motivational intervention for schizophrenia and substance misuse. 18-month outcomes of a randomised controlled trial." Br J Psychiatry 183: 418-426.

BACKGROUND: Comorbid substance misuse in people with schizophrenia is associated with poor clinical and social outcomes. There are few studies of psychological treatments for this population and little long-term follow-up of their benefits. AIMS: To investigate symptom, substance use, functioning and health economy outcomes for patients with schizophrenia and their carers 18 months after a cognitive-behavioural treatment (CBT) programme. METHOD: Patients with dual diagnosis from a randomised controlled trial of motivational intervention, individual CBT and family intervention were assessed on multiple outcomes at 18-month follow-up. Carers were assessed on symptom, functioning and needs over 12 months. Health economy data were collected over 18 months. RESULTS: There were significant improvements in patient functioning compared with routine care over 18 months. No significant differences between treatment groups were found in carer or cost outcomes. CONCLUSIONS: The treatment programme was superior to routine care on outcomes relating to illness and service use, and the cost was comparable to the control treatment.

Heslin, M., et al. (2011). "Randomized controlled trial of supported employment in England: 2 year follow-up of the Supported Work and Needs (SWAN) study." World Psychiatry: Official Journal Of The World Psychiatric Association (WPA) 10(2): 132-137.

Studies from North America have concluded that supported employment using the Individual Placement and Support (IPS) model is effective in helping individuals with severe and persistent mental illness gain competitive employment. The aim of this study was to investigate the effectiveness and cost-effectiveness of IPS in England in patients followed up for 2 years. Patients with severe mental illness were randomised to IPS or local vocational services (treatment as usual). Service use and costs were measured. Two hundred-nineteen participants were randomised, and 86% re-assessed 2 years later. In the multivariate analysis, relatively low rates of competitive employment were found in both the intervention group and the treatment as usual group, although significantly more patients obtained competitive employment in the treatment arm (22% vs. 11%, p=0.041). There were no significant differences in costs. The employment rate among participants receiving IPS was lower than in previously published reports, and the number needed to treat to obtain the benefit of IPS was relatively high. This may reflect difficulties in the implementation of IPS where it is not structurally integrated within mental health teams, as well as economic disincentives which lead to lower levels of motivation for patients and mental health professionals.

Hollinghurst, S., et al. (2014). "Cost-effectiveness of cognitive-behavioural therapy as an adjunct to pharmacotherapy for treatment-resistant depression in primary care: economic evaluation of the CoBalT Trial." Br J Psychiatry 204(1): 69-76.

BACKGROUND: Depression is expensive to treat, but providing ineffective treatment is more expensive. Such is the case for many patients who do not respond to antidepressant medication. AIMS: To assess the cost-effectiveness of cognitive-behavioural therapy (CBT) plus usual care for primary care patients with treatment-resistant depression compared with usual care alone. METHOD: Economic evaluation at 12 months alongside a randomised controlled trial. Cost-effectiveness assessed using a cost-consequences framework comparing cost to the health and social care provider, patients and society, with a range of outcomes. Cost-utility analysis comparing health and social care costs with quality-adjusted life-years (QALYs). RESULTS: The mean cost of CBT

per participant was £910. The difference in QALY gain between the groups was 0.057, equivalent to 21 days a year of good health. The incremental cost-effectiveness ratio was £14 911 (representing a 74% probability of the intervention being cost-effective at the National Institute of Health and Care Excellence threshold of £20 000 per QALY). Loss of earnings and productivity costs were substantial but there was no evidence of a difference between intervention and control groups. CONCLUSIONS: The addition of CBT to usual care is cost-effective in patients who have not responded to antidepressants. Primary care physicians should therefore be encouraged to refer such individuals for CBT.

Hollis, C., et al. (2023). "Long-term clinical and cost-effectiveness of a therapist-supported online remote behavioural intervention for tics in children and adolescents: extended 12- and 18-month follow-up of a single-blind randomised controlled trial." Journal of child psychology and psychiatry, and allied disciplines 64(6): 941-951.

BACKGROUND: Little is known about the long-term effectiveness of behavioural therapy for tics. We aimed to assess the long-term clinical and cost-effectiveness of online therapist-supported exposure and response prevention (ERP) therapy for tics 12 and 18 months after treatment initiation., METHODS: ORBIT (online remote behavioural intervention for tics) was a two-arm (1:1 ratio), superiority, single-blind, multicentre randomised controlled trial comparing online ERP for tics with online psychoeducation. The trial was conducted across two Child and Adolescent Mental Health Services in England. Participants were recruited from these two sites, across other clinics in England, or by self-referral. This study was a naturalistic follow-up of participants at 12- and 18-month postrandomisation. Participants were permitted to use alternative treatments recommended by their clinician. The key outcome was the Yale Global Tic Severity Scale Total Tic Severity Score (YGTSS-TTSS). A full economic evaluation was conducted. Registrations are ISRCTN (ISRCTN70758207); ClinicalTrials.gov (NCT03483493)., RESULTS: Two hundred and twenty-four participants were enrolled: 112 to ERP and 112 to psychoeducation. The sample was predominately male (177; 79%) and of white ethnicity (195; 87%). The ERP intervention reduced baseline YGTSS-TTSS by 2.64 points (95% CI: -4.48 to -0.79) with an effect size of -0.36 (95% CI: -0.61 to -0.11) after 12 months and by 2.01 points (95% CI: -3.86 to -0.15) with an effect size of -0.27 (95% CI -0.52 to -0.02) after 18 months, compared with psychoeducation. Very few participants (<10%) started new tic treatment during follow-up. The cost difference in ERP compared with psychoeducation was 304.94 (-139.41 to 749.29). At 18 months, the cost per QALY gained was 16,708 for ERP compared with psychoeducation., CONCLUSIONS: Remotely delivered online ERP is a clinical and cost-effective intervention with durable benefits extending for up to 18 months. This represents an efficient public mental health approach to increase access to behavioural therapy and improve outcomes for tics.

Hollis, C., et al. (2023). "Online remote behavioural intervention for tics in 9- to 17-year-olds: the ORBIT RCT with embedded process and economic evaluation." Health technology assessment (Winchester, England) 27(18): 1-120.

Background: Behavioural therapy for tics is difficult to access, and little is known about its effectiveness when delivered online., Objective: To investigate the clinical and cost-effectiveness of an online-delivered, therapist- and parent-supported therapy for young people with tic disorders., Design: Single-blind, parallel-group, randomised controlled trial, with 3-month (primary end point) and 6-month post-randomisation follow-up. Participants were individually randomised (1 : 1), using on online system, with block randomisations, stratified by site. Naturalistic follow-up was conducted at 12 and 18 months post-randomisation when participants were free to access non-trial interventions. A subset of participants participated in a process evaluation., Setting: Two hospitals (London and Nottingham) in England also accepting referrals from patient identification centres and online self-referrals., Participants: Children aged 9-17 years (1) with Tourette syndrome or chronic tic disorder, (2) with a Yale Global Tic Severity Scale-total tic severity score of 15 or more (or > 10 with only motor or vocal tics) and (3) having not received behavioural therapy for tics in the past 12 months or started/stopped medication for tics within the past 2 months., Interventions: Either 10 weeks of online, remotely delivered, therapist-supported exposure and response prevention therapy (intervention group) or online psychoeducation (control)., Outcome: Primary outcome: Yale Global Tic Severity Scale-total tic severity score 3 months post-randomisation; analysis done in all randomised patients for whom data were available. Secondary outcomes included low mood, anxiety, treatment satisfaction and health resource use. Quality-adjusted life-years are derived from parent-completed quality-of-life measures. All trial staff, statisticians and the chief investigator were masked to group allocation., Results: Two hundred and twenty-four participants were randomised to the intervention (n = 112) or control (n = 112) group. Participants were mostly male (n = 177; 79%), with a mean age of 12 years. At 3 months the estimated

mean difference in Yale Global Tic Severity Scale-total tic severity score between the groups adjusted for baseline and site was -2.29 points (95% confidence interval -3.86 to -0.71) in favour of therapy (effect size -0.31, 95% confidence interval -0.52 to -0.10). This effect was sustained throughout to the final follow-up at 18 months (-2.01 points, 95% confidence interval -3.86 to -0.15; effect size -0.27, 95% confidence interval -0.52 to -0.02). At 18 months the mean incremental cost per participant of the intervention compared to the control was 662 (95% confidence interval -59 to 1384), with a mean incremental quality-adjusted life-year of 0.040 (95% confidence interval -0.004 to 0.083) per participant. The mean incremental cost per quality-adjusted life-year gained was 16,708. The intervention was acceptable and delivered with high fidelity. Parental engagement predicted child engagement and more positive clinical outcomes., Harms: Two serious, unrelated adverse events occurred in the control group., Limitations: We cannot separate the effects of digital online delivery and the therapy itself. The sample was predominately white and British, limiting generalisability. The design did not compare to face-to-face services., Conclusion: Online, therapist-supported behavioural therapy for young people with tic disorders is clinically and cost-effective in reducing tics, with durable benefits extending up to 18 months., Future work: Future work should compare online to face-to-face therapy and explore how to embed the intervention in clinical practice., Trial registration: This trial is registered as ISRCTN70758207; ClinicalTrials.gov (NCT03483493). The trial is now complete., Funding: This project was funded by the National Institute for Health and Care Research (NIHR) Health and Technology Assessment programme (project number 16/19/02) and will be published in full in Health and Technology Assessment; Vol. 27, No. 18. See t e NIHR Journals Library website for further project information.

Howard, L., et al. (2010). "Effectiveness and cost-effectiveness of admissions to women's crisis houses compared with traditional psychiatric wards: pilot patient-preference randomised controlled trial." Br J Psychiatry Suppl 53: s32-40.

BACKGROUND: Women's crisis houses have been developed in the UK as a less stigmatising and less institutional alternative to traditional psychiatric wards. AIMS: To examine the effectiveness and cost-effectiveness of women's crisis houses by first examining the feasibility of a pilot patient-preference randomised controlled trial (PP-RCT) design (ISRCTN20804014). METHOD: We used a PP-RCT study design to investigate women presenting in crisis needing informal admission. The four study arms were the patient preference arms of women's crisis house or hospital admission, and randomised arms of women's crisis house or hospital admission. RESULTS: Forty-one women entered the randomised arms of the trial (crisis house n = 19, wards n = 22) and 61 entered the patient-preference arms (crisis house n = 37, ward n = 24). There was no significant difference in outcomes (symptoms, functioning, perceived coercion, stigma, unmet needs or quality of life) or costs for any of the groups (randomised or preference arms), but women who obtained their preferred intervention were more satisfied with treatment. CONCLUSIONS: Although the sample sizes were too small to allow definite conclusions, the results suggest that when services are able to provide interventions preferred by patients, those patients are more likely to be satisfied with treatment. This pilot study provides some evidence that women's crisis houses are as effective as traditional psychiatric wards, and may be more cost-effective.

Hunter, R. M., et al. (2022). "Economic evaluation of a complex intervention (Engager) for prisoners with common mental health problems, near to and after release: a cost-utility and cost-consequences analysis." The European journal of health economics : HEPAC : health economics in prevention and care 23(2): 193-210.

BACKGROUND: People in prison experience a range of physical and mental health problems. Evaluating the effectiveness and efficiency of prison-based interventions presents a number of methodological challenges. We present a case study of an economic evaluation of a prison-based intervention ("Engager") to address common mental health problems., METHODS: Two hundred and eighty people were recruited from prisons in England and randomised to Engager plus usual care or usual care. Participants were followed up for 12 months following release from prison. The primary analysis is the cost per quality-adjusted life year (QALY) gained of Engager compared to usual care from a National Health Service (NHS) perspective with QALYs calculated using the CORE 6 Dimension. A cost-consequences analysis evaluated cross-sectoral costs and a range of outcomes., RESULTS: From an NHS perspective, Engager cost an additional 2737 per participant (95% of iterations between 1029 and 4718) with a mean QALY difference of - 0.014 (95% of iterations between - 0.045 and 0.017). For the cost-consequences, there was evidence of improved access to substance misuse services 12 months post-release (odds ratio 2.244, 95% confidence Interval 1.304-3.861)., CONCLUSION: Engager provides a rare example of a cost-utility analysis conducted in prisons and the community using patient-completed measures. Although the results from this trial show no evidence that Engager is cost-effective, the results of the cost-consequences analysis suggest that follow-up beyond 12 months post-release using routine data may provide additional insights

into the effectiveness of the intervention and the importance of including a wide range of costs and outcomes in prison-based economic evaluations., TRIAL REGISTRATION: (ISRCTN11707331). Copyright © 2021. The Author(s).

Jenkins, P. E., et al. (2021). "Clinical and cost-effectiveness of two ways of delivering guided self-help for people with an eating disorder: A multi-arm randomized controlled trial." The International journal of eating disorders 54(7): 1224-1237.

OBJECTIVE: Increasing the availability and accessibility of evidence-based treatments for eating disorders is an important goal. This study investigated the effectiveness and cost-effectiveness of guided self-help via face-to-face meetings (fGSH) and a more scalable method, providing support via email (eGSH)., METHOD: A pragmatic, randomized controlled trial was conducted at three sites. Adults with binge-eating disorders were randomized to fGSH, eGSH, or a waiting list condition, each lasting 12 weeks. The primary outcome variable for clinical effectiveness was overall severity of eating psychopathology and, for cost-effectiveness, binge-free days, with explorative analyses using symptom abstinence. Costs were estimated from both a partial societal and healthcare provider perspective., RESULTS: Sixty participants were included in each condition. Both forms of GSH were superior to the control condition in reducing eating psychopathology (IRR = -1.32 [95% CI -1.77, -0.87], p < .0001; IRR = -1.62 [95% CI -2.25, -1.00], p < .0001) and binge eating. Attrition was higher in eGSH. Probabilities that fGSH and eGSH were cost-effective compared with WL were 93% (99%) and 51% (79%), respectively, for a willingness to pay of 100 (150) per additional binge-free day., DISCUSSION: Both forms of GSH were associated with clinical improvement and were likely to be cost-effective compared with a waiting list condition. Provision of support via email is likely to be more convenient for many patients although the risk of non-completion is greater. Copyright © 2021 The Authors. International Journal of Eating Disorders published by Wiley Periodicals LLC.

Jones, R. B., et al. (2001). "Randomised trial of personalised computer based information for patients with schizophrenia." Bmj 322(7290): 835-840.

OBJECTIVES: To compare use, effect, and cost of personalised computer education with community psychiatric nurse education for patients with schizophrenia. DESIGN: Randomised trial of three interventions. Modelling of costs of alternatives. PARTICIPANTS: 112 patients with schizophrenia in contact with community services; 67 completed the intervention. INTERVENTIONS: Three interventions of five educational sessions: (a) computer intervention combining information from patient's medical record with general information about schizophrenia; (b) sessions with a community psychiatric nurse; (c) "combination" (first and last sessions with nurse and remainder with computer). MAIN OUTCOME MEASURES: Patients' attendance, opinions, change in knowledge, and psychological state; costs of interventions and patients' use of NHS community services; modelling of costs for these three, and alternative, interventions. RESULTS: Rates of completion of intervention did not differ significantly (71% for combination intervention, 61% for computer only, 46% for nurse only). Computer sessions were shorter than sessions with nurse (14 minutes v 60 minutes). More patients given nurse based education thought the information relevant. Of 20 patients in combination group, 13 preferred the sessions with the nurse and seven preferred the computer. There were no significant differences between groups in psychological outcomes. Because of the need to transport patients to the computer for their sessions, there was no difference between interventions in costs, but computer sessions combined with other patient contacts would be substantially cheaper. CONCLUSIONS: The computer based patient education offered no advantage over sessions with a community psychiatric nurse. Investigation of computer use combined with other health service contacts would be worthwhile.

Koeser, L., et al. (2023). "Cost-effectiveness of long-term psychoanalytic psychotherapy for treatment-resistant depression: RCT evidence from the Tavistock Adult Depression Study (TADS)." Journal of Affective Disorders 335: 313-321.

Background: Treatment-resistant depression (TRD) accounts for a large fraction of the burden of depression. The interventions currently used are mostly pharmacological and short-term psychotherapies, but their effectiveness is limited. The Tavistock Adult Depression Study found evidence for the effectiveness of long-term psychoanalytic psychotherapy (LTPP) plus treatment as usual (TAU), versus TAU alone, for TRD. Even after a 2-year follow-up, moderate effect sizes were sustained. This study assessed the cost-effectiveness of this LTPP + TAU. Methods: We conducted a within-trial economic evaluation using a Bayesian framework. Results: Quality-adjusted life years (QALYs) were 0.16 higher in the LTPP + TAU group compared with TAU. The direct cost of LTPP was £5500, with no substantial compensating savings elsewhere. Overall, average health and social care costs in the LTPP + TAU group were 5000 more than in the TAU group, employment rates were unchanged, and effects on other non-healthcare costs were uncertain. Accordingly, the incremental cost-effectiveness ratio was £33,000/QALY; the probability that LTPP + TAU was cost-effective at a willingness to pay of £20,000/QALY was 18

%. Limitations: The sample size of this study was relatively small, and the fraction of missing service-use data was approximately 50 % at all time points. The study was conducted at a single site, potentially reducing generalizability. Conclusions: Although LTPP + TAU was found to be clinically effective for treating TRD, it was not found to be cost-effective compared with TAU. However, given the sustained effects over the follow-up period it is likely that the time horizon of this study was too short to capture all benefits of LTPP augmentation. (PsycInfo Database Record (c) 2025 APA, all rights reserved)

Kuyken, W., et al. (2022). "Effectiveness and cost-effectiveness of universal school-based mindfulness training compared with normal school provision in reducing risk of mental health problems and promoting well-being in adolescence: the MYRIAD cluster randomised controlled trial." Evidence-based mental health.

BACKGROUND: Systematic reviews suggest school-based mindfulness training (SBMT) shows promise in promoting student mental health. OBJECTIVE(S): The My Resilience in Adolescence (MYRIAD) Trial evaluated the effectiveness and cost-effectiveness of SBMT compared with teaching-as-usual (TAU). METHOD(S): MYRIAD was a parallel group, cluster-randomised controlled trial. Eighty-five eligible schools consented and were randomised 1:1 to TAU (43 schools, 4232 students) or SBMT (42 schools, 4144 students), stratified by school size, quality, type, deprivation and region. Schools and students (mean (SD); age range=12.2 (0.6); 11-14 years) were broadly UK population-representative. Forty-three schools (n=3678 pupils; 86.9%) delivering SBMT, and 41 schools (n=3572; 86.2%) delivering TAU, provided primary end-point data. SBMT comprised 10 lessons of psychoeducation and mindfulness practices. TAU comprised standard social-emotional teaching. Participant-level risk for depression, social-emotional-behavioural functioning and well-being at 1 year follow-up were the co-primary outcomes. Secondary and economic outcomes were included. FINDINGS: Analysis of 84 schools (n=8376 participants) found no evidence that SBMT was superior to TAU at 1 year. Standardised mean differences (intervention minus control) were: 0.005 (95% CI -0.05 to 0.06) for risk for depression; 0.02 (-0.02 to 0.07) for social-emotional-behavioural functioning; and 0.02 (-0.03 to 0.07) for well-being. SBMT had a high probability of cost-effectiveness (83%) at a willingness-to-pay threshold of 20 000 per quality-adjusted life year. No intervention-related adverse events were observed. CONCLUSION(S): Findings do not support the superiority of SBMT over TAU in promoting mental health in adolescence. CLINICAL IMPLICATIONS: There is need to ask what works, for whom and how, as well as considering key contextual and implementation factors. TRIAL REGISTRATION: Current controlled trials ISRCTN86619085. This research was funded by the Wellcome Trust (WT104908/Z/14/Z and WT107496/Z/15/Z).Copyright © Author(s) (or their employer(s)) 2022. Re-use permitted under CC BY. Published by BMJ.

McCrone, P., et al. (2004). "Cost-effectiveness of computerised cognitive-behavioural therapy for anxiety and depression in primary care: randomised controlled trial." Br J Psychiatry 185: 55-62.

BACKGROUND: Cognitive-behavioural therapy (CBT) is effective for treating anxiety and depression in primary care, but there is a shortage of therapists. Computer-delivered treatment may be a viable alternative. AIMS: To assess the cost-effectiveness of computer-delivered CBT. METHOD: A sample of people with depression or anxiety were randomised to usual care (n=128) or computer-delivered CBT (n=146). Costs were available for 123 and 138 participants, respectively. Costs and depression scores were combined using the net benefit approach. RESULTS: Service costs were 40 British pounds (90% CI - 28 British pounds to 148 British pounds) higher over 8 months for computer-delivered CBT. Lost-employment costs were 407 British pounds (90% CI 196 British pounds to 586 British pounds) less for this group. Valuing a 1-unit improvement on the Beck Depression Inventory at 40 British pounds, there is an 81% chance that computer-delivered CBT is cost-effective, and it revealed a highly competitive cost per quality-adjusted life year. CONCLUSIONS: Computer-delivered CBT has a high probability of being cost-effective, even if a modest value is placed on unit improvements in depression.

Morrell, C. J., et al. (2009). "Psychological interventions for postnatal depression: cluster randomised trial and economic evaluation. The PoNDER trial." Health Technol Assess 13(30): iii-iv, xi-xiii, 1-153.

OBJECTIVES: To investigate outcomes for postnatal women attributed to special training for health visitors (HVs) in systematically identifying postnatal depression and delivering psychologically informed interventions, and to establish the cost-effectiveness of the intervention. DESIGN: A pragmatic randomised cluster trial with clusters allocated to experimental HV training arms or control, with an 18-month follow-up. SETTING: GP practices in the former Trent Regional Health Authority. PARTICIPANTS: Women registered with participating GP practices who became 36 weeks pregnant during the recruitment phase of the trial, had a live baby and were on a collaborating HV's caseload for 4 months postnatally. INTERVENTION: HV training in the assessment of postnatal women, combined with either cognitive behavioural approach (CBA) or person-centred approach (PCA) sessions for eligible women, plus the option of a selective serotonin reuptake inhibitor if indicated. MAIN OUTCOME

MEASURES: The primary outcome was the proportion of at-risk women with a 6-month Edinburgh Postnatal Depression Scale (EPDS) score > or = 12. The primary comparison was between at-risk women in the combined clusters randomised to HV training and women in practices randomised to provide HV usual care. The secondary comparison was to determine any differences between the proportions of women with a 6-month EPDS score > or = 12 in the CBA and PCA groups. RESULTS: HVs in 101 clusters in 29 primary care trusts collaborated in the study. From 7649 eligible women 4084 (53.4%) consented to take part: 17.3% (595/3449) of women who returned a 6-week questionnaire had a 6-week EPDS score > or = 12 and were at-risk women; 70.3% (418/595) of at-risk women had a 6-month EPDS score available. In total, 45.6% (67/147) of control group (CG) at-risk women had a 6-month EPDS score > or = 12 versus 33.9% (93/271) of intervention group (IG) women (p = 0.036). A total of 32.9% (46/140) of at-risk women in the CBA group versus 35.1% (46/131) in the PCA group had a 6-month EPDS score > or = 12 (p = 0.74). The CG mean 6-month EPDS score for at-risk women was 11.3 (SD 5.8) versus 9.2 (SD 5.4) for the IG (p = 0.002) and this remained statistically significant after adjusting for 6-week variables (p = 0.001). In total, 16.4% (150/914) of all women in the CG had a 6-month EPDS score > or = 12 compared with 11.7% (205/1745) in the IG (p = 0.003). The CG mean 6-month EPDS score for all women was 6.4 (SD 5.2) compared with 5.5 (SD 4.7) for the IG (p < 0.001). The economic analysis results showed a consistent pattern of psychological approaches being cost-effective at funding levels used by the National Institute for Health and Clinical Excellence. CONCLUSIONS: HV training was effective compared with HV usual care in reducing the proportion of at-risk women with a 6-month EPDS score > or = 12, with a wide confidence interval for the estimated intervention effect, suggesting that the true treatment effect may be small. The effect remained for 1 year. The economic evaluation demonstrated that the HV intervention was highly likely to be cost-effective compared with the control. There was no difference in outcomes between the CBA and the PCA groups.

O'Connor, R. C., et al. (2017). "A brief psychological intervention to reduce repetition of self-harm in patients admitted to hospital following a suicide attempt: a randomised controlled trial." Lancet Psychiatry 4(6): 451-460.

BACKGROUND: We investigated whether a volitional helpsheet (VHS), a brief psychological intervention, could reduce repeat self-harm in the 6 months following a suicide attempt. METHODS: We did a prospective, single-site, randomised controlled trial. Patients admitted to a hospital in Edinburgh, UK, after a suicide attempt were deemed eligible for the study if they were over the age of 16 years, had a self-reported history of self-harm, were fluent in English, were medically fit to interview, and were not participating in other research studies within the hospital. Eligible patients were randomly assigned (1:1), via web-based randomisation, to receive either VHS plus usual treatment (intervention group) or only treatment as usual (control group). Randomisation was stratified by sex and self-reported past self-harm history. The Information Services Division of the National Health Service (NHS-ISD) staff and those extracting data from medical notes were masked to the study group the participant was allocated to. Clinical staff working within the hospital were also masked to participants' randomisation status. There were three primary outcomes: the proportion of paticipants who re-presented to hospital with self-harm during the 6-month follow-up period; the number of times a participant re-presented to hospital with self-harm during the 6-month follow-up period; and cost-effectiveness of the VHS as measured by estimated incremental cost per self-harm event averted. Primary outcomes were analysed in all randomised patients. Follow-up data collection was extracted from the Information Services Division of the NHS and from patient medical records. The trial is registered with International Standard Randomised Controlled Trial Number Registry, number ISRCTN99488269. FINDINGS: Between May 9, 2012, and Feb 24, 2014, we assessed 1308 people for eligibility. Of these, 259 patients were randomly assigned to the intervention group and 259 to the control group. We obtained complete follow-up data on 512 (99%) of 518 patients (five participants were lost to follow-up in the intervention group and one in the control group). 11 patients assigned to the intervention group did not complete the VHS in hospital. Overall, the intervention did not affect the number of people who re-presented with self-harm (67 [26%] of 254 patients in the intervention group vs 71 [28%] of 258 patients in the control group, odds ratio [OR] 0·90, 95% CI 0·58-1·39, p=0·63). The intervention had no effect on the number of re-presentations per patient (mean 0·67 [SD 2·55] re-presentations for the intervention group vs 0·85 [2·79] for the control group, incident rate ratio [IRR] 1·65, 95% CI 0·74-3·67, p=0·21). Mean total costs per person for NHS hospital services in the VHS intervention group over the 6 months were £513 versus £561 in the control group but this difference was not significant (95% CI-£353 to £257, p=0·76). Three patients died by suicide in the 6 months following their index suicide attempt (one in the intervention group and two in the control group). There were no reported unintended effects or adverse events in either group. INTERPRETATION: For the primary outcomes, there were no significant differences between groups. Although the VHS had no overall effect, post-hoc analyses suggest VHS might be effective in reducing the number of self-harm repetitions following a suicide attempt in people who complete the helpsheet and who have been previously admitted to hospital with self-harm. This is the first study to investigate the usefulness of the VHS

to reduce self-harm among those who have attempted suicide. These subgroup findings require replication. The potential use of the VHS in those who self-harm for different motives requires further exploration. FUNDING: Chief Scientist Office (CZH/4/704).

Patel, A., et al. (2010). "Cognitive remediation therapy in schizophrenia: cost-effectiveness analysis." Schizophr Res 120(1-3): 217-224.

PURPOSE: There is a lack of evidence on the cost-effectiveness of cognitive remediation therapy (CRT). METHODS: Randomised controlled trial comparing usual care plus CRT with usual care alone. Participants had a diagnosis of schizophrenia and cognitive and social functioning difficulties. Health/social care and societal costs were estimated at 14 weeks (time 2) and 40 weeks (time 3) after randomisation. The outcome, proportion of participants improving their working memory since baseline, was combined with costs to explore cost-effectiveness. RESULTS: 85 participants were recruited. There were no differences in total health/social care or societal costs between the two groups at either time 2 or time 3. An additional 21% of participants in the CRT group improved their working memory at both follow-ups. When placing these cost and outcomes in hypothetical scenarios concerning how much policy-makers would pay for another 1% of participants improving their working memory, there was more than an 80% chance that CRT would be cost-effective compared to usual care; at time 3, the likelihood of cost-effectiveness peaked at 30% even for investments up to pound 5000. CONCLUSIONS: CRT can improve memory among people with schizophrenia and cognitive deficits at no additional cost. Although cost-effective in the short term, CRT may have limited potential to save costs in the medium term because it could increase take up of services. This could confer important longer term benefits for the patient group examined here, in terms of improved social functioning and less reliance on services. This can only be ascertained through longer follow-up.

Penington, E., et al. (2024). "Cost-effectiveness of therapist-assisted internet-delivered psychological therapies for PTSD differing in trauma focus in England: An economic evaluation based on the STOP-PTSD trial." The Lancet Psychiatry 11(5): 339-347.

Background: Although there are effective psychological treatments for post-traumatic stress disorder (PTSD), they remain inaccessible for many people. Digitally enabled therapy is a way to overcome this problem; however, there is little evidence on which forms of these therapies are most cost effective in PTSD. We aimed to assess the cost-effectiveness of the STOP-PTSD trial, which evaluated two therapist-assisted, internet-delivered cognitive behavioural therapies: cognitive therapy for PTSD (iCT-PTSD) and a programme focusing on stress management (iStress-PTSD). Methods: In this health economic evaluation, we used data from the STOP-PTSD trial (n=217), a single-blind, randomised controlled trial, to compare iCT-PTSD and iStress-PTSD in terms of resource use and health outcomes. In the trial, participants (aged >=18 years) who met DSM-5 criteria for PTSD were recruited from primary care therapy services in South East England. The interventions were delivered online with therapist support for the first 12 weeks, and three telephone calls over the next 3 months. Participants completed questionnaires on symptoms, wellbeing, quality of life, and resource use at baseline, 13 weeks, 26 weeks, and 39 weeks after randomisation. We used a cost-effectiveness analysis to assess cost per quality-adjusted life year (QALY) at 39 weeks post-randomisation, from the perspective of the English National Health Service (NHS) and personal social services and on the basis of intention-to-treat for complete cases. Treatment modules and the platform design were developed with extensive input from service users: service users also advised on the trial protocol and methods, including the health economic measures. This is a pre-planned analysis of the STOP-PTSD trial; the trial was registered prospectively on the ISRCTN Registry (ISRCTN16806208). Findings: NHS costs were similar across treatment groups, but clinical outcomes were superior for iCT-PTSD compared with iStress-PTSD. The incremental cost-effectiveness ratio for NHS costs and personal social services was estimated as 1921 per QALY. iCT-PTSD had an estimated 91.6% chance of being cost effective at the 20 000 per QALY threshold. From the societal perspective, iCT-PTSD was cost saving compared with iStress-PTSD. Interpretation: iCT-PTSD is a cost-effective form of therapist-assisted, internet-delivered psychological therapy relative to iStress-PTSD, and it could be considered for clinical implementation. Funding: Wellcome Trust and National Institute of Health Research Oxford Health Biomedical Research Centre. (PsycInfo Database Record (c) 2024 APA, all rights reserved)

Priebe, S., et al. (2016). "Clinical effectiveness and cost-effectiveness of body psychotherapy in the treatment of negative symptoms of schizophrenia: a multicentre randomised controlled trial." Health Technol Assess 20(11): vii-xxiii, 1-100.

BACKGROUND: The negative symptoms of schizophrenia significantly impact on quality of life and social functioning, and current treatment options are limited. In this study the clinical effectiveness and cost-effectiveness of group body psychotherapy as a treatment for negative symptoms were compared with an active

control. DESIGN: A parallel-arm, multisite randomised controlled trial. Randomisation was conducted independently of the research team, using a 1 : 1 computer-generated sequence. Assessors and statisticians were blinded to treatment allocation. Analysis was conducted following the intention-to-treat principle. In the cost-effectiveness analysis, a health and social care perspective was adopted. ELIGIBILITY CRITERIA: age 18-65 years; diagnosis of schizophrenia with symptoms present at > 6 months; score of ≥ 18 on Positive and Negative Syndrome Scale (PANSS) negative symptoms subscale; no change in medication type in past 6 weeks; willingness to participate; ability to give informed consent; and community outpatient. EXCLUSION CRITERIA: inability to participate in the groups and insufficient command of English. SETTINGS: Participants were recruited from NHS mental health community services in five different Trusts. All groups took place in local community spaces. INTERVENTIONS: Control intervention: a 10-week, 90-minute, 20-session group beginners' Pilates class, run by a qualified Pilates instructor. Treatment intervention: a 10-week, 90-minute, 20-session manualised group body psychotherapy group, run by a qualified dance movement psychotherapist. OUTCOMES: The primary outcome was the PANSS negative symptoms subscale score at end of treatment. Secondary outcomes included measures of psychopathology, functional, social, service use and treatment satisfaction outcomes, both at treatment end and at 6-month follow-up. RESULTS: A total of 275 participants were randomised (140 body psychotherapy group, 135 Pilates group). At the end of treatment, 264 participants were assessed (137 body psychotherapy group, 127 Pilates group). The adjusted difference in means of the PANSS negative subscale at the end of treatment was 0.03 [95% confidence interval (CI) -1.11 to 1.17], showing no advantage of the intervention. In the secondary outcomes, the mean difference in the Clinical Assessment Interview for negative symptoms expression subscale at the end of treatment was 0.62 (95% CI -1.23 to 0.00), and in extrapyramidal movement disorder symptoms -0.65 (95% CI -1.13 to -0.16) at the end of treatment and -0.58 (95% CI -1.07 to -0.09) at 6 months' follow-up, showing a small significant advantage of body psychotherapy. No serious adverse events related to the interventions were reported. The total costs of the intervention were comparable with the control, with no clear evidence of cost-effectiveness for either condition. LIMITATIONS: Owing to the absence of a treatment-as-usual arm, it is difficult to determine whether or not both arms are an improvement over routine care. CONCLUSIONS: In comparison with an active control, group body psychotherapy does not have a clinically relevant beneficial effect in the treatment of patients with negative symptoms of schizophrenia. These findings conflict with the review that led to the current National Institute for Health and Care Excellence guidelines suggesting that arts therapies may be an effective treatment for negative symptoms. FUTURE WORK: Determining whether or not this lack of effectiveness extends to all types of art therapies would be informative. TRIAL REGISTRATION: Current Controlled Trials ISRCTN842165587. FUNDING: This project was funded by the National Institute for Health Research (NIHR) Health Technology Assessment programme and will be published in full in Health Technology Assessment; Vol. 20, No. 11. See the NIHR Journals Library website for further project information.

Sayal, K., et al. (2025). "The clinical and cost effectiveness of a standardised diagnostic assessment for children and adolescents with emotional difficulties: The stadia multi-centre randomised controlled trial." Journal of Child Psychology and Psychiatry: No-Specified.

Background Standardised Diagnostic Assessment tools, such as the Development and Well-Being Assessment (DAWBA), may aid detection and diagnosis of emotional disorders but there is limited real-world evidence of their clinical or cost effectiveness. Methods We conducted a multicentre, two-arm parallel group randomised controlled trial in eight large National Health Service Trusts in England providing multidisciplinary specialist Child and Adolescent Mental Health Services (CAMHS). Participants (5-17 year-olds with emotional difficulties referred to CAMHS) were randomly assigned (1:1), following referral receipt, to either receive the DAWBA and assessment-as-usual (intervention group) or assessment-as-usual (control group). Data were self-reported by participants (parents and/or young person, depending on age) at baseline, 6- and 12-month post-randomisation and collected from clinical records up to 18 months post-randomisation. The primary outcome was a clinician-made diagnosis decision about the presence of an emotional disorder within 12 months of randomisation. Trial registration: ISRCTN15748675. Results In total, 1,225 children and young people (58% female sex) were randomised (615 intervention; 610 control). Adherence to the intervention (full/partial completion) was 80% (494/615). At 12 months, 68 (11%) participants in the intervention group received an emotional disorder diagnosis versus 72 (12%) in the control group (adjusted risk ratio (RR) 0.94 [95% CI 0.70, 1.28]). The intervention was not cost effective. There was no evidence of any differences between groups for service-related or participant-reported secondary outcomes, for example, CAMHS acceptance of the index referral (intervention 277 (45%) versus control 262 (43%); RR: 1.06 [95% CI: 0.94, 1.19]) was similar between groups. Conclusions As delivered in this pragmatic trial, we found no evidence for the effectiveness or cost effectiveness of using a Standardised Diagnostic Assessment tool in aiding the detection of emotional disorders or clinical outcomes in clinically referred children and young people. Despite regular efforts to encourage clinicians to view the DAWBA

report and consider its findings as part of assessment and diagnosis, we did not collect data on usage and therefore cannot confirm the extent to which clinicians did this. As a pragmatic trial that aimed to test the effectiveness of incorporating the DAWBA into usual practice and clinical care, our study found that, in the format as delivered in this trial, there was no impact on diagnosis or clinical outcomes. (PsycInfo Database Record (c) 2025 APA, all rights reserved)

Sharpe, M., et al. (2024). "Proactive integrated consultation-liaison psychiatry and time spent in hospital by older medical inpatients in England (The HOME Study): a multicentre, parallel-group, randomised controlled trial." The lancet. Psychiatry 11(9): 684-695.

BACKGROUND: Older people admitted to hospital in an emergency often have prolonged inpatient stays that worsen their outcomes, increase health-care costs, and reduce bed availability. Growing evidence suggests that the biopsychosocial complexity of their problems, which include cognitive impairment, depression, anxiety, multiple medical illnesses, and care needs resulting from functional dependency, prolongs hospital stays by making medical treatment less efficient and the planning of post-discharge care more difficult. We aimed to assess the effects of enhancing older inpatients' care with Proactive Integrated Consultation-Liaison Psychiatry (PICLP) in The HOME Study. We have previously described the benefits of PICLP reported by patients and clinicians. In this Article, we report the effectiveness and cost-effectiveness of PICLP-enhanced care, compared with usual care alone, in reducing time in hospital., METHODS: We did a parallel-group, multicentre, randomised controlled trial in 24 medical wards of three English acute general hospitals. Patients were eligible to take part if they were 65 years or older, had been admitted in an emergency, and were expected to remain in hospital for at least 2 days from the time of enrolment. Participants were randomly allocated to PICLP or usual care in a 1:1 ratio by a database software algorithm that used stratification by hospital, sex, and age, and randomly selected block sizes to ensure allocation concealment. PICLP clinicians (consultation-liaison psychiatrists supported by assisting clinicians) made proactive biopsychosocial assessments of patients' problems, then delivered discharge-focused care as integrated members of ward teams. The primary outcome was time spent as an inpatient (during the index admission and any emergency readmissions) in the 30 days post-randomisation. Secondary outcomes were the rate of discharge from hospital for the total length of the index admission; discharge destination; the length of the index admission after random allocation truncated at 30 days; the number of emergency readmissions to hospital, the number of days spent as an inpatient in an acute general hospital, and the rate of death in the year after random allocation; the patient's experience of the hospital stay; their view on the length of the hospital stay; anxiety (Generalized Anxiety Disorder-2); depression (Patient Health Questionnaire-2); cognitive function (Montreal Cognitive Assessment-Telephone version); independent functioning (Barthel Index of Activities of Daily Living); health-related quality of life (five-level EuroQol five-dimension questionnaire); and overall quality of life. Statisticians and data collectors were masked to treatment allocation; participants and ward staff could not be. Analyses were intention-to-treat. The trial had a patient and public involvement panel and was registered with ISRTCN (ISRCTN86120296)., FINDINGS: 2744 participants (1399 [51.0%] male and 1345 [49.0%] female) were enrolled between May 2, 2018, and March 5, 2020; 1373 were allocated to PICLP and 1371 to usual care. Participants ' mean age was 82.3 years (SD 8.2) and 2565 (93.5%) participants were White. The mean time spent in hospital in the 30 days post-randomisation (analysed for 2710 [98.8%] participants) was 11.37 days (SD 8.74) with PICLP and 11.85 days (SD 9.00) with usual care; adjusted mean difference -0.45 (95% CI -1.11 to 0.21; p=0.18). The only statistically and clinically significant difference in secondary outcomes was the rate of discharge, which was 8.5% higher (rate ratio 1.09 [95% CI 1.00 to 1.17]; p=0.042) with PICLP-a difference most apparent in patients who stayed for more than 2 weeks. Compared with usual care, PICLP was estimated to be modestly cost-saving and cost-effective over 1 and 3, but not 12, months. No intervention-related serious adverse events occurred., INTERPRETATION: This is the first randomised controlled trial of PICLP. PICLP is experienced by older medical inpatients and ward staff as enhancing medical care. It is also likely to be cost-saving in the short-term. Although the trial does not provide strong evidence that PICLP reduces time in hospital, it does support and inform its future development and evaluation., FUNDING: UK National Institute for Health and Care Research.

Simon, J., et al. (2022). "Cost-Effectiveness of Positive Memory Training (PoMeT) for the Treatment of Depression in Schizophrenia." Int J Environ Res Public Health 19(19).

The Positive Memory Training (PoMeT) trial demonstrated reduced depression symptoms at 3 months for schizophrenia, but its longer-term outcome and cost impacts remain unknown. This study is a within-trial cost-utility analysis with quality-adjusted life years (QALYs) as outcome based on health-related quality of life (HRQoL) measurement and secondary outcome analyses of capability well-being. The incremental cost-effectiveness of PoMeT was compared to Treatment As Usual only (TAU) over 9 months from the 'health and social' care and

'societal' perspectives. Uncertainty was explored using bootstrapping and sensitivity analyses for cost outliers and outcome methods. HRQoL improvement was observed for both PoMeT and TAU at 3 months, but reached statistical significance and was sustained only for TAU. There was no change in capability well-being and no significant group difference in QALYs gained over 9 months. Mean intervention cost was GBP 823. Compared to TAU, PoMeT had significantly higher mental health care costs (+GBP 1251, 95% CI GBP 185 to GBP 2316) during the trial, but 'health and social care' and 'societal' cost differences were non-significant. Compared to the before-trial period, psychiatric medication costs increased significantly in both groups. The probability of PoMeT being cost-effective in the given format over 9 months was <30% and decreased further in sensitivity analyses.. Generalizability remains limited since the before-after cost analysis revealed additional treatment effects also in the TAU group that likely diminished the incremental impacts and cost-effectiveness of PoMeT. It is not clear whether an active post-intervention follow-up could result in sustained longer-term effects and improved cost-effectiveness.

Simon, J., et al. (2021). "Cost and quality-of-life impacts of community treatment orders (CTOs) for patients with psychosis: economic evaluation of the OCTET trial." Social psychiatry and psychiatric epidemiology 56(1): 85-95.

PURPOSE: Current RCT and meta-analyses have not found any effect of community treatment orders (CTOs) on hospital or social outcomes. Assumed positive impacts of CTOs on quality-of-life outcomes and reduced hospital costs are potentially in conflict with patient autonomy. Therefore, an analysis of the cost and quality-of-life consequences of CTOs was conducted within the OCTET trial., METHODS: The economic evaluation was carried out comparing patients (n = 328) with psychosis discharged from involuntary hospitalisation either to treatment under a CTO (CTO group) or voluntary status via Section 17 leave (non-CTO group) from the health and social care and broader societal perspectives (including cost implication of informal family care and legal procedures). Differences in costs and outcomes defined as quality-adjusted life years (QALYs) based on the EQ-5D-3L or capability-weighted life years (CWLYs) based on the OxCAP-MH were assessed over 12 months (, 2012/13 tariffs)., RESULTS: Mean total costs from the health and social care perspective [CTO: 35,595 (SD: 44,886); non-CTO: 36,003 (SD: 41,406)] were not statistically significantly different in any of the analyses or cost categories. Mental health hospitalisation costs contributed to more than 85% of annual health and social care costs. Informal care costs were significantly higher in the CTO group, in which there were also significantly more manager hearings and tribunals. No difference in health-related quality of life or capability wellbeing was found between the groups., CONCLUSION: CTOs are unlikely to be cost-effective. No evidence supports the hypothesis that CTOs decrease hospitalisation costs or improve quality of life. Future decisions should consider impacts outside the healthcare sector such as higher informal care costs and legal procedure burden of CTOs.

Simpson, A., et al. (2014). "Results of a pilot randomised controlled trial to measure the clinical and cost effectiveness of peer support in increasing hope and quality of life in mental health patients discharged from hospital in the UK." BMC Psychiatry 14: 30.

BACKGROUND: Mental health patients can feel anxious about losing the support of staff and patients when discharged from hospital and often discontinue treatment, experience relapse and readmission to hospital, and sometimes attempt suicide. The benefits of peer support in mental health services have been identified in a number of studies with some suggesting clinical and economic gains in patients being discharged. METHODS: This pilot randomised controlled trial with economic evaluation aimed to explore whether peer support in addition to usual aftercare for patients during the transition from hospital to home would increase hope, reduce loneliness, improve quality of life and show cost effectiveness compared with patients receiving usual aftercare only, with follow-up at one and three-months post-discharge. RESULTS: A total of 46 service users were recruited to the study; 23 receiving peer support and 23 in the care-as-usual arm. While this pilot trial found no statistically significant benefits for peer support on the primary or secondary outcome measures, there is an indication that hope may be further increased in those in receipt of peer support. The total cost per case for the peer support arm of the study was £2154 compared to £1922 for the control arm. The mean difference between costs was minimal and not statistically significant. However, further analyses demonstrated that peer support has a reasonably high probability of being more cost effective for a modest positive change in the measure of hopelessness. Challenges faced in recruitment and follow-up are explored alongside limitations in the delivery of peer support. CONCLUSIONS: The findings suggest there is merit in conducting further research on peer support in the transition from hospital to home consideration should be applied to the nature of the patient population to whom support is offered; the length and frequency of support provided; and the contact between peer supporters and mental health staff. There is no conclusive evidence to support the cost effectiveness of providing peer support,

but neither was it proven a costly intervention to deliver. The findings support an argument for a larger scale trial of peer support as an adjunct to existing services. TRIAL REGISTRATION: Current Controlled Trials ISRCTN74852771.

Skapinakis, P., et al. (2016). "A systematic review of the clinical effectiveness and cost-effectiveness of pharmacological and psychological interventions for the management of obsessive-compulsive disorder in children/adolescents and adults." Health technology assessment (Winchester, England) 20(43): 1-392.

BACKGROUND: Obsessive-compulsive disorder (OCD) is a relatively common and disabling condition., OBJECTIVES: To determine the clinical effectiveness, acceptability and cost-effectiveness of pharmacological and psychological interventions for the treatment of OCD in children, adolescents and adults., DATA SOURCES: We searched the Cochrane Collaboration Depression, Anxiety and Neurosis Trials Registers, which includes trials from routine searches of all the major databases. Searches were conducted from inception to 31 December 2014., REVIEW METHODS: We undertook a systematic review and network meta-analysis (NMA) of the clinical effectiveness and acceptability of available treatments. Outcomes for effectiveness included mean differences in the total scores of the Yale-Brown Obsessive-Compulsive Scale or its children's version and total dropouts for acceptability. For the cost-effectiveness analysis, we developed a probabilistic model informed by the results of the NMA. All analyses were performed using OpenBUGS version 3.2.3 (members of OpenBUGS Project Management Group; see www.openbugs.net)., RESULTS: We included 86 randomised controlled trials (RCTs) in our systematic review. In the NMA we included 71 RCTs (54 in adults and 17 in children and adolescents) for effectiveness and 71 for acceptability (53 in adults and 18 in children and adolescents), comprising 7643 and 7942 randomised patients available for analysis, respectively. In general, the studies were of medium quality. The results of the NMA showed that in adults all selective serotonin reuptake inhibitors (SSRIs) and clomipramine had greater effects than drug placebo. There were no differences between SSRIs, and a trend for clomipramine to be more effective did not reach statistical significance. All active psychological therapies had greater effects than drug placebo. Behavioural therapy (BT) and cognitive therapy (CT) had greater effects than psychological placebo, but cognitive-behavioural therapy (CBT) did not. BT and CT, but not CBT, had greater effects than medications, but there are considerable uncertainty and methodological limitations that should be taken into account. In children and adolescents, CBT and BT had greater effects than drug placebo, but differences compared with psychological placebo did not reach statistical significance. SSRIs as a class showed a trend for superiority over drug placebo, but the difference did not reach statistical significance. However, the superiority of some individual drugs (fluoxetine, sertraline) was marginally statistically significant. Regarding acceptability, all interventions except clomipramine had good tolerability. In adults, CT and BT had the highest probability of being most cost-effective at conventional National Institute for Health and Care Excellence thresholds. In children and adolescents, CBT or CBT combined with a SSRI were more likely to be cost-effective. The results are uncertain and sensitive to assumptions about treatment effect and the exclusion of trials at high risk of bias., LIMITATIONS: The majority of psychological trials included patients who were taking medications. There were few studies in children and adolescents., CONCLUSIONS: In adults, psychological interventions, clomipramine, SSRIs or combinations of these are all effective, whereas in children and adolescents, psychological interventions, either as monotherapy or combined with specific SSRIs, were more likely to be effective. Future RCTs should improve their design, in particular for psychotherapy or combined interventions., STUDY REGISTRATION: The study is registered as PROSPERO CRD42012002441., FUNDING DETAILS: The National Institute for Health Research Health Technology Assessment programme.

Treasure, J., et al. (2025). "Digital augmentation of aftercare for patients with anorexia nervosa: the TRIANGLE RCT and economic evaluation." Health technology assessment (Winchester, England) 29(31): 1-162.

Background: High-risk patients with complex anorexia nervosa are managed in inpatient/day patient care, but re-admission rates are high, and new treatments are needed., Objective(s): To examine the effectiveness of a digital augmentation of aftercare (ECHOMANTRA)., Design: Transition Care In Anorexia Nervosa through Guidance Online from Peer and Carer Expertise was a multicentre, parallel-group, superiority randomised controlled trial. ECHOMANTRA augmented treatment as usual was compared with treatment as usual. Patient-carer dyads were randomised using minimisation on a 1 : 1 ratio into ECHOMANTRA + treatment as usual (ECHOMANTRA) or treatment as usual alone., Setting: Specialised United Kingdom inpatient/day patient sites (n = 31) participated., Participants: Patient-carer dyads were randomised (n = 185 in ECHOMANTRA and n = 186 in treatment as usual)., Interventions: The digital ECHOMANTRA intervention included self-management tools (recovery tips videos) for patients and task-sharing materials for carers (skill-sharing video), supplemented with guided group chat sessions. All participants randomised to ECHOMANTRA + treatment as usual had access to the psychoeducational materials and joint patient/carer chat sessions were also offered., Main outcome measures:

The primary outcome was patient distress at 12 months. Other outcomes included patient distress at 18 months, and eating disorder symptoms, social and work adjustment, and carer distress and skills at 12 and 18 months., Results: There was no evidence of an intervention effect on the Depression Anxiety Stress Scale-21 outcome for patients (n = 370) at 12 months, estimated effect 0.48, 95% confidence interval -0.20 to 0.23, standardised estimate (0.02, p = 0.87). In the economic analysis, the intervention was dominated by treatment as usual from both a health system and wider societal perspective, as ECHOMANTRA cost more and resulted in fewer quality-adjusted life-years gained. However, the uptake of the interactive component of the intervention (i.e. the facilitated and moderated online groups) was limited, with only 20% of the dyad members attending the pre-set minimal adherence level (i.e. both the patient and carer attending at least four online forum group sessions). The feedback about the intervention was predominantly positive. For example, the group facilitators were rated highly. However, some feedback was that the intervention offered too little, too late, and that a more personalised intervention would be more helpful., Limitations: Participants were diverse (e.g. 20% were being treated under the Mental Health Act), and a large proportion had a range of comorbidities (depression, anxiety, obsessive-compulsive disorder and autistic spectrum disorders), all factors impacting prognosis. Although efforts were made to enhance inclusion, diversity in terms of gender, sexuality and race was limited, and technological barriers and/or lack of a carer may have led to exclusion. The high level of non-adherence to the group support (80% dyads) may have contributed to the non-significant findings., Conclusions: This guided self-management and task-sharing intervention was reviewed positively by some patients and supporters; however, there was no evidence that the intervention improved outcomes over usual aftercare., Future work: Identifying mechanisms to increase engagement such as a more personalised approach to aftercare to address the diverse needs of this patient group are needed. Greater integration between intensive and step-down services with guidance from peer workers providing support may optimise care., Trial registration: This trial is registered as ISRCTN14644379., Funding: This award was funded by the National Institute for Health and Care Research (NIHR) Health Technology Assessment programme (NIHR award ref: 14/68/09) and is published in full in Health Technology Assessment; Vol. 29, No. 31. See the NIHR Funding and Awards website for further award information.

Tyrer, P., et al. (2003). "Randomized controlled trial of brief cognitive behaviour therapy versus treatment as usual in recurrent deliberate self-harm: the POPMACT study." Psychol Med 33(6): 969-976.

BACKGROUND: We carried out a large randomized trial of a brief form of cognitive therapy, manual-assisted cognitive behaviour therapy (MACT) versus treatment as usual (TAU) for deliberate self-harm. METHOD: Patients presenting with recurrent deliberate self-harm in five centres were randomized to either MACT or (TAU) and followed up over 1 year. MACT patients received a booklet based on cognitive behaviour therapy (CBT) principles and were offered up to five plus two booster sessions of CBT from a therapist in the first 3 months of the study. Ratings of parasuicide risk, anxiety, depression, social functioning and global function, positive and negative thinking, and quality of life were measured at baseline and after 6 and 12 months. RESULTS: Four hundred and eighty patients were randomized. Sixty per cent of the MACT group had both the booklet and CBT sessions. There were seven suicides, five in the TAU group. The main outcome measure, the proportion of those repeating deliberate self-harm in the 12 months of the study, showed no significant difference between those treated with MACT (39%) and treatment as usual (46%) (OR 0.78, 95% CI 0.53 to 1.14, P=0.20). CONCLUSION: Brief cognitive behaviour therapy is of limited efficacy in reducing self-harm repetition, but the findings taken in conjunctin with the economic evaluation (Byford et al. 2003) indicate superiority of MACT over TAU in terms of cost and effectiveness combined.

Tyrer, P., et al. (2004). "Differential effects of manual assisted cognitive behavior therapy in the treatment of recurrent deliberate self-harm and personality disturbance: the POPMACT study." J Pers Disord 18(1): 102-116.

A total of 480 patients were treated in a large, multicenter randomized trial of a brief form of cognitive therapy, manual-assisted cognitive behavior therapy (MACT) versus treatment as usual (TAU) for recurrent deliberate self-harm. Each patient was randomized after a self-harm episode assessed at an accident and emergency center and followed up over 1 year. The main hypothesis tested was that those allocated to MACT would have a lower proportion of self-harm episodes in the succeeding year. A total of 60% of those allocated to MACT had face-to-face treatment and 430 (90%) of all patients had self-harm data recorded after 1 year. Although the results showed no significant difference between those repeating self-harm in the MACT group (39%) compared with the TAU group (46%) (P = 0.20), the treatment was cost effective (10% cheaper than TAU) and the frequency of self-harm episodes was fewer (50%) in the MACT group. A total of nine of 10 patients had some personality disturbance (42% of these with disorder), and for those where information on parasuicide events was collected, the proportion having a repeat episode ranged from 33% to 63% for different personality disorders.

Those with BPD were most likely to repeat episodes quickly (mean 89 days for 25% to repeat) with dissocial personality disorder (equivalent mean 384 days) the slowest to repeat. Total costs were significantly greater in those with personality disorder and were reduced in those allocated to MACT; this saving was reversed in those with borderline disorder. On average, MACT appeared to increase the cost of those patients with BPD (BPD) and reduce the cost of those with other personality disorders. It is concluded that MACT has value in preventing self-harm cost effectively but this appears to be confined mainly to those who do not have BPD.

Wang, H. I., et al. (2022). "Cost and effectiveness of one session treatment (OST) for children and young people with specific phobias compared to multi-session cognitive behavioural therapy (CBT): results from a randomised controlled trial." BMC Psychiatry 22(1): 547.

BACKGROUND: In the UK, around 93,000 (0.8%) children and young people (CYP) are experiencing specific phobias that have a substantial impact on daily life. The current gold-standard treatment-multi-session cognitive behavioural therapy (CBT) - is effective at reducing specific phobia severity; however, CBT is time consuming, requires specialist CBT therapists, and is often at great cost and limited availability. A briefer variant of CBT called one session treatment (OST) has been found to offer similar clinical effectiveness for specific phobia as multi-session CBT. The aim of this study was to assess the cost-effectiveness of OST compared to multi-session CBT for CYP with specific phobias through the Alleviating Specific Phobias Experienced by Children Trial (ASPECT), a two-arm, pragmatic, multi-centre, non-inferiority randomised controlled trial. METHODS: CYP aged seven to 16 years with specific phobias were recruited nationally via Health and Social Care pathways, remotely randomised to the intervention group (OST) or the control group (CBT-based therapies) and analysed (n = 267). Resource use based on NHS and personal social services perspective and quality adjusted life years (QALYs) measured by EQ-5D-Y were collected at baseline and at six-month follow-up. Incremental cost-effectiveness ratio (ICER) was calculated, and non-parametric bootstrapping was conducted to capture the uncertainty around the ICER estimates. The results were presented on a cost-effectiveness acceptability curve (CEAC). A set of sensitivity analyses (including taking a societal perspective) were conducted to assess the robustness of the primary findings. RESULTS: After adjustment and bootstrapping, on average CYP in the OST group incurred less costs (incremental cost was -£302.96 (95% CI -£598.86 to -£28.61)) and maintained similar improvement in QALYs (QALYs gained 0.002 (95% CI - 0.004 to 0.008)). The CEAC shows that the probability of OST being cost-effective was over 95% across all the WTP thresholds. Results of a set of sensitivity analyses were consistent with the primary outcomes. CONCLUSION: Compared to CBT, OST produced a reduction in costs and maintained similar improvement in QALYs. Results from both primary and sensitivity analyses suggested that OST was highly likely to be cost saving. TRIAL REGISTRATION: ISRCTN19883421 (30/11/2016).

Wiles, N., et al. (2014). "Clinical effectiveness and cost-effectiveness of cognitive behavioural therapy as an adjunct to pharmacotherapy for treatment-resistant depression in primary care: the CoBalT randomised controlled trial." Health Technol Assess 18(31): 1-167, vii-viii.

BACKGROUND: Only one-third of patients with depression respond fully to treatment with antidepressant medication. However, there is little robust evidence to guide the management of those whose symptoms are 'treatment resistant'. OBJECTIVE: The CoBalT trial examined the clinical effectiveness and cost-effectiveness of cognitive behavioural therapy (CBT) as an adjunct to usual care (including pharmacotherapy) for primary care patients with treatment-resistant depression (TRD) compared with usual care alone. DESIGN: Pragmatic, multicentre individually randomised controlled trial with follow-up at 3, 6, 9 and 12 months. A subset took part in a qualitative study investigating views and experiences of CBT, reasons for completing/not completing therapy, and usual care for TRD. SETTING: General practices in Bristol, Exeter and Glasgow, and surrounding areas. PARTICIPANTS: Patients aged 18-75 years who had TRD [on antidepressants for ≥ 6 weeks, had adhered to medication, Beck Depression Inventory, 2nd version (BDI-II) score of ≥ 14 and fulfilled the International Classification of Diseases and Related Health Problems, Tenth edition criteria for depression]. Individuals were excluded who (1) had bipolar disorder/psychosis or major alcohol/substance abuse problems; (2) were unable to complete the questionnaires; or (3) were pregnant, as were those currently receiving CBT/other psychotherapy/secondary care for depression, or who had received CBT in the past 3 years. INTERVENTIONS: Participants were randomised, using a computer-generated code, to usual care or CBT (12-18 sessions) in addition to usual care. MAIN OUTCOME MEASURES: The primary outcome was 'response', defined as ≥ 50% reduction in depressive symptoms (BDI-II score) at 6 months compared with baseline. Secondary outcomes included BDI-II score as a continuous variable, remission of symptoms (BDI-II score of < 10), quality of life, anxiety and antidepressant use at 6 and 12 months. Data on health and social care use, personal costs, and time off work were collected at 6 and 12 months. Costs from these three perspectives were reported using a cost-consequence analysis. A cost-utility analysis compared health and social care costs with quality adjusted life-years. RESULTS: A

total of 469 patients were randomised (intervention: n = 234; usual care: n = 235), with 422 participants (90%) and 396 (84%) followed up at 6 and 12 months. Ninety-five participants (46.1%) in the intervention group met criteria for 'response' at 6 months compared with 46 (21.6%) in the usual-care group (odds ratio [OR] 3.26 [95% confidence interval (CI) 2.10 to 5.06], p < 0.001). In repeated measures analyses using data from 6 and 12 months, the OR for 'response' was 2.89 (95% CI 2.03 to 4.10, p < 0.001) and for a secondary 'remission' outcome (BDI-II score of < 10) 2.74 (95% CI 1.82 to 4.13, p < 0.001). The mean cost of CBT per participant was £ 910, the incremental health and social care cost £850, the incremental QALY gain 0.057 and incremental cost-effectiveness ratio £14,911. Forty participants were interviewed. Patients described CBT as challenging but helping them to manage their depression; listed social, emotional and practical reasons for not completing treatment; and described usual care as mainly taking medication. CONCLUSIONS: Among patients who have not responded to antidepressants, augmenting usual care with CBT is effective in reducing depressive symptoms, and these effects, including outcomes reflecting remission, are maintained over 12 months. The intervention was cost-effective based on the National Institute for Health and Care Excellence threshold. Patients may experience CBT as difficult but effective. Further research should evaluate long-term effectiveness, as this would have major implications for the recommended treatment of depression. TRIAL REGISTRATION: Current Controlled Trials ISRCTN38231611.

Wiles, N. J., et al. (2016). "Long-term effectiveness and cost-effectiveness of cognitive behavioural therapy as an adjunct to pharmacotherapy for treatment-resistant depression in primary care: follow-up of the CoBalT randomised controlled trial." Lancet Psychiatry 3(2): 137-144.

BACKGROUND: Cognitive behavioural therapy (CBT) is an effective treatment for people whose depression has not responded to antidepressants. However, the long-term outcome is unknown. In a long-term follow-up of the CoBalT trial, we examined the clinical and cost-effectiveness of cognitive behavioural therapy as an adjunct to usual care that included medication over 3-5 years in primary care patients with treatment-resistant depression. METHODS: CoBalT was a randomised controlled trial done across 73 general practices in three UK centres. CoBalT recruited patients aged 18-75 years who had adhered to antidepressants for at least 6 weeks and had substantial depressive symptoms (Beck Depression Inventory [BDI-II] score ≥14 and met ICD-10 depression criteria). Participants were randomly assigned using a computer generated code, to receive either usual care or CBT in addition to usual care. Patients eligible for the long-term follow-up were those who had not withdrawn by the 12 month follow-up and had given their consent to being re-contacted. Those willing to participate were asked to return the postal questionnaire to the research team. One postal reminder was sent and non-responders were contacted by telephone to complete a brief questionnaire. Data were also collected from general practitioner notes. Follow-up took place at a variable interval after randomisation (3-5 years). The primary outcome was self-report of depressive symptoms assessed by BDI-II score (range 0-63), analysed by intention to treat. Cost-utility analysis compared health and social care costs with quality-adjusted life-years (QALYs). This study is registered with isrctn.com, number ISRCTN38231611. FINDINGS: Between Nov 4, 2008, and Sept 30, 2010, 469 eligible participants were randomised into the CoBalT study. Of these, 248 individuals completed a long-term follow-up questionnaire and provided data for the primary outcome (136 in the intervention group vs 112 in the usual care group). At follow-up (median 45·5 months [IQR 42·5-51·1]), the intervention group had a mean BDI-II score of 19·2 (SD 13·8) compared with a mean BDI-II score of 23·4 (SD 13·2) for the usual care group (repeated measures analysis over the 46 months: difference in means -4·7 [95% CI -6·4 to -3·0, p<0·001]). Follow-up was, on average, 40 months after therapy ended. The average annual cost of trial CBT per participant was £343 (SD 129). The incremental cost-effectiveness ratio was £5374 per QALY gain. This represented a 92% probability of being cost effective at the National Institute for Health and Care Excellence QALY threshold of £20 000. INTERPRETATION: CBT as an adjunct to usual care that includes antidepressants is clinically effective and cost effective over the long-term for individuals whose depression has not responded to pharmacotherapy. In view of this robust evidence of long-term effectiveness and the fact that the intervention represented good value-for-money, clinicians should discuss referral for CBT with all those for whom antidepressants are not effective. FUNDING: National Institute for Health Research Health Technology Assessment.

Wright, B., et al. (2022). "One-session treatment compared with multisession CBT in children aged 7-16 years with specific phobias: the ASPECT non-inferiority RCT." Health technology assessment (Winchester, England) 26(42): 1-174.

BACKGROUND: Up to 10% of children and young people have a specific phobia that can significantly affect their mental health, development and daily functioning. Cognitive-behavioural therapy-based interventions remain the dominant treatment, but limitations to their provision warrant investigation into low-intensity alternatives. One-session treatment is one such alternative that shares cognitive-behavioural therapy principles

but has a shorter treatment period., OBJECTIVE: This research investigated the non-inferiority of one-session treatment to cognitive-behavioural therapy for treating specific phobias in children and young people. The acceptability and cost-effectiveness of one-session treatment were examined., DESIGN: A pragmatic, multicentre, non-inferiority randomised controlled trial, with embedded economic and qualitative evaluations., SETTINGS: There were 26 sites, including 12 NHS trusts., PARTICIPANTS: Participants were aged 7-16 years and had a specific phobia defined in accordance with established international clinical criteria., INTERVENTIONS: Participants were randomised 1 : 1 to receive one-session treatment or usual-care cognitive-behavioural therapy, and were stratified according to age and phobia severity. Outcome assessors remained blind to treatment allocation., MAIN OUTCOME MEASURES: The primary outcome measure was the Behavioural Avoidance Task at 6 months' follow-up. Secondary outcomes included the Anxiety Disorder Interview Schedule, Child Anxiety Impact Scale, Revised Children's Anxiety and Depression Scale, a goal-based outcome measure, Child Health Utility 9D, EuroQol-5 Dimensions Youth version and resource usage. Treatment fidelity was assessed using the Cognitive Behaviour Therapy Scale for Children and Young People and the One-Session Treatment Rating Scale., RESULTS: A total of 274 participants were recruited, with 268 participants randomised to one-session treatment (n = 134) or cognitive-behavioural therapy (n = 134). A total of 197 participants contributed some data, with 149 participants in the intention-to-treat analysis and 113 in the per-protocol analysis. Mean Behavioural Avoidance Task scores at 6 months were similar across treatment groups when both intention-to-treat and per-protocol analyses were applied [cognitive-behavioural therapy: 7.1 (intention to treat), 7.4 (per protocol); one-session treatment: 7.4 (intention to treat), 7.6 (per protocol); on the standardised scale adjusted mean difference for cognitive-behavioural therapy compared with one-session treatment -0.123, 95% confidence interval -0.449 to 0.202 (intention to treat), mean difference -0.204, 95% confidence interval -0.579 to 0.171 (per protocol)]. These findings were wholly below the standardised non-inferiority limit of 0.4, which suggests that one-session treatment is non-inferior to cognitive-behavioural therapy. No between-group differences in secondary outcome measures were found. The health economics evaluation suggested that, compared with cognitive-behavioural therapy, one-session treatment marginally decreased the mean service use costs and maintained similar mean quality-adjusted life-year improvement. Nested qualitative evaluation found one-session treatment to be considered acceptable by those who received it, their parents/guardians and clinicians. No adverse events occurred as a result of phobia treatment., LIMITATIONS: The COVID-19 pandemic meant that 48 children and young people could not complete the primary outcome measure. Service waiting times resulted in some participants not starting therapy before follow-up., CONCLUSIONS: One-session treatment for specific phobia in UK-based child mental health treatment centres is as clinically effective as multisession cognitive-behavioural therapy and highly likely to be cost-saving. Future work could involve improving the implementation of one-session treatment through training and commissioning of improved care pathways., TRIAL REGISTRATION: This trial is registered as ISRCTN19883421., FUNDING: This project was funded by the National Institute for Health and Care Research (NIHR) Health Technology Assessment programme and will be published in full in Health Technology Assessment; Vol. 26, No. 42. See the NIHR Journals Library website for further project information.

Wright, B., et al. (2023). "One session treatment (OST) is equivalent to multi-session cognitive behavioral therapy (CBT) in children with specific phobias (ASPECT): results from a national non-inferiority randomized controlled trial." Journal of child psychology and psychiatry, and allied disciplines 64(1): 39-49.

BACKGROUND: 5%-10% children and young people (CYP) experience specific phobias that impact daily functioning. Cognitive Behaviour Therapy (CBT) is recommended but has limitations. One Session Treatment (OST), a briefer alternative incorporating CBT principles, has demonstrated efficacy. The Alleviating Specific Phobias Experienced by Children Trial (ASPECT) investigated the non-inferiority of OST compared to multi-session CBT for treating specific phobias in CYP., METHODS: ASPECT was a pragmatic, multi-center, non-inferiority randomized controlled trial in 26 CAMHS sites, three voluntary agency services, and one university-based CYP well-being service. CYP aged 7-16 years with specific phobia were randomized to receive OST or CBT. Clinical non-inferiority and a nested cost-effectiveness evaluation was assessed 6-months post-randomization using the Behavioural Avoidance Task (BAT). Secondary outcome measures included the Anxiety Disorder Interview Schedule, Child Anxiety Impact Scale, Revised Children's Anxiety Depression Scale, goal-based outcome measure, and EQ-5DY and CHU-9D, collected blind at baseline and six-months., RESULTS: 268 CYPs were randomized to OST (n = 134) or CBT (n = 134). Mean BAT scores at 6 months were similar across groups in both intention-to-treat (ITT) and per-protocol (PP) populations (CBT: 7.1 (ITT, n = 76), 7.4 (PP, n = 57), OST: 7.4 (ITT, n = 73), 7.6 (PP, n = 56), on the standardized scale-adjusted mean difference for CBT compared to OST -0.123, 95% CI -0.449 to 0.202 (ITT), mean difference -0.204, 95% CI -0.579 to 0.171 (PP)). These findings were wholly below the standardized non-inferiority limit of 0.4, suggesting that OST is non-inferior to CBT. No between-group differences were found on secondary outcomes. OST marginally decreased mean service use costs and maintained similar

mean Quality Adjusted Life Years compared to CBT., CONCLUSIONS: One Session Treatment has similar clinical effectiveness to CBT for specific phobias in CYP and may be a cost-saving alternative. Copyright © 2022 The Authors. Journal of Child Psychology and Psychiatry published by John Wiley & Sons Ltd on behalf of Association for Child and Adolescent Mental Health.

UK Studies reporting a significant increase inpatient stays and/or A&E contacts.

Barton, G. R., et al. (2009). "Cognitive behaviour therapy for improving social recovery in psychosis: cost-effectiveness analysis." Schizophr Res 112(1-3): 158-163.

A randomised trial was conducted in order to estimate the clinical and cost-effectiveness of social recovery orientated cognitive behavioural therapy (SRCBT) for people diagnosed with psychosis, compared to case management alone (CMA). The mean incremental health and social care cost, and the mean incremental quality adjusted life year (QALY) gain, of SRCBT was calculated over the 9 month intervention period. The cost-effectiveness of SCRBT was in turn estimated, and considered in relation to the cost-effectiveness threshold of 20000 UK pounds per QALY. The level of uncertainty associated with that decision was estimated by calculating the cost-effectiveness acceptability curve for SRCBT. N=35 received SRCBT and N=42 received CMA. The mean incremental cost was estimated to be 668 UK pounds, and the mean incremental QALY gain 0.035. SRCBT was estimated to be cost-effective as it had a cost per QALY of 18844 UK pounds, which was more favourable than the assumed cost-effectiveness threshold of 20000 UK pounds per QALY. At that threshold the probability of being cost-effective was however estimated to be 54.3% according to the CEAC, suggesting that further research may be warranted in order to reduce the level of uncertainty associated with the decision as to whether SRCBT is cost-effective.

Boath, E., et al. (2003). "When the cradle falls II: The cost-effectiveness of treating postnatal depression in a psychiatric day hospital compared with routine primary care." J Affect Disord 74(2): 159-166.

BACKGROUND: This prospective cohort study assessed the cost-effectiveness of treating 30 women with postnatal depression (PND) at a specialised psychiatric Parent and Baby Day Unit (PBDU), compared to 30 women treated using routine primary care (RPC). METHODS: Following recruitment, the women were assessed on three occasions (initially, 3- and 6-months), using a variety of social and psychiatric outcome measures. Direct and indirect costs were collated using structured interviews, retrospective analysis of case notes and routinely collated NHS cost data. Sensitivity analysis was also carried out. RESULTS: There was no significant difference between the women in the two groups initially in terms of their socio-demographic characteristics, or scores on the outcome measures. However, at 6-months, 21 women in the PBDU group were no longer depressed compared to only seven women in the RPC group. The total cost was 46,211 pounds for the PBDU group and 18,973 pounds for the RPC group. Moving from RPC to a PBDU would involve an additional expenditure of 27,238 pounds (46,211-18,973) whilst delivering 14 more positive outcomes. The move from RPC to PBDU would incur an additional cost per successfully treated woman of 1945 pounds (27,238/14). This compares favourably with the current cost per successfully treated woman in the RPC group of 2710 pounds (18,973/7). CONCLUSIONS: RPC is dominated on the grounds of cost-effectiveness by PBDU treatment and so PBDU treatment should be recommended to health care decision-makers. LIMITATIONS OF THE STUDY: The results were sensitive to the inclusion of primary care contacts and the costs of medication.

Burns, T. and J. Raftery (1991). "Cost of schizophrenia in a randomized trial of home-based treatment." Schizophr Bull 17(3): 407-410.

A randomized trial of acute psychiatric care was conducted to compare home-based interventions with standard care. The setting of the study was a comprehensive urban psychiatric service in London. Sixteen of the 172 patients in the study had schizophrenia--11 in standard care (SC) and 5 in community care (CC). Care for patients with schizophrenia was, on average, twice as expensive as care for nonschizophrenic patients. This large and statistically significant difference was mainly the result of increased inpatient care, which averaged 33 days for the schizophrenic group compared to 7.6 days for non-schizophrenic patients. There was a modest increase in general practice and outpatient contacts among the schizophrenic patients compared with nonschizophrenic patients, but surprisingly little use of day hospital facilities. The SC schizophrenic care cost nearly twice as much as CC care, but this was not a statistically significant difference. These results suggest that provision of active community services for schizophrenic patients may lead to overall savings in care costs, mainly by a reduction in inpatient stays.

Byford, S., et al. (2007). "Cost-effectiveness of selective serotonin reuptake inhibitors and routine specialist care with and without cognitive behavioural therapy in adolescents with major depression." Br J Psychiatry 191: 521-527.

BACKGROUND: Major depression is an important and costly problem among adolescents, yet evidence to support the provision of cost-effective treatments is lacking. AIMS: To assess the short-term cost-effectiveness of combined selective serotonin reuptake inhibitors (SSRIs) and cognitive-behavioural therapy (CBT) together with clinical care compared with SSRIs and clinical care alone in adolescents with major depression. METHOD: Pragmatic randomised controlled trial in the UK. Outcomes and costs were assessed at baseline, 12 and 28 weeks. RESULTS: The trial comprised 208 adolescents, aged 11-17 years, with major or probable major depression who had not responded to a brief initial psychosocial intervention. There were no significant differences in outcome between the groups with and without CBT. Costs were higher in the group with CBT, although not significantly so (P=0.057). Cost-effectiveness analysis and exploration of the associated uncertainty suggest there is less than a 30% probability that CBT plus SSRIs is more cost-effective than SSRIs alone. CONCLUSIONS: A combination of CBT plus SSRIs is not more cost-effective in the short-term than SSRIs alone for treating adolescents with major depression in receipt of routine specialist clinical care.

Howard, L. M., et al. (2022). "Effectiveness and cost-effectiveness of psychiatric mother and baby units: quasi-experimental study." Br J Psychiatry 221(4): 628-636.

BACKGROUND: Psychiatric mother and baby units (MBUs) are recommended for severe perinatal mental illness, but effectiveness compared with other forms of acute care remains unknown. AIMS: We hypothesised that women admitted to MBUs would be less likely to be readmitted to acute care in the 12 months following discharge, compared with women admitted to non-MBU acute care (generic psychiatric wards or crisis resolution teams (CRTs)). METHOD: Quasi-experimental cohort study of women accessing acute psychiatric care up to 1 year postpartum in 42 healthcare organisations across England and Wales. Primary outcome was readmission within 12 months post-discharge. Propensity scores were used to account for systematic differences between MBU and non-MBU participants. Secondary outcomes included assessment of cost-effectiveness, experience of services, unmet needs, perceived bonding, observed mother-infant interaction quality and safeguarding outcome. RESULTS: Of 279 women, 108 (39%) received MBU care, 62 (22%) generic ward care and 109 (39%) CRT care only. The MBU group (n = 105) had similar readmission rates to the non-MBU group (n = 158) (aOR = 0.95, 95% CI 0.86-1.04, P = 0.29; an absolute difference of -5%, 95% CI -14 to 4%). Service satisfaction was significantly higher among women accessing MBUs compared with non-MBUs; no significant differences were observed for any other secondary outcomes. CONCLUSIONS: We found no significant differences in rates of readmission, but MBU advantage might have been masked by residual confounders; readmission will also depend on quality of care after discharge and type of illness. Future studies should attempt to identify the effective ingredients of specialist perinatal in-patient and community care to improve outcomes.

Studies with an unclear impact on inpatient stays and/or A&E contacts.

Anonymous (2020). Case identification and assessment, psychological and psychosocial interventions for the prevention or treatment of mental health problems. Antenatal and postnatal mental health: the NICE guideline on clinical management and service guidance (update). London, National Collaborating Centre for Mental Health,.

Berry, C., et al. (2022). "Clinical and cost-effectiveness of social recovery therapy for the prevention and treatment of long-term social disability among young people with emerging severe mental illness (PRODIGY): randomised controlled trial." The British journal of psychiatry : the journal of mental science 220(3): 154-162.

BACKGROUND: Young people with social disability and severe and complex mental health problems have poor outcomes, frequently struggling with treatment access and engagement. Outcomes may be improved by enhancing care and providing targeted psychological or psychosocial intervention., AIMS: We aimed to test the hypothesis that adding social recovery therapy (SRT) to enhanced standard care (ESC) would improve social recovery compared with ESC alone., METHOD: A pragmatic, assessor-masked, randomised controlled trial (PRODIGY: ISRCTN47998710) was conducted in three UK centres. Participants (n = 270) were aged 16-25 years, with persistent social disability, defined as under 30 hours of structured activity per week, social impairment for at least 6 months and severe and complex mental health problems. Participants were randomised to ESC alone or SRT plus ESC. SRT was an individual psychosocial therapy delivered over 9 months. The primary outcome was time spent in structured activity 15 months post-randomisation., RESULTS: We randomised 132 participants to

SRT plus ESC and 138 to ESC alone. Mean weekly hours in structured activity at 15 months increased by 11.1 h for SRT plus ESC (mean 22.4, s.d. = 21.4) and 16.6 h for ESC alone (mean 27.7, s.d. = 26.5). There was no significant difference between arms; treatment effect was -4.44 (95% CI -10.19 to 1.31, P = 0.13). Missingness was consistently greater in the ESC alone arm., CONCLUSIONS: We found no evidence for the superiority of SRT as an adjunct to ESC. Participants in both arms made large, clinically significant improvements on all outcomes. When providing comprehensive evidence-based standard care, there are no additional gains by providing specialised SRT. Optimising standard care to ensure targeted delivery of existing interventions may further improve outcomes.

Brazier, J., et al. (2006). "Psychological therapies including dialectical behaviour therapy for borderline personality disorder: a systematic review and preliminary economic evaluation." Health Technol Assess 10(35): iii, ix-xii, 1-117.

OBJECTIVES: To summarise the available evidence on the clinical effectiveness and cost-effectiveness of psychological therapies including dialectical behaviour therapy (DBT) for borderline personality disorder (BPD). DATA SOURCES: Electronic databases were searched up to March 2005. REVIEW METHODS: Relevant studies were assessed using standard checklists and data were abstracted by two reviewers using standardised forms. Separate economic evaluations were undertaken for six selected randomised controlled trials (RCTs). Cost-effectiveness was assessed in terms of cost per parasuicide event avoided in all six trials and cost per quality-adjusted life-year (QALY) in four of them. All results are at 2003-4 prices and for 12 months follow-up. RESULTS: Nine RCTs and one non-RCT of moderate to poor quality were identified in the clinical effectiveness review. They provided some evidence that DBT is more effective than treatment as usual (TAU) for the treatment of chronically parasuicidal and drug-dependent borderline women; that DBT-orientated therapy is more effective than client-centred therapy (CCT) for the treatment of BPD; and that DBT is as effective as comprehensive validation therapy plus 12-Step for the treatment of opioid-dependent borderline women. There was also some evidence that partial hospitalisation is more effective than TAU in the treatment of BPD, good evidence that manual-assisted cognitive behavioural therapy (MACT) is no more effective than TAU in the treatment of BPD and some evidence that interpersonal group therapy is no more effective than individual mentalisation-based partial hospitalisation (MBT) for the treatment of BPD. However, these results should be interpreted with caution as not all studies were primarily targeted to borderline symptoms and there were considerable differences between the studies. The assessment of cost-effectiveness found a mix of results in the four trials of DBT, along with the high levels of uncertainty and the limitations in the analyses. The findings do not support the cost-effectiveness of DBT though they suggest it has the potential to be cost-effective. The results for MBT are promising, though again surrounded by a high degree of uncertainty and for MACT, the analysis suggests that the intervention is unlikely to be cost-effective. CONCLUSIONS: The overall efficacy of psychological therapies is promising; however, at this stage the evidence is inconclusive. The cost-effectiveness of the intervention in six RCTs examined, however, does not support the cost-effectiveness of DBT although potential is suggested. There is a need for considerable research in this area. This research should involve appropriately powered head-to-head RCTs of psychological therapies; a survey of current practice and the use of the full range of services by people with BPD to inform future economic analyses; full resource-use data collected in the context of pragmatic clinical trials; psychometric assessment of the validity of the EQ-5D or other generic and condition-specific preference-based measures in BPD, and the development of a more formal cost-effectiveness model using the above data.

Camacho, E. M., et al. (2017). "Cost-effectiveness of structured group psychoeducation versus unstructured group support for bipolar disorder: Results from a multi-centre pragmatic randomised controlled trial." J Affect Disord 211: 27-36.

BACKGROUND: Bipolar disorder (BD) costs the English economy an estimated £5.2billion/year, largely through incomplete recovery. This analysis estimated the cost-effectiveness of group psychoeducation (PEd), versus group peer support (PS), for treating BD. METHODS: A 96-week pragmatic randomised controlled trial (RCT), conducted in NHS primary care. The primary analysis compared PEd with PS, using multiple imputed datasets for missing values. An economic model was used to compare PEd with treatment as usual (TAU). The perspective was Health and Personal Social Services. RESULTS: Participants receiving PEd (n=153) used more (costly) health-related resources than PS (n=151) (net cost per person £1098 (95% CI, £252-£1943)), with a quality-adjusted life year (QALY) gain of 0.023 (95% CI, 0.001-0.056). The cost per QALY gained was £47,739. PEd may be cost-effective (versus PS) if decision makers are willing to pay at least £37,500 per QALY gained. PEd costs £10,765 more than PS to avoid one relapse. The economic model indicates that PEd may be cost-effective versus TAU if it reduces the probability of relapse (by 15%) or reduces the probability of and increases time to relapse (by 10%). LIMITATIONS: Participants were generally inconsistent in attending treatment sessions and low numbers had complete cost/QALY data. Factors contributing to pervasive uncertainty of the results are discussed.

CONCLUSIONS: This is the first economic evaluation of PEd versus PS in a pragmatic trial. PEd is associated with a modest improvement in health status and higher costs than PS. There is a high level of uncertainty in the data and results.

Creswell, C., et al. (2015). "Treatment of childhood anxiety disorder in the context of maternal anxiety disorder: a randomised controlled trial and economic analysis." Health Technol Assess 19(38): 1-184, vii-viii.

BACKGROUND: Cognitive-behavioural therapy (CBT) for childhood anxiety disorders is associated with modest outcomes in the context of parental anxiety disorder. OBJECTIVES: This study evaluated whether or not the outcome of CBT for children with anxiety disorders in the context of maternal anxiety disorders is improved by the addition of (i) treatment of maternal anxiety disorders, or (ii) treatment focused on maternal responses. The incremental cost-effectiveness of the additional treatments was also evaluated. DESIGN: Participants were randomised to receive (i) child cognitive-behavioural therapy (CCBT); (ii) CCBT with CBT to target maternal anxiety disorders [CCBT + maternal cognitive-behavioural therapy (MCBT)]; or (iii) CCBT with an intervention to target mother-child interactions (MCIs) (CCBT + MCI). SETTING: An NHS university clinic in Berkshire, UK. PARTICIPANTS: Two hundred and eleven children with a primary anxiety disorder, whose mothers also had an anxiety disorder. INTERVENTIONS: All families received eight sessions of individual CCBT. Mothers in the CCBT + MCBT arm also received eight sessions of CBT targeting their own anxiety disorders. Mothers in the MCI arm received 10 sessions targeting maternal parenting cognitions and behaviours. Non-specific interventions were delivered to balance groups for therapist contact. MAIN OUTCOME MEASURES: Primary clinical outcomes were the child's primary anxiety disorder status and degree of improvement at the end of treatment. Follow-up assessments were conducted at 6 and 12 months. Outcomes in the economic analyses were identified and measured using estimated quality-adjusted life-years (QALYs). QALYS were combined with treatment, health and social care costs and presented within an incremental cost-utility analysis framework with associated uncertainty. RESULTS: MCBT was associated with significant short-term improvement in maternal anxiety; however, after children had received CCBT, group differences were no longer apparent. CCBT + MCI was associated with a reduction in maternal overinvolvement and more confident expectations of the child. However, neither CCBT + MCBT nor CCBT + MCI conferred a significant post-treatment benefit over CCBT in terms of child anxiety disorder diagnoses [adjusted risk ratio (RR) 1.18, 95% confidence interval (CI) 0.87 to 1.62, p = 0.29; adjusted RR CCBT + MCI vs. control: adjusted RR 1.22, 95% CI 0.90 to 1.67, p = 0.20, respectively] or global improvement ratings (adjusted RR 1.25, 95% CI 1.00 to 1.59, p = 0.05; adjusted RR 1.20, 95% CI 0.95 to 1.53, p = 0.13). CCBT + MCI outperformed CCBT on some secondary outcome measures. Furthermore, primary economic analyses suggested that, at commonly accepted thresholds of cost-effectiveness, the probability that CCBT + MCI will be cost-effective in comparison with CCBT (plus non-specific interventions) is about 75%. CONCLUSIONS: Good outcomes were achieved for children and their mothers across treatment conditions. There was no evidence of a benefit to child outcome of supplementing CCBT with either intervention focusing on maternal anxiety disorder or maternal cognitions and behaviours. However, supplementing CCBT with treatment that targeted maternal cognitions and behaviours represented a cost-effective use of resources, although the high percentage of missing data on some economic variables is a shortcoming. Future work should consider whether or not effects of the adjunct interventions are enhanced in particular contexts. The economic findings highlight the utility of considering the use of a broad range of services when evaluating interventions with this client group. TRIAL REGISTRATION: Current Controlled Trials ISRCTN19762288. FUNDING: This trial was funded by the Medical Research Council (MRC) and Berkshire Healthcare Foundation Trust and managed by the National Institute for Health Research (NIHR) on behalf of the MRC-NIHR partnership (09/800/17) and will be published in full in Health Technology Assessment; Vol. 19, No. 38.

Duarte, A., et al. (2017). "Cost-effectiveness of computerized cognitive-behavioural therapy for the treatment of depression in primary care: findings from the Randomised Evaluation of the Effectiveness and Acceptability of Computerised Therapy (REEACT) trial." Psychol Med 47(10): 1825-1835.

BACKGROUND: Computerized cognitive-behavioural therapy (cCBT) forms a core component of stepped psychological care for depression. Existing evidence for cCBT has been informed by developer-led trials. This is the first study based on a large independent pragmatic trial to assess the cost-effectiveness of cCBT as an adjunct to usual general practitioner (GP) care compared with usual GP care alone and to establish the differential cost-effectiveness of a free-to-use cCBT programme (MoodGYM) in comparison with a commercial programme (Beating the Blues) in primary care. METHOD: Costs were estimated from a healthcare perspective and outcomes measured using quality-adjusted life years (QALYs) over 2 years. The incremental cost-effectiveness of each cCBT programme was compared with usual GP care. Uncertainty was estimated using probabilistic sensitivity analysis and scenario analyses were performed to assess the robustness of results. RESULTS: Neither cCBT programme

was found to be cost-effective compared with usual GP care alone. At a £20 000 per QALY threshold, usual GP care alone had the highest probability of being cost-effective (0.55) followed by MoodGYM (0.42) and Beating the Blues (0.04). Usual GP care alone was also the cost-effective intervention in the majority of scenario analyses. However, the magnitude of the differences in costs and QALYs between all groups appeared minor (and non-significant). CONCLUSIONS: Technically supported cCBT programmes do not appear any more cost-effective than usual GP care alone. No cost-effective advantage of the commercially developed cCBT programme was evident compared with the free-to-use cCBT programme. Current UK practice recommendations for cCBT may need to be reconsidered in the light of the results.

Fonagy, P., et al. (2025). "Mentalisation-based treatment for antisocial personality disorder in males convicted of an offence on community probation in England and Wales (Mentalization for Offending Adult Males, MOAM): a multicentre, assessor-blinded, randomised controlled trial." The lancet. Psychiatry 12(3): 208-219.

BACKGROUND: Antisocial personality disorder is a major health and social problem, but scepticism about its treatability has restricted development of the evidence base for psychological treatments. Mentalisation-based treatment (MBT) tailored for antisocial personality disorder (MBT-ASPD) can address problematic behaviours by improving the ability to understand and regulate the negative effects of thoughts and feelings. This study aimed to evaluate the clinical and cost-effectiveness of MBT-ASPD compared with probation as usual in reducing aggressive behaviours from baseline to 12 months of follow-up., METHODS: The Mentaliziation for Offending Adult Males (MOAM) trial was a multicentre, two-group, pragmatic, assessor-masked, randomised controlled superiority trial in England and Wales. Eligible participants were male, aged 21 years or older, convicted of an offence and under National Probation Service supervision at one of 13 sites, identified through the Community Personality Disorder Pathways Service, met DSM-5 criteria for antisocial personality disorder, and scored at least 15 on the Overt Aggression Scale-Modified (OAS-M). After a three-stage screening process, consenting participants were randomly allocated (1:1), stratified by site, age, probation order type, and remaining probation duration, to either MBT-ASPD plus probation as usual, or probation as usual alone. Participants in the MBT-ASPD group were offered 12 months of weekly 75-min group therapy sessions and monthly 50 min individual sessions. Probation as usual lasted up to 12 months, after which participants continued under National Probation Service supervision for the remainder of their term. Investigators and data collectors were masked to treatment allocation. The primary outcome was aggression measured by the OAS-M at 12 months after random allocation. Data were collected by a hybrid team of traditional researchers and researchers with lived experience of the criminal justice system. The primary analysis was conducted in the intention-to-treat population using a linear mixed-effects model, adjusted for baseline at each follow-up timepoint (months 3, 6, 9, 12, 15, 18, 21, and 24). This trial is registered with ISRCTN (ISRCTN 32309003), and all pre-planned follow-ups are complete., FINDINGS: Between Jan 2, 2016, and Aug 31, 2018, 1946 individuals were referred to the study; after the screening process, 313 participants were randomly allocated (156 [50%] to probation as usual and 157 [50%] to MBT-ASPD plus probation as usual). Participants had a mean age of 34.2 years (SD 9.3); the majority of participants (247 [79%]) identified as White British, Irish, or White Other; followed by Black British (Caribbean, African, or Other; 30 [10%]) or Mixed (29 [9%]). At 12 months after random allocation, mean OAS-M scores were significantly higher in the probation as usual group (mean score 186 [SD 153]) than in the MBT-ASPD group (90 [126]), with an adjusted mean difference between groups of -73.5 (95% CI -113.7 to -33.2); $p<0.0001$, with a medium-to-large effect size of 0.74. During the trial, seven participants died, and one presumed death occurred, all in the probation as usual group after random allocation, with none of the deaths deemed related to trial procedures., INTERPRETATION: MBT-ASPD holds promise as an effective intervention for individuals with antisocial personality disorder within a forensic population. Future research should explore these findings' generalisability and the sustainability of treatment gains., FUNDING: National Institute for Health Research Health Technology Assessment programme.

Friedli, K., et al. (2000). "The economics of employing a counsellor in general practice: analysis of data from a randomised controlled trial." Br J Gen Pract 50(453): 276-283.

BACKGROUND: Counselling is currently adopted in many general practices, despite limited evidence of clinical and cost effectiveness. AIM: To compare direct and indirect costs of counsellors and general practitioners (GPs) in providing care to people with emotional problems. METHOD: We carried out a prospective, randomized controlled trial of non-directive counselling and routine general practice care in 14 general practices in north London. Counsellors adhered to a Rogerian model of counselling. The counselling sessions ranged from one to 12 sessions over 12 weeks. As reported elsewhere, there were no differences in clinical outcomes between the two

groups. Therefore, we conducted a cost minimisation analysis. We present only the economic outcomes in this paper. Main outcome measures were cost data (service utilisation, travel, and work absence) at baseline, three months, and nine months. RESULTS: One hundred and thirty-six patients with emotional problems, mainly depression, took part. Seventy patients were randomised to the counsellors and 66 to the GPs. The average direct and indirect costs for the counsellor was 162.09 Pounds more per patient after three months compared with costs for the GP group; however, over the following six months the counsellor group was 87.00 Pounds less per patient than the GP group. Over the total nine-month period, the counsellor group remained more expensive per patient. CONCLUSIONS: Referral to counselling is no more clinically effective or expensive than GP care over a nine-month period in terms of direct plus indirect costs. However, further research is needed to establish indirect costs of introducing a counsellor into general practice.

Hollinghurst, S., et al. (2010). "Cost-effectiveness of therapist-delivered online cognitive-behavioural therapy for depression: randomised controlled trial." Br J Psychiatry 197(4): 297-304.

BACKGROUND: Therapist-delivered online cognitive-behavioural therapy (CBT) has been found to be effective for depression in primary care. AIMS: To determine the cost-effectiveness of online CBT compared with usual care. METHOD: Economic evaluation at 8 months alongside a randomised controlled trial. Cost to the National Health Service (NHS), personal costs, and the value of lost productivity, each compared with outcomes based on the Beck Depression Inventory and quality-adjusted life-years (QALYs). Incremental analysis indicated the NHS cost per QALY gain. RESULTS: Online CBT was more expensive than usual care, although the outcomes for the CBT group were better. Cost per QALY gain based on complete case data was £17,173, and £10,083 when missing data were imputed. CONCLUSIONS: Online CBT delivered by a therapist in real time is likely to be cost-effective compared with usual care if society is willing to pay at least £20,000 per QALY; it could be a useful alternative to face-to-face CBT.

Husain, N., et al. (2025). "A group psychological intervention for postnatal depression in British mothers of South Asian origin - the ROSHNI-2 RCT." Health technology assessment (Winchester, England) 29(6): 1-113.

Background: Postnatal depression is more common in British South Asian women than white women in the United Kingdom. Despite empirical evidence suggesting the effectiveness of cognitive-behavioural therapy as a first line of treatment, little evidence is available regarding its applicability to different minority ethnic groups., Objectives: Determining the clinical and cost-effectiveness of a culturally adapted group psychological intervention (Positive Health Programme) in primary care for British South Asian women with postnatal depression compared with treatment as usual., Setting: General practices and children's centres in the North West, East Midlands, Yorkshire, Glasgow and London., Participants: British South Asian women meeting the Diagnostic and Statistical Manual of Mental Disorders (Fifth Edition) depression criteria, aged 16 years or above, with infants up to 12 months., Design: A multicentre randomised controlled trial with an internal pilot and partially nested design to compare treatment as usual plus the Positive Health Programme with treatment as usual in British South Asian women with postnatal depression, with a qualitative study to examine the acceptability and feasibility of the intervention., Intervention: The Positive Health Programme, a culturally adapted group intervention based on the principles of cognitive-behavioural therapy delivered by facilitators over 12 sessions., Outcomes measures: The primary outcome was recovery from depression (Hamilton Depression Rating Scale <= 7) at end of intervention (approximately 4-6 months). Analysis of the primary outcome and the long-term follow-up (at 12 months) used a logistic random-effects model to estimate the odds ratio of caseness between treatments, adjusting for centre, severity of depression and education at baseline. Cost data were collected using an Economic Patient Questionnaire., Results: Seven hundred and thirty-two participants across four study centres were randomised by the Manchester Clinical Trials Unit. At 4 months, almost half of patients in the treatment (Positive Health Programme) group were recovered (138 or 49%), whereas 105 (37%) were recovered in the control (treatment as usual) group. By 12 months, the control (treatment as usual) and treatment (Positive Health Programme) group had over 50% recovery at 140 (54%) and 141 (54%), respectively. For the primary outcome, recovery from postnatal depression at end of intervention, we found a significant effect such that the odds of achieving recovery in the treatment group were almost twice as high compared to the treatment as usual group (odds ratio 1.97, 95% confidence interval 1.26 to 3.10). Between the two groups, there was no significant difference in the odds of recovery at 12 months (odds ratio 1.02, 95% confidence interval 0.62 to 1.66), highlighting a need for more intensive therapies and/or longer-term care plans for this group of patients., Qualitative results: The intervention was considered feasible and acceptable from the perspectives of Positive Health Programme participants, facilitators, and general practitioners. The findings suggest improved emotional and social support and an enhanced sense of well-being., Economic evaluation: Positive Health Programme implementation was estimated to cost an average of 408 per participant. The intention-to-treat analysis shows that the Positive Health

Programme intervention costs 22,198 per quality-adjusted life-year gain. Positive Health Programme was cost-effective on average but with a substantial uncertainty: the probability that Positive Health Programme was cost-effective was 44% (65%) at the willingness to pay 20,000 (30,000) per quality-adjusted life-year. The Positive Health Programme was highly cost-effective for those who attended 5-8 sessions, costing 9040 per quality-adjusted life-year., Limitations: The study sample limits generalisability with other ethnic minority groups, and the cost-effectiveness analysis did not explore recall bias., Conclusions: The results of this study provide robust evidence that the cul urally adapted psychological intervention for postnatal depression in South Asian women is effective at the primary end point and acceptable to women., Future work: Further development of the Positive Health Programme intervention and evaluation, with longer-term outcome follow-ups and exploration of cost-effectiveness of remote delivery of the Positive Health Programme., Study registration: Current Controlled Trials ISRCTN10697380., Funding: This award was funded by the National Institute for Health and Care Research (NIHR) Health Technology Assessment programme (NIHR award ref: 14/68/08) and is published in full in Health Technology Assessment; Vol. 29, No. 6. See the NIHR Funding and Awards website for further award information.

Jackson-Morris, A., et al. (2024). "An investment case analysis for the prevention and treatment of adolescent mental disorders and suicide in England." European journal of public health 34(1): 107-113.

BACKGROUND: Adolescent mental health (AMH) needs in England have increased dramatically and needs exceed treatment availability. This study undertook a comparative assessment of the health and economic return on investment (ROI) of interventions to prevent and treat mental disorders among adolescents (10-19 years) and examined intervention affordability and readiness., METHODS: Interventions were identified following a review of published and grey literature. A Markov model followed a simulated adolescent cohort to estimate implementation costs and health, education, and economic benefits. Intervention affordability was assessed, comparing annual cost per adolescent with NHS England per capita spending, and an expert panel assessed intervention readiness using a validated framework., RESULTS: Over 10- and 80-year horizons, interventions to treat mild anxiety and mild depression were most cost-effective, with the highest individual lifetime ROI (GBP 5822 GBP 1 and GBP 257: GBP 1). Preventing anxiety and depression was most affordable and 'implementation ready' and offered the highest health and economic benefits. A priority package (anxiety and depression prevention; mild anxiety and mild depression treatment) would avert 5 million disability-adjusted life-years (DALYS) and achieve an ROI of GBP 15: GBP 1 over 10 years or 11.5 million DALYs (ROI of GBP 55: GBP 1) over 80 years., CONCLUSION: The economic benefits from preventing and treating common adolescent mental disorders equivalent to 25% of NHS England's annual spending in 2021 over 10 years and 91% over 80 years. Preventing and early treatment for anxiety and depression had the highest ROIs and strong implementation readiness.

Kaltenthaler, E., et al. (2006). "Computerised cognitive behaviour therapy for depression and anxiety update: a systematic review and economic evaluation." Health Technol Assess 10(33): iii, xi-xiv, 1-168.

OBJECTIVES: To evaluate computerised cognitive behaviour therapy (CCBT) for the treatment of anxiety, depression, phobias, panic and obsessive-compulsive behaviour (OCD). The software packages to be considered include Beating the Blues (BtB), Overcoming Depression: a five areas approach, FearFighter (FF), Cope and BT Steps. Other packages or programmes incorporating CCBT were also considered. DATA SOURCES: Electronic databases from 1966 to March 2004. Evidence submitted by sponsors for CCBT products. REVIEW METHODS: A systematic review was a review of the literature and the evidence submitted by sponsors for each of the products. A series of cost-effectiveness models was developed and run by the project team for the five CCBT products across the three mental health conditions. RESULTS: Twenty studies were identified in the clinical effectiveness review. The analysis of these results showed some evidence that CCBT is as effective as therapist-led cognitive behaviour therapy (TCBT) for the treatment of depression/anxiety and phobia/panic and is more effective than treatment as usual (TAU) in the treatment of depression/anxiety. CCBT also appears to reduce therapist time compared with TCBT. When reviewing cost-effectiveness studies, only one published economic evaluation of CCBT was found. This was an economic evaluation of the depression software BtB alongside a randomised controlled trial (RCT), which found that BtB was cost-effective against TAU in terms of cost per quality-adjusted life-year (QALY) (less than 2000 pounds), however it contained weaknesses that were then addressed in the cost-effectiveness model developed for the study. The results of the model for the depression software packages in terms of incremental cost per QALY compared with TAU and the chance of being cost-effective at 30,000 pounds per QALY were for BtB 1801 pounds and 86.8%, for Cope 7139 pounds and 62.6% and for Overcoming Depression 5391 pounds and 54.4%. The strength of the BtB software being that it has been evaluated in the context of an RCT with a control group. The subgroup analysis found no differences across the severity groupings. For phobia/panic software, the model showed an incremental cost per QALY of FF over relaxation was 2380 pounds. Its position

compared with TCBT is less clear. When modelling OCD packages, using the practice-level licence cost meant that BT Steps was dominated by TCBT, which had significantly better outcomes and was cheaper. However, the cheaper PCT licence resulted in the incremental cost-effectiveness of BT Steps over relaxation being 15,581 pounds and TCBT over BT Steps being 22,484 pounds. CONCLUSIONS: The study findings are subject to substantial uncertainties around the organisational level for purchasing these products and the likely throughput. This is in addition to concerns with the quality of evidence on response to therapy, longer term outcomes and quality of life. The position of CCBT within a stepped care programme needs to be identified, as well as its relationship to other efforts to increase access to CBT and psychological therapies. Research is needed to compare CCBT with other therapies that reduce therapist time, in particular bibliotherapy and to explore the use of CCBT via the Internet. Independent research is needed, particularly RCTs, that examine areas such as patient preference and therapist involvement within primary care.

Khalifa, N., et al. (2019). "A Feasibility Cluster Randomized Controlled Trial of Individual Placement and Support (IPS) for Patients With Offending Histories." Front Psychiatry 10: 952.

Objective: To examine the feasibility of conducting a fully powered randomized controlled trial (RCT) of Individual Placement and Support (IPS). IPS is a form of supported employment which aims to put people into open employment quickly and in accordance with their preferences. It is delivered by employment specialists collocated within clinical teams, and provides time unlimited support for the individual and their employer, along with welfare benefits counselling. Method: A feasibility cluster RCT of treatment as usual (TAU) plus IPS versus TAU alone was conducted over 12 months among patients with offending histories in a community forensic setting in the UK. The feasibility criteria were to achieve 50% recruitment rate; 50% completion rate for IPS; 50% completion rate of all outcome measures; and 80% acceptability rating for IPS. The primary efficacy outcome was the proportion of people in open employment at 12 months. The secondary outcomes were other vocational and educational activities; Brief Psychiatric Rating Scale; Rosenberg's Self-esteem Scale; Client Service Receipt Inventory; quality of life using the SF12-v2 and EQ5-D3; Social Functioning Questionnaire; Work Limitation Questionnaire; and reoffending. Results: Participants' mean age was 39.2 years. The majority were male (88.9), White British (72.2), and single (72.2%). Over 72% had no higher qualification beyond secondary education; mean years in education was 10.4. Over one third had schizophrenia, one fifth had depression, and the rest had personality disorder as their primary diagnosis. Participants had a lifetime average of 7.5 convictions for 15.5 offences. The recruitment rate of all referrals was 38.3% (IPS n = 11; TAU n = 7). Completion rate for IPS was 54.5, with 45.5% acceptability rating. Completion rates for outcome measures for the groups at baseline and 12 months ranged from 22.2 to 100%. The proportion of people in open employment at 12 months were 9.1 and 0% for IPS and TAU respectively. Conclusion: It is not feasible to conduct a full RCT of IPS in community forensic settings in the UK owing to recruitment and retention difficulties. Conducting a trial of this kind requires a large pool of patients from multiple sites and longer IPS implementation and recruitment periods than those of this study. Clinical Trial Registration: www.ClinicalTrials.gov, identifier NCT02442193.

King, S., et al. (2006). "A systematic review and economic model of the effectiveness and cost-effectiveness of methylphenidate, dexamfetamine and atomoxetine for the treatment of attention deficit hyperactivity disorder in children and adolescents." Health Technol Assess 10(23): iii-iv, xiii-146.

OBJECTIVES: To assess the clinical and cost-effectiveness of oral methylphenidate hydrochloride (MPH), dexamfetaminesulphate (DEX) and atomoxetine (ATX) in children and adolescents (<18 years of age) diagnosed with attention deficit hyperactivity disorder (ADHD) (including hyperkinetic disorder). DATA SOURCES: Electronic databases covering 1999--July 2004 for MPH, 1997--July 2004 for DEX and 1981--July 2004 for ATX. REVIEW METHODS: Selected studies were assessed using modified criteria based on CRD Report No. 4. Clinical effectiveness data were reported separately for each drug and by the type of comparison. Data for MPH were also analysed separately based on whether it was administered as an immediate release (IR) or extended release (ER) formulation. For all drugs, the data were examined by dose. Data for the core outcomes of hyperactivity (using any scale), Clinical Global Impression [as a proxy of quality of life (QoL)] and adverse events were reported. For crossover studies, the mean and standard deviation (SD) for each outcome were data extracted for end of trial data (i.e. baseline data were not considered). For parallel studies, change scores were reported where given, otherwise means and SDs were presented for end of trial data. In addition, mean differences with 95% confidence intervals were calculated for each study. For adverse events, self-ratings were reported when used, otherwise, parent reports were utilised. Percentages of participants reporting adverse events were used to calculate numbers of events in each treatment arm. All the clinical effectiveness data and economic evaluations (including accompanying models) included in the company submissions were assessed. A new model was developed to assess the cost-effectiveness of the alternative treatments in terms of cost per quality-adjusted life-year. To

achieve this, a mixed treatment comparison model was used to estimate the differential mean response rates. Monte Carlo simulation was used to reflect uncertainty in the cost-effectiveness results. RESULTS: In total, 65 papers met the inclusion criteria. The results suggest that MPH and DEX are effective at reducing hyperactivity and improving QoL (as determined by Clinical Global Impression) in children, although the reliability of the MPH study results is not known and there were only a small number of DEX studies. There was consistent evidence that ATX was superior to placebo for hyperactivity and Clinical Global Impression. Studies on ATX more often reported the study methodology well, and the results were likely to be reliable. Very few studies made direct head-to-head comparisons between the drugs or examined a non-drug intervention in combination with MPH, DEX or ATX. Adequate and informative data regarding the potential adverse effects of the drugs were also lacking. The results of the economic evaluation clearly identified an optimal treatment strategy of DEX first-line, followed by IR-MPH for treatment failures, followed by ATX for repeat treatment failures. Where DEX is unsuitable as a first-line therapy, the optimal strategy is IR-MPH first-line, followed by DEX and then ATX. For patients contraindicated to stimulants, ATX is preferred to no treatment. For patients in whom a midday dose of medication is unworkable, ER-MPH is preferred to ATX, and ER-MPH12 appears more cost-effective than ER-MPH8. As identified in the clinical effectiveness review, the reporting of studies was poor, therefore this should be borne in mind when interpreting the model results. CONCLUSIONS: Drug therapy seems to be superior to no drug therapy, no significant differences between the various drugs in terms of efficacy or side effects were found, mainly owing to lack of evidence, and the additional benefits from behavioural therapy (in combination with drug therapy) are uncertain. Given the lack of evidence for any differences in effectiveness between the drugs, the economic model tended to be driven by drug costs, which differed considerably. Future trials examining MPH, DEX and ATX should include the assessment of tolerability and safety as a priority. Longer term follow-up of individuals participating in trials could further inform policy makers and health professionals. Such data could potentially distinguish between these drugs in a clinically useful way. In addition, research examining whether somatic complaints are actually related to drug treatment or to the disorder itself would be informative.

Koeser, L., et al. (2015). "Modelling the cost-effectiveness of pharmacotherapy compared with cognitive-behavioural therapy and combination therapy for the treatment of moderate to severe depression in the UK." Psychological Medicine 45(14): 3019-3031.

BACKGROUND: The National Institute of Health and Care Excellence (NICE) in England and Wales recommends the combination of pharmacotherapy and psychotherapy for the treatment of moderate to severe depression. However, the cost-effectiveness analysis on which these recommendations are based has not included psychotherapy as monotherapy as a potential option. For this reason, we aimed to update, augment and refine the existing economic evaluation., METHOD: We constructed a decision analytic model with a 27-month time horizon. We compared pharmacotherapy with cognitive-behavioural therapy (CBT) and combination treatment for moderate to severe depression in secondary care from a healthcare service perspective. We reviewed the literature to identify relevant evidence and, where possible, synthesized evidence from clinical trials in a meta-analysis to inform model parameters., RESULTS: The model suggested that CBT as monotherapy was most likely to be the most cost-effective treatment option above a threshold of 22,000 per quality-adjusted life year (QALY). It dominated combination treatment and had an incremental cost-effectiveness ratio of 20,039 per QALY compared with pharmacotherapy. There was significant decision uncertainty in the probabilistic and deterministic sensitivity analyses., CONCLUSIONS: Contrary to previous NICE guidance, the results indicated that even for those patients for whom pharmacotherapy is acceptable, CBT as monotherapy may be a cost-effective treatment option. However, this conclusion was based on a limited evidence base, particularly for combination treatment. In addition, this evidence cannot easily be transferred to a primary care setting.

Littlewood, E., et al. (2015). "A randomised controlled trial of computerised cognitive behaviour therapy for the treatment of depression in primary care: the Randomised Evaluation of the Effectiveness and Acceptability of Computerised Therapy (REEACT) trial." Health Technol Assess 19(101): viii, xxi-171.

BACKGROUND: Computerised cognitive behaviour therapy (cCBT) has been developed as an efficient form of therapy delivery with the potential to enhance access to psychological care. Independent research is needed which examines both the clinical effectiveness and cost-effectiveness of cCBT over the short and longer term. OBJECTIVES: To compare the clinical effectiveness and cost-effectiveness of cCBT as an adjunct to usual general practitioner (GP) care against usual GP care alone, for a free-to-use cCBT program (MoodGYM; National Institute for Mental Health Research, Australian National University, Canberra, Australia) and a commercial pay-to-use cCBT program (Beating the Blues(®); Ultrasis, London, UK) for adults with depression, and to determine the acceptability of cCBT and the experiences of users. DESIGN: A pragmatic, multicentre, three-armed, parallel, randomised controlled trial (RCT) with concurrent economic and qualitative evaluations. Simple randomisation

was used. Participants and researchers were not blind to treatment allocation. SETTING: Primary care in England. PARTICIPANTS: Adults with depression who scored ≥ 10 on the Patient Health Questionnaire-9 (PHQ-9). INTERVENTIONS: Participants who were randomised to either of the two intervention groups received cCBT (Beating the Blues or MoodGYM) in addition to usual GP care. Participants who were randomised to the control group were offered usual GP care. MAIN OUTCOME MEASURES: The primary outcome was depression at 4 months (PHQ-9). Secondary outcomes were depression at 12 and 24 months; measures of mental health and health-related quality of life at 4, 12 and 24 months; treatment preference; and the acceptability of cCBT and experiences of users. RESULTS: Clinical effectiveness: 210 patients were randomised to Beating the Blues, 242 patients were randomised to MoodGYM and 239 patients were randomised to usual GP care (total 691). There was no difference in the primary outcome (depression measured at 4 months) either between Beating the Blues and usual GP care [odds ratio (OR) 1.19, 95% confidence interval (CI) 0.75 to 1.88] or between MoodGYM and usual GP care (OR 0.98, 95% CI 0.62 to 1.56). There was no overall difference across all time points for either intervention compared with usual GP care in a mixed model (Beating the Blues versus usual GP care, p = 0.96; and MoodGYM versus usual GP care, p = 0.11). However, a small but statistically significant difference between MoodGYM and usual GP care at 12 months was found (OR 0.56, 95% CI 0.34 to 0.93). Free-to-use cCBT (MoodGYM) was not inferior to pay-to-use cCBT (Beating the Blues) (OR 0.91, 90% CI 0.62 to 1.34; p = 0.69). There were no consistent benefits of either intervention when secondary outcomes were examined. There were no serious adverse events thought likely to be related to the trial intervention. Despite the provision of regular technical telephone support, there was low uptake of the cCBT programs. Cost-effectiveness: cost-effectiveness analyses suggest that neither Beating the Blues nor MoodGYM appeared cost-effective compared with usual GP care alone. Qualitative evaluation: participants were often demotivated to access the computer programs, by reason of depression. Some expressed the view that a greater level of therapeutic input would be needed to promote engagement. CONCLUSIONS: The benefits that have previously been observed in developer-led trials were not found in this large pragmatic RCT. The benefits of cCBT when added to routine primary care were minimal, and uptake of this mode of therapy was relatively low. There remains a clinical and economic need for effective low-intensity psychological treatments for depression with improved patient engagement. TRIAL REGISTRATION: This trial is registered as ISRCTN91947481. FUNDING: This project was funded by the National Institute for Health Research Health Technology Assessment programme.

Lovell, K., et al. (2017). "Clinical effectiveness, cost-effectiveness and acceptability of low-intensity interventions in the management of obsessive-compulsive disorder: the Obsessive-Compulsive Treatment Efficacy randomised controlled Trial (OCTET)." Health Technol Assess 21(37): 1-132.

BACKGROUND: The Obsessive-Compulsive Treatment Efficacy randomised controlled Trial emerged from a research recommendation in National Institute for Health and Care Excellence obsessive-compulsive disorder (OCD) guidelines, which specified the need to evaluate cognitive-behavioural therapy (CBT) treatment intensity formats. OBJECTIVES: To determine the clinical effectiveness and cost-effectiveness of two low-intensity CBT interventions [supported computerised cognitive-behavioural therapy (cCBT) and guided self-help]: (1) compared with waiting list for high-intensity CBT in adults with OCD at 3 months; and (2) plus high-intensity CBT compared with waiting list plus high-intensity CBT in adults with OCD at 12 months. To determine patient and professional acceptability of low-intensity CBT interventions. DESIGN: A three-arm, multicentre, randomised controlled trial. SETTING: Improving Access to Psychological Therapies services and primary/secondary care mental health services in 15 NHS trusts. PARTICIPANTS: Patients aged ≥ 18 years meeting Diagnostic and Statistical Manual of Mental Disorders-Fourth Edition criteria for OCD, on a waiting list for high-intensity CBT and scoring ≥ 16 on the Yale-Brown Obsessive Compulsive Scale (indicative of at least moderate severity OCD) and able to read English. INTERVENTIONS: Participants were randomised to (1) supported cCBT, (2) guided self-help or (3) a waiting list for high-intensity CBT. MAIN OUTCOME MEASURES: The primary outcome was OCD symptoms using the Yale-Brown Obsessive Compulsive Scale - Observer Rated. RESULTS: Patients were recruited from 14 NHS trusts between February 2011 and May 2014. Follow-up data collection was complete by May 2015. There were 475 patients randomised: supported cCBT (n = 158); guided self-help (n = 158) and waiting list for high-intensity CBT (n = 159). Two patients were excluded post randomisation (one supported cCBT and one waiting list for high-intensity CBT); therefore, data were analysed for 473 patients. In the short term, prior to accessing high-intensity CBT, guided self-help demonstrated statistically significant benefits over waiting list, but these benefits did not meet the prespecified criterion for clinical significance [adjusted mean difference -1.91, 95% confidence interval (CI) -3.27 to -0.55; p = 0.006]. Supported cCBT did not demonstrate any significant benefit (adjusted mean difference -0.71, 95% CI -2.12 to 0.70). In the longer term, access to guided self-help and supported cCBT, prior to high-intensity CBT, did not lead to differences in outcomes compared with access to high-intensity CBT alone. Access to guided self-help and supported cCBT led to significant reductions in the uptake of high-intensity CBT; this did not seem to

compromise patient outcomes at 12 months. Taking a decision-making approach, which focuses on which decision has a higher probability of being cost-effective, rather than the statistical significance of the results, there was little evidence that supported cCBT and guided self-help are cost-effective at the 3-month follow-up compared with a waiting list. However, by the 12-month follow-up, data suggested a greater probability of guided self-help being cost-effective than a waiting list from the health- and social-care perspective (60%) and the societal perspective (80%), and of supported cCBT being cost-effective compared with a waiting list from both perspectives (70%). Qualitative interviews found that guided self-help was more acceptable to patients than supported cCBT. Professionals acknowledged the advantages of low intensity interventions at a population level. No adverse events occurred during the trial that were deemed to be suspected or unexpected serious events. LIMITATIONS: A significant issue in the interpretation of the results concerns the high level of access to high-intensity CBT during the waiting list period. CONCLUSIONS: Although low-intensity interventions are not associated with clinically significant improvements in OCD symptoms, economic analysis over 12 months suggests that low-intensity interventions are cost-effective and may have an important role in OCD care pathways. Further research to enhance the clinical effectiveness of these interventions may be warranted, alongside research on how best to incorporate them into care pathways. TRIAL REGISTRATION: Current Controlled Trials ISRCTN73535163. FUNDING: This project was funded by the National Institute for Health Research (NIHR) Health Technology Assessment programme and will be published in full in Health Technology Assessment; Vol. 21, No. 37. See the NIHR Journals Library website for further project information.

Milne, D. and K. Souter (1988). "A re-evaluation of the clinical psychologist in general practice." J R Coll Gen Pract 38(315): 457-460.

Recent evaluations have questioned the early claims that psychologists make a valuable clinical contribution in general practice. In particular, it has been suggested that the promising outcomes have been the result of a 'worst year' phenomenon and that psychologists only slightly accelerate clinical improvement. This paper describes a small but relatively comprehensive evaluation of the work of a clinical psychologist. Analyses of economic and clinical data on 22 patients referred by the general practitioner indicated that the psychologist made a distinctive clinical contribution by improving personal coping strategies and reducing distress among patients with more chronic problems who did not show any such changes during a waiting list period. It is concluded that the recent negative evaluations of the clinical psychologist in general practice may have been misleading and premature.

Powell, J., et al. (2020). "Effectiveness and Cost-Effectiveness of a Self-Guided Internet Intervention for Social Anxiety Symptoms in a General Population Sample: Randomized Controlled Trial." J Med Internet Res 22(1): e16804.

BACKGROUND: Many people are accessing digital self-help for mental health problems, often with little evidence of effectiveness. Social anxiety is one of the most common sources of mental distress in the population, and many people with symptoms do not seek help for what represents a significant public health problem. OBJECTIVE: This study aimed to evaluate the effectiveness of a self-guided cognitive behavioral internet intervention for people with social anxiety symptoms in the general population. METHODS: We conducted a two-group randomized controlled trial in England between May 11, 2016, and June 27, 2018. Adults with social anxiety symptoms who were not receiving treatment for social anxiety were recruited using online advertisements. All participants had unrestricted access to usual care and were randomized in a 1:1 ratio to either a Web-based unguided self-help intervention based on cognitive behavioral principles or a waiting list control group. All outcomes were collected through self-report online questionnaires. The primary outcome was the change in 17-item Social Phobia Inventory (SPIN-17) score from baseline to 6 weeks using a linear mixed-effect model that used data from all time points (6 weeks, 3 months, 6 months, and 12 months). RESULTS: A total of 2122 participants were randomized, and 6 were excluded from analyses because they were ineligible. Of the 2116 eligible randomized participants (mean age 37 years; 80.24%, 1698/2116 women), 70.13% (1484/2116) had follow-up data available for analysis, and 56.95% (1205/2116) had data on the primary outcome, although attrition was higher in the intervention arm. At 6 weeks, the mean (95% CI) adjusted difference in change in SPIN-17 score in the intervention group compared with control was -1.94 (-3.13 to -0.75; P=.001), a standardized mean difference effect size of 0.2. The improvement was maintained at 12 months. Given the high dropout rate, sensitivity analyses explored missing data assumptions, with results that were consistent with those of the primary analysis. The economic evaluation demonstrated cost-effectiveness with a small health status benefit and a reduction in health service utilization. CONCLUSIONS: For people with social anxiety symptoms who are not receiving other forms of help, this study suggests that the use of an online self-help tool based on cognitive behavioral principles can provide a small improvement in social anxiety symptoms compared with no intervention, although dropout

rates were high. TRIAL REGISTRATION: ClinicalTrials.gov NCT02451878; https://clinicaltrials.gov/ct2/show/NCT02451878.

Schneider, J., et al. (2009). "Impact of supported employment on service costs and income of people with mental health needs." Journal of Mental Health 18(6): 533-542.

Background: A 12-month study of UK supported employment providers found that 77 (54.6%) of the participants in the study remained unemployed, 32 (22.7%) got jobs and 32 (22.7%) retained the jobs they held at the outset. Aims: To explore the impact of moving into employment on service use, earnings, benefits and tax allowances claimed. Methods: Service use and frequency were measured at baseline and 12 months. Comparisons paid particular attention to the differences between people entering work and those who remained unemployed. Costs were analysed from a government perspective (excluding earnings) and a societal perspective (excluding welfare benefits and taxes). Results: People who entered work reduced their consumption of mental health services ($p < 0.001$). However, use of supported employment increased ($p = 0.04$), in contrast to falling use by people who remained unemployed ($p < 0.001$) and those who had been working for more than one year ($p = 0.002$). The increase in earnings for those entering work ($p = 0.02$) was not offset by a similar reduction in benefits. Conclusion: This indicates that mental health services may make savings as a result of their clients engaging in paid work. It raises questions about the optimal nature and organization of employment support for this service user group.

Slade, M., et al. (2024). "Effectiveness and cost-effectiveness of online recorded recovery narratives in improving quality of life for people with non-psychotic mental health problems: A pragmatic randomized controlled trial." World Psychiatry 23(1): 101-112.

Narratives describing first-hand experiences of recovery from mental health problems are widely available. Emerging evidence suggests that engaging with mental health recovery narratives can benefit people experiencing mental health problems, but no randomized controlled trial has been conducted as yet. We developed the Narrative Experiences Online (NEON) Intervention, a web application providing self-guided and recommender systems access to a collection of recorded mental health recovery narratives (n=659). We investigated whether NEON Intervention access benefited adults experiencing non-psychotic mental health problems by conducting a pragmatic parallel-group randomized trial, with usual care as control condition. The primary endpoint was quality of life at week 52 assessed by the Manchester Short Assessment (MANSA). Secondary outcomes were psychological distress, hope, self-efficacy, and meaning in life at week 52. Between March 9, 2020 and March 26, 2021, we recruited 1,023 participants from across England (the target based on power analysis was 994), of whom 827 (80.8%) identified as White British, 811 (79.3%) were female, 586 (57.3%) were employed, and 272 (26.6%) were unemployed. Their mean age was 38.4 +/- 13.6 years. Mood and/or anxiety disorders (N = 626, 61.2%) and stress-related disorders (N = 152, 14.9%) were the most common mental health problems. At week 52, our intention-to-treat analysis found a significant baseline-adjusted difference of 0.13 (95% CI: 0.01-0.26, $p = 0.041$) in the MANSA score between the intervention and control groups, corresponding to a mean change of 1.56 scale points per participant, which indicates that the intervention increased quality of life. We also detected a significant baseline-adjusted difference of 0.22 (95% CI: 0.05-0.40, $p = 0.014$) between the groups in the score on the "presence of meaning" subscale of the Meaning in Life Questionnaire, corresponding to a mean change of 1.1 scale points per participant. We found an incremental gain of 0.0142 quality-adjusted life years (QALYs) (95% credible interval: 0.0059 to 0.0226) and a 178 incremental increase in cost (95% credible interval: -154 to 455) per participant, generating an incremental cost-effectiveness ratio of 12,526 per QALY compared with usual care. This was lower than the 20,000 per QALY threshold used by the National Health Service in England, indicating that the intervention would be a cost-effective use of health service resources. In the subgroup analysis including participants who had used specialist mental health services at baseline, the intervention both reduced cost (-98, 95% credible interval: -606 to 309) and improved QALYs (0.0165, 95% credible interval: 0.0057 to 0.0273) per participant as compared to usual care. We conclude that the NEON Intervention is an effective and cost-effective new intervention for people experiencing non-psychotic mental health problems. (PsycInfo Database Record (c) 2025 APA, all rights reserved)

Taylor, R., et al. (2014). An Economic Assessment of the Potential Benefits from Family Action Interventions for Women at Risk of Perinatal Depression, Pro Bono Economics.

Ullah, A., et al. (2025). "Cost-effectiveness of a group psychological intervention for postnatal depression in British south Asian women: An economic evaluation from the ROSHNI-2 trial." The Lancet Psychiatry 12(5): 334-344.

Background: Minority ethnic groups often face ethnocultural barriers in accessing mental health treatments. The ROSHNI-2 trial compared culturally adapted cognitive behavioural therapy (Positive Health Programme [PHP]) with treatment as usual for postnatal depression in British south Asian women. We aimed to assess the cost-effectiveness of the PHP intervention. Methods: The ROSHNI-2 trial was a multicentre, two-arm, assessor-blinded, randomised controlled trial; we conducted an economic evaluation over a 12-month period to assess the cost-effectiveness of PHP plus treatment as usual versus treatment as usual alone from the perspective of the English National Health Service and personal social services. In the trial, British south Asian women aged 16 years or older with a child aged up to 12 months, and meeting DSM-5 criteria for depression, were recruited from northwest England, Yorkshire, the East Midlands, and London. The PHP intervention involved 12 group sessions delivered by two trained bilingual facilitators, held once per week for 2 months and once per fortnight thereafter, each lasting 60-90 min. Questionnaires on depression symptoms, quality of life, and resource use were completed at baseline, 4 months (end of intervention), and 12 months after random assignment. Quality-adjusted life-years (QALYs) were used for the cost-utility analysis, and recovery from depression at 4 months (the primary clinical outcome), assessed using the Hamilton Rating Scale for Depression, informed the cost-effectiveness analysis. After the onset of the COVID-19 pandemic, the intervention was adapted for online delivery for the remaining participants. A stratified analysis compared the cost-effectiveness of online versus in-person delivery. The trial involved researchers with lived experience, and all methods, including health economic measures, were developed in consultation with service users, community members, and faith leaders. This is a preplanned analysis of the ROSHNI-2 trial, registered with ISRCTN (ISRCTN10697380). Findings: From Feb 8, 2017, to March 29, 2020, 732 eligible women were enrolled: 368 participants were randomly assigned to the PHP arm and 364 to the treatment as usual arm. The base-case intention-to-treat analysis showed that PHP significantly increased costs (712, 95% CI 311 to 1113) and QALYs (0.036, 95% CI 0.006 to 0.067), with an incremental cost-effectiveness ratio of 19 601 (7622 to 83 772). Based on the UK National Institute for Health and Care Excellence (NICE) maximum willingness-to-pay threshold of 30 000 per QALY, the likelihood of PHP being cost-effective was 77% from a health and social care perspective. Cost per remission from depression at the 4-month follow-up was 5509 (2916 to 17 860). In a stratified analysis of 34 participants attending online sessions during the pandemic, incremental QALY effects were 0.125 (0.048 to 0.203), resulting in costs of 202 (-3906 to 10 918) per additional QALY gained. Interpretation: The average cost of PHP for postpartum women was below the lower end of the NICE threshold of 20 000-30 000 per QALY, excluding benefits to the child or potential gains such as reduced lost productivity from early remission. PHP, a culturally adapted group cognitive behavioural therapy-based intervention, might be a cost-effective intervention for postnatal depression in British south Asian women. Online PHP delivery showed promising clinical and cost-effective results for this group but requires a large-scale study. (PsycInfo Database Record (c) 2025 APA, all rights reserved)

Wright, B., et al. (2017). "Computerised cognitive-behavioural therapy for depression in adolescents: feasibility results and 4-month outcomes of a UK randomised controlled trial." BMJ open 7(1): e012834.

OBJECTIVES: Computer-administered cognitive-behavioural therapy (CCBT) may be a promising treatment for adolescents with depression, particularly due to its increased availability and accessibility. The feasibility of delivering a randomised controlled trial (RCT) comparing a CCBT program (Stressbusters) with an attention control (self-help websites) for adolescent depression was evaluated. DESIGN: Single centre RCT feasibility study. SETTING: The trial was run within community and clinical settings in York, UK. PARTICIPANTS: Adolescents (aged 12-18) with low mood/depression were assessed for eligibility, 91 of whom met the inclusion criteria and were consented and randomised to Stressbusters (n=45) or websites (n=46) using remote computerised single allocation. Those with comorbid physical illness were included but those with psychosis, active suicidality or postnatal depression were not. INTERVENTIONS: An eight-session CCBT program (Stressbusters) designed for use with adolescents with low mood/depression was compared with an attention control (accessing low mood self-help websites). PRIMARY AND SECONDARY OUTCOME MEASURES: Participants completed mood and quality of life measures and a service Use Questionnaire throughout completion of the trial and 4 months post intervention. Measures included the Beck Depression Inventory (BDI) (primary outcome measure), Mood and Feelings Questionnaire (MFQ), Spence Children's Anxiety Scale (SCAS), the EuroQol five dimensions questionnaire (youth) (EQ-5D-Y) and Health Utility Index Mark 2 (HUI-2). Changes in self-reported measures and completion rates were assessed by treatment group. RESULTS: From baseline to 4 months post intervention, BDI scores and MFQ scores decreased for the Stressbusters group but increased in the website group. Quality of life, as measured by the EQ-5D-Y, increased for both groups while costs at 4 months were similar to baseline. Good feasibility outcomes were found, suggesting the trial process to be feasible and acceptable for adolescents with depression. CONCLUSIONS: With modifications, a fully powered RCT is achievable to

investigate a promising treatment for adolescent depression in a climate where child mental health service resources are limited. TRIAL REGISTRATION NUMBER: ISRCTN31219579.

Wu, Q., et al. (2020). "Cost-effectiveness of different formats for delivery of cognitive behavioral therapy for depression: A systematic review based economic model." Value in Health 23(12): 1662-1670.

Objectives: Cognitive behavioral therapy (CBT) is an effective treatment for depression. Different CBT delivery formats (face-to-face [F2F], multimedia, and hybrid) and intensities have been used to expand access to the treatment. The aim of this study is to estimate the long-term cost-effectiveness of different CBT delivery modes. Methods: A decision-analytic model was developed to evaluate the cost-effectiveness of different CBT delivery modes and variations in intensity in comparison with treatment as usual (TAU). The model covered an average treatment period of 4 months with a 5-year follow-up period. The model was populated using a systematic review of randomized controlled trials and various sources from the literature. Results: Incremental cost-effectiveness ratios of treatments compared with the next best option after excluding all the dominated and extended dominated options are: 209/quality-adjusted life year (QALY) for 6 (sessions) x 30 (minutes) F2F-CBT versus TAU; 4 453/QALY for 8 x 30 F2F versus 6 x 30 F2F; 12 216/QALY for 8 x 60 F2F versus 8 x 30 F2F; and 43 072/QALY for 16 x 60 F2F versus 8 x 60 F2F. The treatment with the highest net monetary benefit for thresholds of 20 000 to 30 000/QALY was 8 x 30 F2F-CBT. Probabilistic sensitivity analysis illustrated 6 x 30 F2F-CBT had the highest probability (32.8%) of being cost-effective at 20 000/QALY; 16 x 60 F2F-CBT had the highest probability (31.0%) at 30 000/QALY. Conclusions: All CBT delivery modes on top of TAU were found to be more cost-effective than TAU alone. Four F2F-CBT options (6 x 30, 8 x 30, 8 x 60, 16 x 60) are on the cost-effectiveness frontier. F2F-CBT with intensities of 6 x 30 and 16 x 60 had the highest probabilities of being cost-effective. The results, however, should be interpreted with caution owing to the high level of uncertainty. (PsycInfo Database Record (c) 2021 APA, all rights reserved)

Wykes, T., et al. (2023). "Cognitive Remediation Works But How Should We Provide It? An Adaptive Randomized Controlled Trial of Delivery Methods Using a Patient Nominated Recovery Outcome in First-Episode Participants." Schizophrenia Bulletin 49(3): 614-625.

BACKGROUND AND HYPOTHESIS: Cognitive remediation (CR) benefits cognition and functioning in psychosis but we do not know the optimal level of therapist contact, so we evaluated the potential benefits of different CR modes., STUDY DESIGN: A multi-arm, multi-center, single-blinded, adaptive trial of therapist-supported CR. Participants from 11 NHS early intervention psychosis services were independently randomized to Independent, Group, One-to-One, or Treatment-as-usual (TAU). The primary outcome was functional recovery (Goal Attainment Scale [GAS]) at 15-weeks post randomization. Independent and TAU arms were closed after an interim analysis, and three informative contrasts tested (Group vs One-to-One, Independent vs TAU, Group + One-to-One vs TAU). Health economic analyses considered the cost per Quality Adjusted Life Year (QALY). All analyses used intention-to-treat principles., STUDY RESULTS: We analyzed 377 participants (65 Independent, 134 Group, 112 One-to-One, 66 TAU). GAS did not differ for Group vs One-to-One: Cohen's d: 0.07, -0.25 to 0.40 95% CI, P = .655; Independent vs TAU: Cohen's d: 0.07, -0.41 to 0.55 95% CI, P = .777. GAS and the cognitive score improved for Group + One-to-One vs TAU favoring CR (GAS: Cohen's d: 0.57, 0.19-0.96 95% CI, P = .003; Cognitive score: Cohens d: 0.28, 0.07-0.48 95% CI, P = .008). The QALY costs were 4306 for Group vs TAU and 3170 for One-to-One vs TAU. Adverse events did not differ between treatment methods and no serious adverse events were related to treatment., CONCLUSIONS: Both active therapist methods provided cost-effective treatment benefiting functional recovery in early psychosis and should be adopted within services. Some individuals benefited more than others so needs further investigation., TRIAL REGISTRATION: ISRCTN14678860 https://doi.org/10.1186/ISRCTN14678860Now closed.

UK Studies primarily with some limited impacts on outpatient contacts only or without sufficient information for categorisation.

Brown, J. S., et al. (2011). "Outcome, costs and patient engagement for group and individual CBT for depression: a naturalistic clinical study." Behav Cogn Psychother 39(3): 355-358.

BACKGROUND AND METHOD: This naturalistic study was undertaken in routine settings and compared the clinical effectiveness, costs, treatment preference, attrition and patient satisfaction of Group and Individual CBT. RESULTS: No significant differences were found in depressive and distress symptoms between group and individual CBT at post-treatment and follow-up. Individual CBT was 1.5 times more expensive to provide than Group CBT and the wider costs of other supports were similar between study arms suggesting a cost-

effectiveness advantage for Group CBT. Patients preferred individual treatment at baseline but, despite this, there were no between-group differences in attrition or satisfaction. CONCLUSION: A larger RCT study is needed, but running CBT groups for depression could be considered more frequently by clinicians.

Delgadillo, J., et al. (2021). "Cost-effectiveness of feedback-informed psychological treatment: Evidence from the IAPT-FIT trial." Behaviour research and therapy 142: 103873.

BACKGROUND: Feedback-informed treatment (FIT) involves using computerized routine outcome monitoring technology to alert therapists to cases that are not responding well to psychotherapy, prompting them to identify and resolve obstacles to improvement. In this study, we present the first health economic evaluation of FIT, compared to usual care, to enable decision makers to judge whether this approach represents a good investment for health systems., METHODS: This randomised controlled trial included 2233 patients clustered within 77 therapists who were randomly assigned to a FIT group (n = 1176) or a usual care control group (n = 1057). Treatment response was monitored using patient-reported depression (PHQ-9) and anxiety (GAD-7) measures. Therapists in the FIT group had access to a computerized algorithm that alerted them to cases that were "not on track", compared to normative clinical data. Health service costs included the cost of training therapists to use FIT and the cost of therapy sessions in each arm. The incremental cost-effectiveness of FIT was assessed relative to usual care, using multilevel modelling., RESULTS: FIT was associated with an increased probability of reliable symptomatic improvement by 8.09 percentage points (95% CI: 4.16%-12.03%) which was statistically significant. The incremental cost of FIT was 15.17 (95% CI: 6.95 to 37.29) per patient and was not statistically significant. The incremental cost-effectiveness ratio (ICER) per additional case of reliable improvement was 187.4 (95% CI: 126.7 to 501.5); this confidence interval shows that the relative cost-effectiveness is between FIT being a dominant strategy (i.e. more effective and also cost-saving) to FIT being more effective at a modest incremental cost to the health system., CONCLUSIONS: The FIT strategy increases the probability of reliable improvement in routine clinical practice and may be associated with a small (but uncertain) incremental cost. FIT is likely to be a cost-effective strategy for mental health services.

Deloitte (2017). Individual Placement and Support Programme - Economic Impact Assessment. Scottish Association for Mental Health. London, Deloitte.

This report provides findings from an economic impact assessment of the IPS services provided by the Scottish Association for Mental Health in 2016.

Ekers, D., et al. (2011). "Cost utility of behavioural activation delivered by the non-specialist." Br J Psychiatry 199(6): 510-511.

Behavioural activation by non-specialists appears effective in the treatment of depression. We examined incremental cost-effectiveness of behavioural activation (n = 24) v. treatment as usual (n = 23) in a randomised controlled trial. Intention-to-treat analyses indicated a quality-adjusted life-year (QALY) difference in favour of behavioural activation of 0.20 (95% CI 0.01-0.39, P = 0.042), incremental cost-effectiveness ratio of £5756 per QALY and a 97% probability that behavioural activation is more cost-effective at a threshold value of £20,000. Results are promising for dissemination of behavioural activation but require replication in a larger study.

Forder, J. and K. Jones (2014). Evaluation of the personal health budget pilot programme. Debates in Personalisation, Policy Press: 125-132.

Gega, L., et al. (2022). "Digital interventions in mental health: evidence syntheses and economic modelling." Health Technol Assess 26(1): 1-182.

BACKGROUND: Economic evaluations provide evidence on whether or not digital interventions offer value for money, based on their costs and outcomes relative to the costs and outcomes of alternatives. OBJECTIVES: (1) Evaluate and summarise published economic studies about digital interventions across different technologies, therapies, comparators and mental health conditions; (2) synthesise clinical evidence about digital interventions for an exemplar mental health condition; (3) construct an economic model for the same exemplar mental health condition using the previously synthesised clinical evidence; and (4) consult with stakeholders about how they understand and assess the value of digital interventions. METHODS: We completed four work packages: (1) a systematic review and quality assessment of economic studies about digital interventions; (2) a systematic review and network meta-analysis of randomised controlled trials on digital interventions for generalised anxiety disorder; (3) an economic model and value-of-information analysis on digital interventions for generalised anxiety disorder; and (4) a series of knowledge exchange face-to-face and digital seminars with stakeholders. RESULTS: In work package 1, we reviewed 76 economic evaluations: 11 economic models and 65

within-trial analyses. Although the results of the studies are not directly comparable because they used different methods, the overall picture suggests that digital interventions are likely to be cost-effective, compared with no intervention and non-therapeutic controls, whereas the value of digital interventions compared with face-to-face therapy or printed manuals is unclear. In work package 2, we carried out two network meta-analyses of 20 randomised controlled trials of digital interventions for generalised anxiety disorder with a total of 2350 participants. The results were used to inform our economic model, but when considered on their own they were inconclusive because of the very wide confidence intervals. In work package 3, our decision-analytic model found that digital interventions for generalised anxiety disorder were associated with lower net monetary benefit than medication and face-to-face therapy, but greater net monetary benefit than non-therapeutic controls and no intervention. Value for money was driven by clinical outcomes rather than by intervention costs, and a value-of-information analysis suggested that uncertainty in the treatment effect had the greatest value (£12.9B). In work package 4, stakeholders identified several areas of benefits and costs of digital interventions that are important to them, including safety, sustainability and reducing waiting times. Four factors may influence their decisions to use digital interventions, other than costs and outcomes: increasing patient choice, reaching underserved populations, enabling continuous care and accepting the 'inevitability of going digital'. LIMITATIONS: There was substantial uncertainty around effect estimates of digital interventions compared with alternatives. This uncertainty was driven by the small number of studies informing most comparisons, the small samples in some of these studies and the studies' high risk of bias. CONCLUSIONS: Digital interventions may offer good value for money as an alternative to 'doing nothing' or 'doing something non-therapeutic' (e.g. monitoring or having a general discussion), but their added value compared with medication, face-to-face therapy and printed manuals is uncertain. Clinical outcomes rather than intervention costs drive 'value for money'. FUTURE WORK: There is a need to develop digital interventions that are more effective, rather than just cheaper, than their alternatives. STUDY REGISTRATION: This study is registered as PROSPERO CRD42018105837. FUNDING: This project was funded by the National Institute for Health Research (NIHR) Health Technology Assessment programme and will be published in full in Health Technology Assessment; Vol. 26, No. 1. See the NIHR Journals Library website for further project information.

Digital interventions are activities accessed via technology platforms (e.g. computers, smartphones and virtual reality) that can improve users' mental health and reduce addiction problems. To assess whether or not digital interventions offer 'value for money', we needed to compare their costs and outcomes with the costs and outcomes of alternatives, such as face-to-face therapy and medication. This was done through economic evaluations. This project consisted of four work packages. In work package 1, we reviewed 76 published economic evaluations of digital interventions for different mental health and addiction problems. We could not directly compare their results because of differences in the methods that were used, but the overall picture suggested that digital interventions could offer good value for money as an alternative to 'doing nothing' or simply monitoring someone or giving them general information. The picture was unclear when digital interventions were compared with face-to-face therapy. In work package 2, we pooled research studies that evaluated the outcomes of digital interventions in reducing anxiety and worry; the results were inconclusive because we were uncertain about the differences in outcomes between digital interventions and alternatives. In work package 3, an economic model suggested that value for money in digital interventions is driven by how good they are and not by how much they cost. In work package 4, we presented our methods and results to service users, mental health professionals and researchers who wanted to know more about the value of digital interventions for specific groups (e.g. children and older adults) and for outcomes other than reducing symptoms (e.g. reducing waiting times for treatment and improving attendance for therapy). Finally, the stakeholders highlighted four factors that may influence their decisions to use digital interventions, other than costs and outcomes: increasing choice, reaching underserved populations, enabling continuous care and accepting the 'inevitability of going digital'.

Glendinning, C., et al. (2008). "Evaluation of the individual budgets pilot programme." Final Report. York: Social Policy Research Unit, University of York.

Hewitt, C., et al. (2009). "Methods to identify postnatal depression in primary care: an integrated evidence synthesis and value of information analysis." Health Technol Assess 13(36): 1-145, 147-230.

OBJECTIVES: To provide an overview of methods to identify postnatal depression (PND) in primary care and to assess their validity, acceptability, clinical effectiveness and cost-effectiveness, to model estimates of cost, to assess whether any method meets UK National Screening Committee (NSC) criteria and to identify areas for future research. DATA SOURCES: Searches of 20 electronic databases (including MEDLINE, CINAHL, PsycINFO, EMBASE, CENTRAL, DARE and CDSR), forward citation searching, personal communication with authors and searching of reference lists. REVIEW METHODS: A generalised linear mixed model approach to the

bivariate meta-analysis was undertaken for the validation review with quality assessment using QUADAS. Within the acceptability review, a textual narrative approach was employed to synthesise qualitative and quantitative research evidence. For the clinical and cost-effectiveness reviews methods outlined by the Centre for Reviews and Dissemination and the Cochrane Collaboration were followed. Probabilistic models were developed to estimate the costs associated with different identification strategies. RESULTS: The Edinburgh Postnatal Depression Scale (EPDS) was the most frequently explored instrument across all of the reviews. In terms of test performance, postnatally the EPDS performed reasonably well: sensitivity ranged from 0.60 (specificity 0.97) to 0.96 (specificity 0.45) for major depression only; from 0.31 (specificity 0.99) to 0.91 (specificity 0.67) for major or minor depression; and from 0.38 (specificity 0.99) to 0.86 (specificity 0.87) for any psychiatric disorder. Evidence from the acceptability review indicated that, in the majority of studies, the EPDS was acceptable to women and health-care professionals when women were forewarned of the process, when the EPDS was administered in the home, with due attention to training, with empathetic skills of the health visitor and due consideration to positive responses to question 10 about self-harm. Suggestive evidence from the clinical effectiveness review indicated that use of the EPDS, compared with usual care, may lead to reductions in the number of women with depression scores above a threshold. In the absence of existing cost-effectiveness studies of PND identification strategies, a decision-analytic model was developed. The results of the base-case analysis suggested that use of formal identification strategies did not appear to represent value for money, based on conventional thresholds of cost-effectiveness used in the NHS. However, the scenarios considered demonstrated that this conclusion was primarily driven by the costs of false positives assumed in the base-case model. CONCLUSIONS: In light of the results of our evidence synthesis and decision modelling we revisited the examination of PND screening against five of the NSC criteria. We found that the accepted criteria for a PND screening programme were not currently met. The evidence suggested that there is a simple, safe, precise and validated screening test, in principle a suitable cut-off level could be defined and that the test is acceptable to the population. Evidence surrounding clinical and cost-effectiveness of methods to identify PND is lacking. Further research should aim to identify the optimal identification strategy, in terms of key psychometric properties for postnatal populations. In particular, research comparing the performance of the Whooley and help questions, the EPDS and a generic depression measure would be informative. It would also be informative to identify the natural history of PND over time and to identify the clinical effectiveness of the most valid and acceptable method to identify postnatal depression. Further research within a randomised controlled trial would provide robust estimates of the clinical effectiveness.

Holman, A. J., et al. (2011). "Cost-effectiveness of cognitive behaviour therapy versus talking and usual care for depressed older people in primary care." BMC Health Serv Res 11: 33.

BACKGROUND: Whilst evidence suggests cognitive behaviour therapy (CBT) may be effective for depressed older people in a primary care setting, few studies have examined its cost-effectiveness. The aim of this study was to compare the cost-effectiveness of cognitive behaviour therapy (CBT), a talking control (TC) and treatment as usual (TAU), delivered in a primary care setting, for older people with depression. METHODS: Cost data generated from a single blind randomised controlled trial of 204 people aged 65 years or more were offered only Treatment as Usual, or TAU plus up to twelve sessions of CBT or a talking control is presented. The Beck Depression Inventory II (BDI-II) was the main outcome measure for depression. Direct treatment costs were compared with reductions in depression scores. Cost-effectiveness analysis was conducted using non-parametric bootstrapping. The primary analysis focussed on the cost-effectiveness of CBT compared with TAU at 10 months follow up. RESULTS: Complete cost data were available for 198 patients at 4 and 10 month follow up. There were no significant differences between groups in baseline costs. The majority of health service contacts at follow up were made with general practitioners. Fewer contacts with mental health services were recorded in patients allocated to CBT, though these differences were not significant. Overall total per patient costs (including intervention costs) were significantly higher in the CBT group compared with the TAU group at 10 month follow up (difference £427, 95% CI: £56 - £787, $p < 0.001$). Reductions in BDI-II scores were significantly greater in the CBT group (difference 3.6 points, 95% CI: 0.7-6.5 points, $p = 0.018$). CBT is associated with an incremental cost of £120 per additional point reduction in BDI score and a 90% probability of being considered cost-effective if purchasers are willing to pay up to £270 per point reduction in the BDI-II score. CONCLUSIONS: CBT is significantly more costly than TAU alone or TAU plus TC, but more clinically effective. Based on current estimates, CBT is likely to be recommended as a cost-effective treatment option for this patient group if the value placed on a unit reduction in BDI-II is greater than £115. TRIAL REGISTRATION: isrctn.org Identifier: ISRCTN18271323.

Koeser, L., et al. (2013). "Economic evaluation of audio based resilience training for depression in primary care." J Affect Disord 149(1-3): 307-312.

BACKGROUND: Although there is some evidence on the effectiveness and cost-effectiveness of computerised cognitive behavioural therapy (CCBT) for treating anxiety and depression in primary care, alternative low-cost psychosocial interventions have not been investigated. METHODS: The cost-effectiveness of an audio based resilience training (Positive Mental Training, PosMT) was examined using a decision model. Patient level cost and effectiveness data from a trial comparing a CCBT treatment and usual care and effectiveness data from a study on PosMT were used to inform this. RESULTS: Net benefits of CCBT and PosMT were approximately equal in individuals with 'moderate' depression at baseline and markedly in favour of PosMT for the 'severe' depression subgroup. With only four observations in the 'mild' depression category for PosMT, the existing evidence base remains unaltered. LIMITATIONS: Efficacy data for the PosMT arm was derived from a study using a partially randomised preference design and the model structure contains simplifications due to lack of data availability. CONCLUSION: PosMT may represent good value for money in treatment of depression for certain groups of patients. More research in this area may be warranted.

Lambert, R. A., et al. (2010). "Cost-effectiveness analysis of an occupational therapy-led lifestyle approach and routine general practitioner's care for panic disorder." Soc Psychiatry Psychiatr Epidemiol 45(7): 741-750.

OBJECTIVE: To assess the cost-effectiveness of an occupational therapy-led lifestyle approach to treating panic disorder in primary care compared with routine general practitioner's (GP) care. The burden of mental health disorders is considerable. Cost-effective interventions are necessary to alleviate some of these burdens. Habitual lifestyle behaviours influence mood, although to date mainly single lifestyle factor trials have been conducted to examine the effects on anxiety. METHODS: An economic evaluation was conducted alongside an unblinded pragmatic randomised controlled trial with assessment at 5 and 10 months. Costs and consequences, as measured by the Beck anxiety inventory (BAI) and quality adjusted life years (QALYs), were compared using incremental cost-effectiveness ratios (ICERs). RESULTS: The occupational therapy-led lifestyle intervention was more costly than routine GP care at both 5 and 10 months. Significant outcome improvements were evident at 5 months when using the BAI, although these were not maintained at 10 months. Small differences in mean QALYs were found. The estimated ICER was 36 pounds per BAI improvement for 5 months and 39 pounds for 10 months, and 18,905 pounds per QALY gained for 5 months and 8,283 pounds for 10 months. CONCLUSIONS: If the maximum willingness to pay per additional QALY is 30,000 pounds, then there is an 86% chance that a lifestyle intervention may be considered to be value-for-money over 10 months.

Lewis, H., et al. (2017). "CollAborative care and active surveillance for Screen-Positive EldeRs with subthreshold depression (CASPER): a multicentred randomised controlled trial of clinical effectiveness and cost-effectiveness." Health Technol Assess 21(8): 1-196.

BACKGROUND: Efforts to reduce the burden of illness and personal suffering associated with depression in older adults have focused on those with more severe depressive syndromes. Less attention has been paid to those with mild disorders/subthreshold depression, but these patients also suffer significant impairments in their quality of life and level of functioning. There is currently no clear evidence-based guidance regarding treatment for this patient group. OBJECTIVES: To establish the clinical effectiveness and cost-effectiveness of a low-intensity intervention of collaborative care for primary care older adults who screened positive for subthreshold depression. DESIGN: A pragmatic, multicentred, two-arm, parallel, individually randomised controlled trial with a qualitative study embedded within the pilot. Randomisation occurred after informed consent and baseline measures were collected. SETTING: Thirty-two general practitioner (GP) practices in the north of England. PARTICIPANTS: A total of 705 participants aged ≥ 75 years during the pilot phase and ≥ 65 years during the main trial with subthreshold depression. INTERVENTIONS: Participants in the intervention group received a low-intensity intervention of collaborative care, which included behavioural activation delivered by a case manager for an average of six sessions over 7-8 weeks, alongside usual GP care. Control-arm participants received only usual GP care. MAIN OUTCOME MEASURES: The primary outcome measure was a self-reported measure of depression severity, the Patient Health Questionnaire-9 items PHQ-9 score at 4 months post randomisation. Secondary outcome measures included the European Quality of Life-5 Dimensions, Short Form questionnaire-12 items, Patient Health Questionnaire-15 items, Generalised Anxiety Disorder seven-item scale, Connor-Davidson Resilience Scale two-item version, a medication questionnaire and objective data. Participants were followed up for 12 months. RESULTS: In total, 705 participants were randomised (collaborative care n = 344, usual care n = 361), with 586 participants (83%; collaborative care 76%, usual care 90%) followed up at 4 months and 519 participants (74%; collaborative care 68%, usual care 79%) followed up at 12 months. Attrition was markedly greater in the collaborative care arm. Model estimates at the primary end point of 4 months revealed a statistically significant effect in favour of collaborative care compared with usual care [mean difference 1.31 score points,

95% confidence interval (CI) 0.67 to 1.95 score points; p < 0.001]. The difference equates to a standard effect size of 0.30, for which the trial was powered. Treatment differences measured by the PHQ-9 were maintained at 12 months' follow-up (mean difference 1.33 score points, 95% CI 0.55 to 2.10 score points; p = 0.001). Base-case cost-effectiveness analysis found that the incremental cost-effectiveness ratio was £9633 per quality-adjusted life-year (QALY). On average, participants allocated to collaborative care displayed significantly higher QALYs than those allocated to the control group (annual difference in adjusted QALYs of 0.044, 95% bias-corrected CI 0.015 to 0.072; p = 0.003). CONCLUSIONS: Collaborative care has been shown to be clinically effective and cost-effective for older adults with subthreshold depression and to reduce the proportion of people who go on to develop case-level depression at 12 months. This intervention could feasibly be delivered in the NHS at an acceptable cost-benefit ratio. Important future work would include investigating the longer-term effect of collaborative care on the CASPER population, which could be conducted by introducing an extension to follow-up, and investigating the impact of collaborative care on managing multimorbidities in people with subthreshold depression. TRIAL REGISTRATION: Current Controlled Trials ISRCTN02202951. FUNDING: This project was funded by the National Institute for Health Research (NIHR) Health Technology Assessment programme and will be published in full in Health Technology Assessment; Vol. 21, No. 8. See the NIHR Journals Library website for further project information.

Lobban, F., et al. (2020). "Clinical effectiveness of a web-based peer-supported self-management intervention for relatives of people with psychosis or bipolar (REACT): online, observer-blind, randomised controlled superiority trial." BMC Psychiatry 20(1): 160.

BACKGROUND: The Relatives Education And Coping Toolkit (REACT) is an online supported self-management toolkit for relatives of people with psychosis or bipolar designed to improve access to NICE recommended information and emotional support. AIMS: Our aim was to determine clinical and cost-effectiveness of REACT including a Resource Directory (RD), versus RD-only. METHODS: A primarily online, observer-blind randomised controlled trial comparing REACT (including RD) with RD only (registration ISRCTN72019945). Participants were UK relatives aged > = 16, with high distress (assessed using the GHQ-28), and actively help-seeking, individually randomised, and assessed online. Primary outcome was relatives' distress (GHQ-28) at 24 weeks. Secondary outcomes were wellbeing, support, costs and user feedback. RESULTS: We recruited 800 relatives (REACT = 399; RD only = 401) with high distress at baseline (GHQ-28 REACT mean 40.3, SD 14.6; RD only mean 40.0, SD 14.0). Median time spent online on REACT was 50.8 min (IQR 12.4-172.1) versus 0.5 min (IQR 0-1.6) on RD only. Retention to primary follow-up (24 weeks) was 75% (REACT n = 292 (73.2%); RD-only n = 307 (76.6%)). Distress decreased in both groups by 24 weeks, with no significant difference between the two groups (- 1.39, 95% CI -3.60, 0.83, p = 0.22). Estimated cost of delivering REACT was £62.27 per person and users reported finding it safe, acceptable and convenient. There were no adverse events or reported side effects. CONCLUSIONS: REACT is an inexpensive, acceptable, and safe way to deliver NICE-recommended support for relatives. However, for highly distressed relatives it is no more effective in reducing distress (GHQ-28) than a comprehensive online resource directory. TRIAL REGISTRATION: ISRCTN72019945 prospectively registered 19/11/2015.

Lobban, F., et al. (2020). "A web-based, peer-supported self-management intervention to reduce distress in relatives of people with psychosis or bipolar disorder: the REACT RCT." Health Technol Assess 24(32): 1-142.

BACKGROUND: Relatives caring for people with severe mental health problems find information and emotional support hard to access. Online support for self-management offers a potential solution. OBJECTIVE: The objective was to determine the clinical effectiveness and cost-effectiveness of an online supported self-management tool for relatives: the Relatives' Education And Coping Toolkit (REACT). DESIGN AND SETTING: This was a primarily online (UK), single-blind, randomised controlled trial, comparing REACT plus a resource directory and treatment as usual with the resource directory and treatment as usual only, by measuring user distress and other well-being measures at baseline and at 12 and 24 weeks. PARTICIPANTS: A total of 800 relatives of people with severe mental health problems across the UK took part; relatives who were aged ≥ 16 years, were experiencing high levels of distress, had access to the internet and were actively seeking help were recruited. INTERVENTION: REACT comprised 12 psychoeducation modules, peer support through a group forum, confidential messaging and a comprehensive resource directory of national support. Trained relatives moderated the forum and responded to messages. MAIN OUTCOME MEASURE: The main outcome was the level of participants' distress, as measured by the General Health Questionnaire-28 items. RESULTS: Various online and offline strategies, including social media, directed potential participants to the website. Participants were randomised to one of two arms: REACT plus the resource directory (n = 399) or the resource directory only (n = 401). Retention at 24 weeks was 75% (REACT arm, n = 292; resource directory-only arm, n = 307). The mean

scores for the General Health Questionnaire-28 items reduced substantially across both arms over 24 weeks, from 40.2 (standard deviation 14.3) to 30.5 (standard deviation 15.6), with no significant difference between arms (mean difference -1.39, 95% confidence interval -3.60 to 0.83; p = 0.22). At 12 weeks, the General Health Questionnaire-28 items scores were lower in the REACT arm than in the resource directory-only arm (-2.08, 95% confidence interval -4.14 to -0.03; p = 0.027), but this finding is likely to be of limited clinical significance. Accounting for missing data, which were associated with higher distress in the REACT arm (0.33, 95% confidence interval -0.27 to 0.93; p = 0.279), in a longitudinal model, there was no significant difference between arms over 24 weeks (-0.56, 95% confidence interval -2.34 to 1.22; p = 0.51). REACT cost £142.95 per participant to design and deliver (£62.27 for delivery only), compared with £0.84 for the resource directory only. A health economic analysis of NHS, health and Personal Social Services outcomes found that REACT has higher costs (£286.77), slightly better General Health Questionnaire-28 items scores (incremental General Health Questionnaire-28 items score adjusted for baseline, age and gender: -1.152, 95% confidence interval -3.370 to 1.065) and slightly lower quality-adjusted life-year gains than the resource directory only; none of these differences was statistically significant. The median time spent online was 50.8 minutes (interquartile range 12.4-172.1 minutes) for REACT, with no significant association with outcome. Participants reported finding REACT a safe, confidential environment (96%) and reported feeling supported by the forum (89%) and the REACT supporters (86%). No serious adverse events were reported. LIMITATIONS: The sample comprised predominantly white British females, 25% of participants were lost to follow-up and dropout in the REACT arm was not random. CONCLUSIONS: An online self-management support toolkit with a moderated group forum is acceptable to relatives and, compared with face-to-face programmes, offers inexpensive, safe delivery of National Institute for Health and Care Excellence-recommended support to engage relatives as peers in care delivery. However, currently, REACT plus the resource directory is no more effective at reducing relatives' distress than the resource directory only. FUTURE WORK: Further research in improving the effectiveness of online carer support interventions is required. TRIAL REGISTRATION: Current Controlled Trials ISRCTN72019945. FUNDING: This project was funded by the National Institute for Health Research (NIHR) Health Technology Assessment programme and will be published in full in Health Technology Assessment; Vol. 24, No. 32. See the NIHR Journals Library website for further project information.

Relatives of people with severe mental health problems need better access to information and emotional support. The Relatives' Education And Coping Toolkit (REACT) is a website designed to do this. It includes lots of information presented in text and video, an online forum for relatives to share knowledge and experience, a messaging system where they can ask questions in confidence and a comprehensive directory of contact details for national organisations offering relevant support. Trained relatives support the forum and messaging. In the UK, we recruited 800 relatives of people with severe mental health problems: all were aged ≥ 16 years, had high levels of distress, had access to the internet and wanted help. We divided them into two equal groups: one group received REACT (including the resource directory), whereas the other group received the resource directory only. To ensure that there were no differences between groups at the start, relatives were allocated to the two groups randomly, so they had an equal chance of being in either group. We followed up with both groups at 12 and 24 weeks, and received data from approximately three-quarters of the participants. This trial found that REACT was acceptable, safe and inexpensive to deliver (£62.27 per relative), compared with face-to-face interventions, and that relatives using it felt well supported. However, once we accounted for missing data (relatives who dropped out of the trial or did not complete the follow-up questionnaires), there were no significant differences between the groups. There was no evidence that REACT increased relatives' quality of life or saved money for the NHS.

Lord, J. and S. Paisley (2000). The clinical effectiveness and cost-effectiveness of methylphenidate for hyperactivity in childhood, National Institute for Clinical Excellence.

MacArthur, C., et al. (2003). "Redesigning postnatal care: a randomised controlled trial of protocol-based midwifery-led care focused on individual women's physical and psychological health needs." Health Technol Assess 7(37): 1-98.

OBJECTIVES: To develop, implement and test the cost-effectiveness of redesigned postnatal care compared with current care on women's physical and psychological health. DESIGN: A cluster randomised controlled trial, with general practice as the unit of randomisation. Recruited women were followed up by postal questionnaire at 4 and 12 months postpartum and further data collected from midwife and general practice sources. SETTING: Thirty-six randomly selected general practice clusters in the West Midlands Health Region, UK. PARTICIPANTS: All women expected to be resident within recruited practices for postnatal care were eligible for inclusion. Attached midwives recruited 1087 women in the intervention and 977 in the control practice clusters. INTERVENTIONS: The systematic identification and management of women's health problems, led by midwives

with general practitioner contact only when required. Symptom checklists and the Edinburgh Postnatal Depression Scale (EPDS) were used at various times to maximise the identification of problems, and individual care and visit plans based on needs. Evidence-based guidelines were used to manage needs. Care was delivered over a longer period. MAIN OUTCOME MEASURES: Women's health at 4 and 12 months, assessed by the Physical and Mental Component Scores (PCS and MCS) of the Short-Form 36 (SF-36) and the EPDS. Women's views about care, reported morbidity at 12 months, health service usage during the year, 'good practice' indicators and health professionals' views about care were secondary outcomes. RESULTS: At 4 and 12 months postpartum the mean MCS and EPDS scores were significantly better in the intervention group and the proportion of women with an EPDS score of 13+ (indicative of probable depression) was significantly lower relative to controls. The physical health score (PCS) did not differ. Health service usage was significantly less in the intervention group as well as reported psychological morbidity at 12 months. Women's views about care were either more positive or did not differ. Intervention midwives were more satisfied with redesigned care than control midwives were with standard care. Intervention care was cost-effective since outcomes were better and costs did not differ substantially. CONCLUSIONS: The redesigned community postnatal care led by midwives and delivered over a longer period, resulted in an improvement in women's mental health at 4 months postpartum, which persisted at 12 months and at equivalent overall cost. It is suggested that further research should focus on: the identification of postnatal depression through screening; whether fewer adverse longer term effects might be demonstrated among the children of the women who had the intervention care relative to the controls; testing interventions to reduce physical morbidity, including studies to validate measures of physical health in postpartum women. Further research is also required to investigate appropriate postnatal care for ethnic minority groups.

Mavranezouli, I., et al. (2015). "The Cost Effectiveness of Psychological and Pharmacological Interventions for Social Anxiety Disorder: A Model-Based Economic Analysis." PLoS One 10(10): e0140704.

BACKGROUND: Social anxiety disorder is one of the most persistent and common anxiety disorders. Individually delivered psychological therapies are the most effective treatment options for adults with social anxiety disorder, but they are associated with high intervention costs. Therefore, the objective of this study was to assess the relative cost effectiveness of a variety of psychological and pharmacological interventions for adults with social anxiety disorder. METHODS: A decision-analytic model was constructed to compare costs and quality adjusted life years (QALYs) of 28 interventions for social anxiety disorder from the perspective of the British National Health Service and personal social services. Efficacy data were derived from a systematic review and network meta-analysis. Other model input parameters were based on published literature and national sources, supplemented by expert opinion. RESULTS: Individual cognitive therapy was the most cost-effective intervention for adults with social anxiety disorder, followed by generic individual cognitive behavioural therapy (CBT), phenelzine and book-based self-help without support. Other drugs, group-based psychological interventions and other individually delivered psychological interventions were less cost-effective. Results were influenced by limited evidence suggesting superiority of psychological interventions over drugs in retaining long-term effects. The analysis did not take into account side effects of drugs. CONCLUSION: Various forms of individually delivered CBT appear to be the most cost-effective options for the treatment of adults with social anxiety disorder. Consideration of side effects of drugs would only strengthen this conclusion, as it would improve even further the cost effectiveness of individually delivered CBT relative to phenelzine, which was the next most cost-effective option, due to the serious side effects associated with phenelzine. Further research needs to determine more accurately the long-term comparative benefits and harms of psychological and pharmacological interventions for social anxiety disorder and establish their relative cost effectiveness with greater certainty.

Mavranezouli, I., et al. (2020). "Cost-effectiveness of psychological interventions for children and young people with post-traumatic stress disorder." Journal of Child Psychology and Psychiatry 61(6): 699-710.

Background: PTSD in youth may lead to long-lasting psychological implications, educational difficulties and increased healthcare costs. Psychological interventions have been shown to be effective in its management. The objective of this study was to assess the cost-effectiveness of a range of psychological interventions for children and young people with PTSD. Methods: A decision-analytic model was constructed to compare costs and quality-adjusted life years (QALYs) of 10 psychological interventions and no treatment for children and young people with PTSD, from the perspective of the National Health Service and personal social services in England. Effectiveness data were derived from a systematic review and network meta-analysis. Other model input parameters were based on published sources, supplemented by expert opinion. Results: Cognitive therapy for PTSD, a form of individual trauma-focused cognitive behavioural therapy (TF-CBT), appeared to be the most cost-effective intervention for children and young people with PTSD (with a probability of .78 amongst the 11 evaluated options at a cost -effectiveness threshold of 20,000/QALY), followed by narrative exposure (another form of

individual TF-CBT), play therapy, and other forms of individual TF-CBT. After excluding cognitive therapy from the analysis, narrative exposure appeared to be the most cost-effective option with a .40 probability of being cost-effective amongst the remaining 10 options. EMDR, parent training and group TF-CBT occupied middle cost-effectiveness rankings. Family therapy and supportive counselling were less cost-effective than other active interventions. There was limited evidence for some interventions, in particular cognitive therapy for PTSD and parent training. Conclusions: Individual forms of TF-CBT and, to a lesser degree, play therapy appear to be cost-effective in the treatment of children and young people with PTSD. Family therapy and supportive counselling are unlikely to be cost-effective relative to other interventions. There is a need for well-conducted studies that examine the long-term clinical and cost-effectiveness of a range of psychological treatments for children and young people with PTSD. (PsycInfo Database Record (c) 2021 APA, all rights reserved)

McCrone, P., et al. (2009). "Computer-aided self-exposure therapy for phobia/panic disorder: a pilot economic evaluation." Cogn Behav Ther 38(2): 91-99.

Phobia/panic disorder is common. It improves with exposure therapy, even when guided mainly by a computer self-help system such as FearFighter (FF), but such therapy must also demonstrate cost-effectiveness. This study compares the cost-effectiveness of FF with computer-aided relaxation and clinician-led exposure. Data were obtained on patients from a randomised controlled trial of FF. Economic analyses used pretreatment and 1-month follow-up self-ratings of the main problem and global phobia. Clinician costs were calculated using the number of therapist hours and the cost of FF. Incremental cost-effectiveness ratios were calculated and cost-effectiveness acceptability curves were produced. Data were available on 62 patients with main problem ratings and 60 with global phobia ratings. FF and clinician-led exposure were more effective than relaxation but more expensive. Compared with relaxation, producing an extra unit of improvement on the main problem scale cost 64 UK pounds with FF and 100 UK pounds with clinician-led exposure. FF appeared to be more cost-effective using the global phobia rating (112 UK pounds per extra unit of improvement vs. 128 UK pounds for clinician-led exposure). The cost-effectiveness of FF could be enhanced if users had less highly trained supporters. FF would be less cost-effective if face-to-face therapy was delivered by less qualified professionals. Caution is urged regarding these indicative findings given that these were secondary analyses.

Morrell, C. J., et al. (2000). "Costs and benefits of community postnatal support workers: a randomised controlled trial." Health Technol Assess 4(6): 1-100.

OBJECTIVES: This study aimed to measure the effect and the total cost per woman of providing postnatal support at home, based on a Dutch model. The research hypothesis was furnished by some existing evidence that postnatal support could reduce the risk of postnatal depression and encourage breastfeeding. DESIGN: The randomised controlled trial aimed to measure differences in health status in a group of women who were offered postnatal support from a community midwifery support worker (SW) compared with a control group of women who were not offered this support. Women were followed-up by postal questionnaire at 6 weeks and 6 months postnatally. SETTING AND SUBJECTS: All women who delivered a baby at the recruiting hospital were eligible to take part in the trial if they lived within the study area, were aged 17 years or over, and could understand English. INTERVENTION: The intervention consisted of the SW offering practical and emotional support and to help women rest and recover after childbirth. The SW offered ten visits in the first 28 days postnatally, for up to 3 hours per day. The SW's activities included housework, talking with the mother, and care for the baby or other siblings. The service was provided in addition to routine visits by the community midwife. MAIN OUTCOME MEASURES: The primary outcome was the general health perception domain of the Short Form-36 at 6 weeks. Secondary outcomes were mean Edinburgh Postnatal Depression Scale (EPDS), Duke Functional Social Support (DUFSS) scores and breastfeeding rates. RESULTS: The 623 randomised women were well-matched by group with a good response to follow-up. At 6 weeks there was no evidence of a significant difference between the two groups for the primary outcome. There was a non-significant trend for the control group to have better mean DUFSS and EPDS scores at 6 weeks. Breastfeeding rates were not significantly different at follow-up. At 6 months, both groups had similar health status. Satisfaction with the service was higher than for all other services received. The incremental cost of introducing the service comprised setting up and running the service. There were no differences between the groups in other resource use (general practitioner contacts, hospital services, prescriptions or medicines bought for mothers and babies) to 6-month follow-up. The total mean NHS cost to 6-month follow-up for the intervention group was pound180 per woman greater than for the control group (confidence interval, pound79.60, pound272.40). CONCLUSIONS: Although women valued the service, there was no evidence of any health benefit at the 6-week or 6-month follow-up, no difference in use of NHS services, and the additional cost of the service provision would be around pound 180 per woman.

Newton, B., et al. (2022). Health-led Employment Trials Evaluation: 12-month outcomes evidence synthesis. London, Department for Work and Pensions, Department for Health and Social Care: 90.

NICE (2018). Attention deficit hyperactivity disorder (update) Appendix 2:Cost-effectiveness analysis: Combination treatment in children and adolescents. London, NICE.

NICE (2018). Attention deficit hyperactivity disorder (update). Appendix 1: Cost-effectiveness analysis: What is the cost effectiveness of parent training compared to no treatment for children with ADHD? London, NICE.

NICE. (2014). Psychosis and schizophrenia in adults: prevention and management, NICE.

Ondruskova, T., et al. (2024). "Clinical and cost-effectiveness of an adapted intervention for preschoolers with moderate to severe intellectual disabilities displaying behaviours that challenge: the EPICC-ID RCT." Health technology assessment (Winchester, England) 28(6): 1-94.

Background: Stepping Stones Triple P is an adapted intervention for parents of young children with developmental disabilities who display behaviours that challenge, aiming at teaching positive parenting techniques and promoting a positive parent-child relationship., Objective: To evaluate the clinical and cost-effectiveness of level 4 Stepping Stones Triple P in reducing behaviours that challenge in children with moderate to severe intellectual disabilities., Design, setting, participants: A parallel two-arm pragmatic multisite single-blind randomised controlled trial recruited a total of 261 dyads (parent and child). The children were aged 30-59 months and had moderate to severe intellectual disabilities. Participants were randomised, using a 3 : 2 allocation ratio, into the intervention arm (Stepping Stones Triple P; n = 155) or treatment as usual arm (n = 106). Participants were recruited from four study sites in Blackpool, North and South London and Newcastle., Intervention: Level 4 Stepping Stones Triple P consists of six group sessions and three individual phone or face-to-face contacts over 9 weeks. These were changed to remote sessions after 16 March 2020 due to the coronavirus disease 2019 pandemic., Main outcome measure: The primary outcome measure was the parent-reported Child Behaviour Checklist, which assesses the severity of behaviours that challenge., Results: We found a small non-significant difference in the mean Child Behaviour Checklist scores (-4.23, 95% CI -9.98 to 1.52, p = 0.146) in the intervention arm compared to treatment as usual at 12 months. Per protocol and complier average causal effect sensitivity analyses, which took into consideration the number of sessions attended, showed the Child Behaviour Checklist mean score difference at 12 months was lower in the intervention arm by -10.77 (95% CI -19.12 to -2.42, p = 0.014) and -11.53 (95% CI -26.97 to 3.91, p = 0.143), respectively. The Child Behaviour Checklist mean score difference between participants who were recruited before and after the coronavirus disease 2019 pandemic was estimated as -7.12 (95% CI -13.44 to -0.81) and 7.61 (95% CI -5.43 to 20.64), respectively (p = 0.046), suggesting that any effect pre-pandemic may have reversed during the pandemic. There were no differences in all secondary measures. Stepping Stones Triple P is probably value for money to deliver (-1057.88; 95% CI -3218.6 to -46.67), but decisions to roll this out as an alternative to existing parenting interventions or treatment as usual may be dependent on policymaker willingness to invest in early interventions to reduce behaviours that challenge. Parents reported the intervention boosted their confidence and skills, and the group format enabled them to learn from others and benefit from peer support. There were 20 serious adverse events reported during the study, but none were associated with the intervention., Limitations: There were low attendance rates in the Stepping Stones Triple P arm, as well as the coronavirus disease 2019-related challenges with recruitment and delivery of the intervention., Conclusions: Level 4 Stepping Stones Triple P did not reduce early onset behaviours that challenge in very young children with moderate to severe intellectual disabilities. However, there was an effect on child behaviours for those who received a sufficient dose of the intervention. There is a high probability of Stepping Stones Triple P being at least cost neutral and therefore worth considering as an early therapeutic option given the long-term consequences of behaviours that challenge on people and their social networks., Future work: Further research should investigate the implementation of parenting groups for behaviours that challenge in this population, as well as the optimal mode of delivery to maximise engagement and subsequent outcomes., Study registration: This study is registered as NCT03086876 (https://www.clinicaltrials.gov/ct2/show/NCT03086876?term=Hassiotis+/-Angela&draw=1&rank=1)., Funding: This award was funded by the National Institute for H alth and Care Research (NIHR) Health Technology Assessment programme (NIHR award ref: HTA 15/162/02) and is published in full in Health Technology Assessment; Vol. 28, No. 6. See the NIHR Funding and Awards website for further award information.

Paulden, M., et al. (2009). "Screening for postnatal depression in primary care: cost effectiveness analysis." Bmj 339: b5203.

OBJECTIVE: To evaluate the cost effectiveness of routine screening for postnatal depression in primary care. DESIGN: Cost effectiveness analysis with a decision model of alternative methods of screening for depression, including standardised postnatal depression and generic depression instruments. The performance of screening instruments was derived from a systematic review and bivariate meta-analysis at a range of instrument cut points; estimates of other relevant parameters were derived from literature sources and relevant databases. A decision tree considered the full treatment pathway from the possible onset of postnatal depression through identification, treatment, and possible relapse. SETTING: Primary care. PARTICIPANTS: A hypothetical population of women assessed for postnatal depression either via routine care only or supplemented by use of formal identification methods six weeks postnatally, as recommended in recent guidelines. MAIN OUTCOME MEASURES: Costs expressed in 2006-7 prices and impact on health outcomes expressed in terms of quality adjusted life years (QALYs). The time horizon of the analysis was one year. RESULTS: The routine application of either postnatal or general depression questionnaires did not seem to be cost effective compared with routine care only. The Edinburgh postnatal depression scale (at a cut point of 16) had an incremental cost effectiveness ratio (ICER) of pound 41,103 (euro 45,398, $67,130) per QALY compared with routine care only. The ICER for all other strategies ranged from pound 49,928 to pound 272,463 per QALY versus routine care only, while the probability that no formal identification strategy was cost effective was 88% (59%) at a cost effectiveness threshold of pound 20,000 (pound 30,000) per QALY. While sensitivity analysis indicated that the cost of managing incorrectly identified depression (false positive result) was an important driver of the model, formal identification approaches did not seem to be cost effective at any feasible estimate of this cost. CONCLUSIONS: Formal identification methods for postnatal depression do not seem to represent value for money for the NHS. The major determinant of cost effectiveness seems to be the potential additional costs of managing women incorrectly diagnosed as depressed. Formal identification methods for postnatal depression do not currently satisfy the National Screening Committee's criteria for the adoption of a screening strategy as part of national health policy.

Perkins, R., et al. (2009). Realising ambitions: Better employment support for people with a mental health condition. London, Department for Work and Pensions.

Phillips, R., et al. (2014). "Randomized controlled trial of computerized cognitive behavioural therapy for depressive symptoms: effectiveness and costs of a workplace intervention." Psychol Med 44(4): 741-752.

BACKGROUND: Depression and anxiety are major causes of absence from work and underperformance in the workplace. Cognitive behavioural therapy (CBT) can be effective in treating such problems and online versions offer many practical advantages. The aim of the study was to investigate the effectiveness of a computerized CBT intervention (MoodGYM) in a workplace context. METHOD: The study was a phase III two-arm, parallel randomized controlled trial whose main outcome was total score on the Work and Social Adjustment Scale (WSAS). Depression, anxiety, psychological functioning, costs and acceptability of the online process were also measured. Most data were collected online for 637 participants at baseline, 359 at 6 weeks marking the end of the intervention and 251 participants at 12 weeks post-baseline. RESULTS: In both experimental and control groups depression scores improved over 6 weeks but attrition was high. There was no evidence for a difference in the average treatment effect of MoodGYM on the WSAS, nor for a difference in any of the secondary outcomes. CONCLUSIONS: This study found no evidence that MoodGYM was superior to informational websites in terms of psychological outcomes or service use, although improvement to subthreshold levels of depression was seen in nearly half the patients in both groups.

Price, O., et al. (2024). "Development and evaluation of a de-escalation training intervention in adult acute and forensic units: the EDITION systematic review and feasibility trial." Health Technology Assessment 28(3).

Background: Containment (e.g. physical restraint and seclusion) is used frequently in mental health inpatient settings. Containment is associated with serious psychological and physical harms. De-escalation (psychosocial techniques to manage distress without containment) is recommended to manage aggression and other unsafe behaviours, for example self-harm. All National Health Service staff are trained in de-escalation but there is little to no evidence supporting training's effectiveness. Objective(s): Objectives were to: (1) qualitatively investigate de-escalation and identify barriers and facilitators to use across the range of adult acute and forensic mental health inpatient settings; (2) co-produce with relevant stakeholders an intervention to enhance de-escalation across these settings; (3) evaluate the intervention's preliminary effect on rates of conflict (e.g. violence, self-harm) and containment (e.g. seclusion and physical restraint) and understand barriers and facilitators to intervention effects. Design(s): Intervention development informed by Experience-based Co-design

and uncontrolled pre and post feasibility evaluation. Systematic reviews and qualitative interviews investigated contextual variation in use and effects of de-escalation. Synthesis of this evidence informed co-design of an intervention to enhance de-escalation. An uncontrolled feasibility trial of the intervention followed. Clinical outcome data were collected over 24 weeks including an 8-week pre-intervention phase, an 8-week embedding and an 8-week post-intervention phase. Setting(s): Ten inpatient wards (including acute, psychiatric intensive care, low, medium and high secure forensic) in two United Kingdom mental health trusts. Participant(s): In-patients, clinical staff, managers, carers/relatives and training staff in the target settings. Intervention(s): Enhancing de-escalation techniques in adult acute and forensic units: Development and evaluation of an evidence-based training intervention (EDITION) interventions included de-escalation training, two novel models of reflective practice, post-incident debriefing and feedback on clinical practice, collaborative prescribing and ward rounds, practice changes around admission, shift handovers and the social and physical environment, and sensory modulation and support planning to reduce patient distress. Main Outcome Measure(s): Outcomes measured related to feasibility (recruitment and retention, completion of outcome measures), training outcomes and clinical and safety outcomes. Conflict and containment rates were measured via the Patient-Staff Conflict Checklist. Clinical outcomes were measured using the Attitudes to Containment Measures Questionnaire, Attitudes to Personality Disorder Questionnaire, Violence Prevention Climate Scale, Capabilities, Opportunities, and Motivation Scale, Coercion Experience Scale and Perceived Expressed Emotion in Staff Scale. Result(s): Completion rates of the proposed primary outcome were very good at 68% overall (excluding remote data collection), which increased to 76% (excluding remote data collection) in the post-intervention period. Secondary outcomes had high completion rates for both staff and patient respondents. Regression analyses indicated that reductions in conflict and containment were both predicted by study phase (pre, embedding, post intervention). There were no adverse events or serious adverse events related to the intervention. Conclusion(s): Intervention and data-collection procedures were feasible, and there was a signal of an effect on the proposed primary outcome. Limitation(s): Uncontrolled design and self-selecting sample. Future work: Definitive trial determining intervention effects. Trial registration: This trial is registered as ISRCTN12826685 (closed to recruitment). Funding(s): This award was funded by the National Institute for Health and Care Research (NIHR) Health Technology Assessment programme (NIHR award ref: 16/101/02) and is published in full in Health Technology Assessment; Vol. 28, No. 3. See the NIHR Funding nd Awards website for further award information. Context: Conflict (a term used to describe a range of potentially unsafe events including violence, self-harm, rule-breaking, medication refusal, illicit drug and alcohol use and absconding) in mental health settings causes serious physical and psychological harm. Containment interventions which are intended to minimise harm from violence (and other conflict behaviours) such as restraint, seclusion and rapid tranquilisation can result in serious injuries to patients and, occasionally, death. Involvement in physical restraint is the most common cause of serious physical injury to National Health Service mental health staff in the United Kingdom. Violence to staff results in substantial costs to the health service in sickness and litigation payments. Containment interventions are also expensive (e.g. physical restraint costs mental health services 6.1 million and enhanced observations 88 million per annum). Despite these harms, recent findings indicate containment interventions such as seclusion and physical restraint continue to be used frequently in mental health settings. Clinical trials have demonstrated that interventions can reduce containment without increasing violence and other conflict behaviours (e.g. verbal aggression, self-harm). Substantial cost-savings result from reducing containment use. De-escalation, as an intervention to manage aggression and potential violence without restrictive practices, is a core intervention. 'De-escalation' is a collective term for a range of psychosocial techniques designed to reduce distress and anger without the need to use 'containment' interventions (measures to prevent harm through restricting a person's ability to act independently, such as physical restraint and seclusion). Evidence indicates that de-escalation involves ensuring conditions for safe intervention and effective communication are established, clarifying and attempting to resolve the patient's concern, conveyance of respect and empathy and regulating unhelpful emotions such as anxiety and anger. Despite featuring prominently in clinical guidelines and training policy domestically and internationally and being a component of mandatory National Health Service training, there is no evidence-based model on which to base training. A systematic review of de-escalation training effectiveness and acceptability conducted in 2015 concluded: (1) no model of training has demonstrated effectiveness in a sufficiently rigorous evaluation, (2) the theoretical underpinning of evaluated models was often unclear and (3) there has been inadequate investigation of the characteristics of training likely to enhance acceptability and uptake. Despite all National Health Service staff being trained in de-escalation there have been no high-quality trials evaluating the effectiveness and cost-effectiveness of training. Feasibility studies are needed to establish whether it is possible to conduct a definitive trial that can determine the clinical, safety and cost-effectiveness of this intervention.

Priebe, S., et al. (2015). "The Effectiveness of a Patient-Centred Assessment with a Solution-Focused Approach (DIALOG+) for Patients with Psychosis: A Pragmatic Cluster-Randomised Controlled Trial in Community Care." Psychotherapy and Psychosomatics 84(5): 304-313.

Background: DIALOG+ was developed as a computer-mediated intervention, consisting of a structured assessment of patients' concerns combined with a solution-focused approach to initiate change. This study tested the effectiveness of DIALOG+ in the community treatment of patients with psychosis. Method(s): This was a pragmatic, exploratory, parallel-group, cluster-randomised controlled trial. Clinicians within community teams - along with patients with psychosis under their care - were randomised to use DIALOG+ once per month for 6 months or an active control. The primary outcome (subjective quality of life, SQOL) and secondary outcomes were assessed after 3, 6 and 12 months by blinded assessors and analysed using mixed-effect models. Result(s): A total of 49 clinicians and 179 patients were randomised. Implementation of DIALOG+ was variable, with an average of 1.8 sessions (SD = 1.6) in the first 3 months and 1.1 (SD = 1.2) in the following 3 months. Patients in the DIALOG+ arm had better SQOL at 3, 6 and 12 months (p = 0.035, 0.058 and 0.014, respectively; Cohen's d = 0.29-0.34). They also had significantly fewer unmet needs at 3 and 6 months, fewer general psychopathological symptoms at all time points and better objective social outcomes at 12 months, with no significant differences in other outcomes. Overall care costs were lower in the intervention group. Conclusion(s): Despite variable implementation, DIALOG+ is a beneficial intervention for community patients with psychosis. As a non-expensive and potentially cost-saving, generic intervention, DIALOG+ may be widely used and may improve the effectiveness of community treatment. Further trials should test DIALOG+ in different patient groups and contexts.

Richards, D., et al. (2020). "A pragmatic randomized waitlist-controlled effectiveness and cost-effectiveness trial of digital interventions for depression and anxiety." NPJ Digit Med 3: 85.

Utilization of internet-delivered cognitive behavioural therapy (iCBT) for treating depression and anxiety disorders in stepped-care models, such as the UK's Improving Access to Psychological Therapies (IAPT), is a potential solution for addressing the treatment gap in mental health. We investigated the effectiveness and cost-effectiveness of iCBT when fully integrated within IAPT stepped-care settings. We conducted an 8-week pragmatic randomized controlled trial with a 2:1 (iCBT intervention: waiting-list) allocation, for participants referred to an IAPT Step 2 service with depression and anxiety symptoms (Trial registration: ISRCTN91967124). The primary outcomes measures were PHQ-9 (depressive symptoms) and GAD-7 (anxiety symptoms) and WSAS (functional impairment) as a secondary outcome. The cost-effectiveness analysis was based on EQ-5D-5L (preference-based health status) to elicit the quality-adjust life year (QALY) and a modified-Client Service Receipt Inventory (care resource-use). Diagnostic interviews were administered at baseline and 3 months. Three-hundred and sixty-one participants were randomized (iCBT, 241; waiting-list, 120). Intention-to-treat analyses showed significant interaction effects for the PHQ-9 (b = -2.75, 95% CI -4.00, -1.50) and GAD-7 (b = -2.79, 95% CI -4.00, -1.58) in favour of iCBT at 8-week and further improvements observed up to 12-months. Over 8-weeks the probability of cost-effectiveness was 46.6% if decision makers are willing to pay £30,000 per QALY, increasing to 91.2% when the control-arm's outcomes and costs were extrapolated over 12-months. Results indicate that iCBT for depression and anxiety is effective and potentially cost-effective in the long-term within IAPT. Upscaling the use of iCBT as part of stepped care could help to enhance IAPT outcomes. The pragmatic trial design supports the ecological validity of the findings.

Sayal, K., et al. (2016). "Effectiveness and cost-effectiveness of a brief school-based group programme for parents of children at risk of ADHD: a cluster randomised controlled trial." Child Care Health Dev 42(4): 521-533.

BACKGROUND: National Institute for Health and Care Excellence guidelines recommend a stepped care approach for the identification and management of children with, or at risk of, attention-deficit/hyperactivity disorder (ADHD). We investigated the effectiveness, cost-effectiveness and acceptability of a group parenting intervention programme (+/- a teacher session) for children at risk of ADHD. METHODS: In a three-arm cluster randomised controlled trial, 12 primary schools were randomly assigned to control, parent-only and combined (parent + teacher) intervention arms. Eligible children had high levels of parent-rated hyperactivity/inattention (n = 199). At 6 month follow-up, the primary outcome measure was the parent-completed Conners' Rating Scale - Revised (ADHD index). Secondary outcomes included the Conners' sub-scales (hyperactivity, cognitive problems/inattention and oppositional behaviour), the teacher-completed Conners' Rating Scale - Revised, child health-related quality of life, parental burden and parental mental health. The cost-effectiveness analyses reflected a health and personal social services perspective. TRIAL REGISTRATION: ISRCTN87634685. RESULTS:

Follow-up data were obtained from 76 parents and 169 teachers. There was no effect of the parent-only (mean difference = -1.1, 95% CI -5.1,2.9; p = 0.57) or combined interventions (mean difference = -2.1, 95% CI -6.4,2.1; p = 0.31) on the ADHD index. The combined intervention was associated with reduced parent-reported hyperactivity symptoms (mean difference = -5.3; 95% CI -10.5,-0.01; p = 0.05) and the parent-only intervention with improved parental mental health (mean difference = -1.9; 95% CI -3.2,-0.5; p = 0.009). The incremental costs of the parent-only and the combined interventions were £73 and £123, respectively. Above a willingness-to-pay of £31 per one-point improvement in the ADHD index, the parent-only programme had the highest probability of cost-effectiveness. Participants found the interventions acceptable. CONCLUSIONS: For children at risk of ADHD, this school-based parenting programme was not associated with improvement in core ADHD symptoms. Secondary analyses suggested a possible reduction in parent-reported hyperactivity and parental mental health problems. Future research should compare targeted interventions against watchful waiting and specialist referral.

Schneider, J., et al. (2016). "Individual placement and support versus individual placement and support enhanced with work-focused cognitive behaviour therapy: Feasibility study for a randomised controlled trial." British Journal of Occupational Therapy 79(5): 257-269.

Introduction Employment is a key goal for many people with long-term mental health issues. Evidence-based individual placement and support is a widely advocated approach. This study explored whether individual placement and support outcomes could be enhanced with work-focused counselling. Method The study was designed as a pragmatic randomised controlled trial comparing the cost-effectiveness, in severe mental illness, of work-focused intervention (intervention) as an adjunct to individual placement and support compared to individual placement and support alone (control). Results The original sample (330) proved impossible to attain so the design was revised to a pilot study from which information on feasibility of a full trial could be drawn. Twenty-five individuals out of 74 found paid work but no difference was found in the mean number of hours in paid employment between the intervention and control groups. Conclusion Results demonstrate that delivering work-focused counselling in tandem with individual placement and support is feasible and acceptable to service users. The study observed that, even during a period of recession (2010–13), individuals with mental health problems succeeded in obtaining paid employment. Any additional benefit of counselling over individual placement and support alone could not be ascertained, due mainly to the high drop-out rate from this study.

Simon, J., et al. (2006). "Treatment options in moderate and severe depression: decision analysis supporting a clinical guideline." Br J Psychiatry 189: 494-501.

BACKGROUND: Treatment options for depression include antidepressants, psychological therapy and a combination of the two. AIMS: To develop cost-effective clinical guidelines. METHOD: Systematic literature reviews were used to identify clinical, utility and cost data. A decision analysis was then conducted to compare the benefits and costs of antidepressants with combination therapy for moderate and severe depression in secondary care in the UK. RESULTS: Over the 15-month analysis period, combination therapy resulted in higher costs and an expected 0.16 increase per person in the probability of remission and no relapse compared with antidepressants. The cost per additional successfully treated patient was 4056 UK pounds (95% CI1400-18300); the cost per quality-adjusted life year gained was 5777 UK pounds (95% CI1900-33 800) for severe depression and 14 540 UK pounds (95% CI 4800-79 400) for moderate depression. CONCLUSIONS: Combination therapy is likely to be a cost-effective first-line secondary care treatment for severe depression. Its cost-effectiveness for moderate depression is more uncertain from current evidence. Targeted combination therapy could improve resource utilisation.

Sonuga-Barke, E. J. S., et al. (2018). "A comparison of the clinical effectiveness and cost of specialised individually delivered parent training for preschool attention-deficit/hyperactivity disorder and a generic, group-based programme: a multi-centre, randomised controlled trial of the New Forest Parenting Programme versus Incredible Years." Eur Child Adolesc Psychiatry 27(6): 797-809.

The objective of this study is to compare the efficacy and cost of specialised individually delivered parent training (PT) for preschool children with attention-deficit/hyperactivity disorder (ADHD) against generic group-based PT and treatment as usual (TAU). This is a multi-centre three-arm, parallel group randomised controlled trial conducted in National Health Service Trusts. The participants included in this study were preschool children (33-54 months) fulfilling ADHD research diagnostic criteria. New Forest Parenting Programme (NFPP)-12-week individual, home-delivered ADHD PT programme; Incredible Years (IY)-12-week group-based, PT programme initially designed for children with behaviour problems were the interventions. Primary outcome-Parent ratings of child's ADHD symptoms (Swanson, Nolan & Pelham Questionnaire-SNAP-IV). Secondary outcomes-teacher ratings (SNAP-IV) and direct observations of ADHD symptoms and parent/teacher ratings of conduct problems.

NFPP, IY and TAU outcomes were measured at baseline (T1) and post treatment (T2). NFPP and IY outcomes only were measured 6 months post treatment (T3). Researchers, but not therapists or parents, were blind to treatment allocation. Analysis employed mixed effect regression models (multiple imputations). Intervention and other costs were estimated using standardized approaches. NFPP and IY did not differ on parent-rated SNAP-IV, ADHD combined symptoms [mean difference - 0.009 95% CI (- 0.191, 0.173), p = 0.921] or any other measure. Small, non-significant, benefits of NFPP over TAU were seen for parent-rated SNAP-IV, ADHD combined symptoms [- 0.189 95% CI (- 0.380, 0.003), p = 0.053]. NFPP significantly reduced parent-rated conduct problems compared to TAU across scales (p values < 0.05). No significant benefits of IY over TAU were seen for parent-rated SNAP, ADHD symptoms [- 0.16 95% CI (- 0.37, 0.04), p = 0.121] or parent-rated conduct problems (p > 0.05). The cost per family of providing NFPP in the trial was significantly lower than IY (£1591 versus £2103). Although, there were no differences between NFPP and IY with regards clinical effectiveness, individually delivered NFPP cost less. However, this difference may be reduced when implemented in routine clinical practice. Clinical decisions should take into account parental preferences between delivery approaches.

Stevenson, M. D., et al. (2010). "The cost-effectiveness of group cognitive behavioral therapy compared with routine primary care for women with postnatal depression in the UK." Value Health 13(5): 580-584.

OBJECTIVE: To assess the cost-effectiveness of group cognitive behavior therapy (gCBT) in comparison with routine primary care for women with postnatal depression in the UK. METHODS: Our analysis was based on a systematic literature review of the relative clinical effectiveness of gCBT compared with routine primary care and further reviews, supplemented with expert opinion of the likely cost of providing gCBT and the duration of comparative advantage for gCBT. Raw data were used to estimate a statistical relationship between changes in the Edinburgh Postnatal Depression Score (EPDS) values and changes in short-form six dimensions' (SF-6D) values. A mathematical model was constructed, and probabilistic sensitivity analyses were undertaken to estimate the mean cost per quality-adjusted life-year (QALY) and to evaluate the expected value of perfect information (EVPI). RESULTS: The mean cost per QALY from the stochastic analysis was estimated to be pound36,062; however, there was considerable uncertainty around this value. The EVPI was estimated to be greater than pound64 million; the key uncertainties were in the cost per woman of providing treatment and in the statistical relationship between changes in EPDS values and changes in SF-6D values. The expected value of perfect partial information for both of these parameters was in excess of pound25 million. CONCLUSIONS: Given the current information, the use of gCBT does not appear to be cost-effective; however, this decision is uncertain. The value of information analyses conducted indicates that further research to provide robust information on key parameters is needed and appears justified in cost-effective terms.

Szplit, K. (2013). Social Return on Investment (SROI) Forecast Analysis. Individual Placement and Support (IPS) for Period April 2010 to March 2011, Remploy.

Tosh, J., et al. (2013). "Innovation in health economic modelling of service improvements for longer-term depression: demonstration in a local health community." BMC Health Serv Res 13: 150.

BACKGROUND: The purpose of the analysis was to develop a health economic model to estimate the costs and health benefits of alternative National Health Service (NHS) service configurations for people with longer-term depression. METHOD: Modelling methods were used to develop a conceptual and health economic model of the current configuration of services in Sheffield, England for people with longer-term depression. Data and assumptions were synthesised to estimate cost per Quality Adjusted Life Years (QALYs). RESULTS: Three service changes were developed and resulted in increased QALYs at increased cost. Versus current care, the incremental cost-effectiveness ratio (ICER) for a self-referral service was £11,378 per QALY. The ICER was £2,227 per QALY for the dropout reduction service and £223 per QALY for an increase in non-therapy services. These results were robust when compared to current cost-effectiveness thresholds and accounting for uncertainty. CONCLUSIONS: Cost-effective service improvements for longer-term depression have been identified. Also identified were limitations of the current evidence for the long term impact of services.

Trevillion, K., et al. (2020). "An exploratory parallel-group randomised controlled trial of antenatal Guided Self-Help (plus usual care) versus usual care alone for pregnant women with depression: DAWN trial." J Affect Disord 261: 187-197.

BACKGROUND: Depression is a common antenatal mental disorder associated with significant maternal morbidity and adverse fetal outcomes. However, there is a lack of research on the effectiveness or cost-effectiveness of psychological interventions for antenatal depression. METHODS: A parallel-group, exploratory randomised controlled trial across five hospitals. The trial compared Guided Self-Help, modified for pregnancy,

plus usual care with usual care alone for pregnant women meeting DSM-IV criteria for mild-moderate depression. The trial objectives were to establish recruitment/follow-up rates, compliance and acceptability, and to provide preliminary evidence of intervention efficacy and cost-effectiveness. The primary outcome of depressive symptoms was assessed by blinded researchers using the Edinburgh Postnatal Depression Scale at 14-weeks post-randomisation. RESULTS: 620 women were screened, 114 women were eligible and 53 (46.5%) were randomised. 26 women received Guided Self-Help - 18 (69%) attending ≥4 sessions - and 27 usual care; n = 3 women were lost to follow-up (follow-up rate for primary outcome 92%). Women receiving Guided Self-Help reported fewer depressive symptoms at follow-up than women receiving usual care (adjusted effect size -0.64 (95%CI: -1.30, 0.06) p = 0.07). There were no trial-related adverse events. The cost-effectiveness acceptability curve showed the probability of Guided Self-Help being cost-effective compared with usual care ranged from 10 to 50% with a willingness-to-pay range from £0 to £50,000. CONCLUSIONS AND LIMITATIONS: Despite intense efforts we did not meet our anticipated recruitment target. However, high levels of acceptability, a lack of adverse events and a trend towards improvements in symptoms of depression post-treatment indicates this intervention is suitable for talking therapy services.

van Stolk, C., et al. (2014). Psychological Wellbeing and Work. Improving Service Provision and Outcomes. Cambridge, RAND Europe.

We know that being in work is good for wellbeing and that mental health problems are an increasing issue for the nation and so the Minister for Welfare Reform and the Minister for Care and Support jointly sought to expand the evidence base on common mental health problems. A number of Government programmes assess and support those with mental health difficulties to work, but it is internationally recognised that the evidence base for successful interventions is limited. The Contestable Policy Fund gives ministers alternative avenues to explore new thinking and strategies that offer cross-Government benefits. This report was commissioned through this route

Whitworth, A. (2018). "The economic case for well-considered investment in health-related employment support: Costs and savings of alternative modified Individual and Placement Support (IPS) models." Disability And Health Journal 11(4): 568-575.

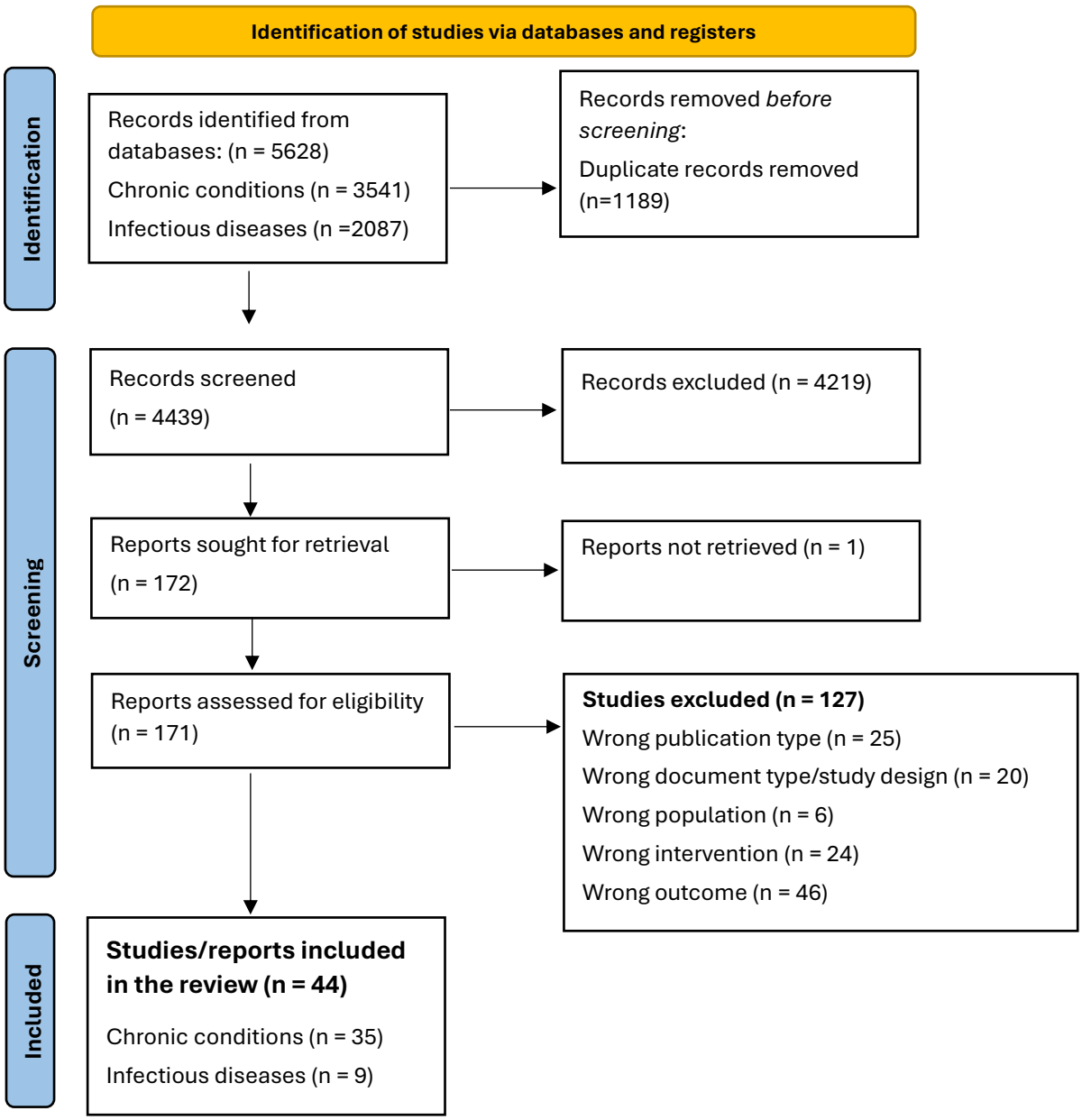
Background: Health-related unemployment is a major issue across advanced economies. Modified versions of well-evidenced Individual Placement and Support (IPS) models of employment support for health cohorts offer considerable potential. A significant gap currently however is the lack of evidence around their financial return on investment.; Objective/hypothesis: To provide robust financial return on investment estimates for analytically derived alternative specifications of modified IPS services for the first time in the literature, sensitivity tested across various levels of performance.; Methods: Brings together modelled cost and savings estimates based on best available evidence to deliver modelled return on investment estimates.; Results: The modelled estimates show that well-designed modified IPS services can deliver financial savings whilst tackling health-related unemployment, even at higher average unit costs than are typically considered viable in some national contexts.; Conclusions: Modified IPS services offer a viable route to delivering enhanced employment outcomes for individuals with health conditions and disabilities and financial savings for governments.;

Wiggins, M., et al. (2004). "The Social Support and Family Health Study: a randomised controlled trial and economic evaluation of two alternative forms of postnatal support for mothers living in disadvantaged inner-city areas." Health Technol Assess 8(32): iii, ix-x, 1-120.

OBJECTIVES: To determine whether increased postnatal support could influence maternal and child health outcomes. DESIGN: This was a randomised controlled trial comparing maternal and child health outcomes for women offered either of the support interventions with those for control women receiving standard services only. Outcome data were collected through questionnaires distributed 12 and 18 months postrandomisation. Process data were also collected. There was also an integral economic evaluation. SETTING AND PARTICIPANTS: Women living in deprived enumeration districts in selected London boroughs were eligible for the trial if they gave birth between 1 January and 30 September 1999. RESULTS: The 731 participants were found to be well matched in terms of socio-economic characteristics and health and support variables (14% of the participants were non-English speaking). Response rates at the two follow-up points were 90% and 82%. At both points there were no differences that could not be attributed to chance on the primary outcomes of maternal depression, child injury or maternal smoking. At the first follow-up, there was reduced use of general practitioners by support health visitor (SHV) children, but increased use of NHS health visitors and social workers by mothers. At the second follow-up, both community group support (CGS) and SHV mothers had less use of midwifery services (fewer were pregnant),

and SHV mothers were less worried about their child's health and development. Uptake of the CGS intervention was low: 19%, compared with 94% for the SHV intervention. Satisfaction with the intervention among women in the SHV group was high. Based on the assumptions and conditions of the costing methods, the economic evaluation found no net economic cost or benefit of choosing either of the two interventions. CONCLUSIONS: There was no evidence of impact on the primary outcomes of either intervention. The SHV intervention was popular with women and was associated with improvement in some of the secondary outcomes. This suggests that greater emphasis on the social support role of health visitors could improve some measures of family well-being. Possible areas for future research include a systematic review of social support and its effect on health; developing and testing other postnatal models of support that match more closely the age of the baby and the changing patterns of mothers' needs; evaluating other strategies for mobilising 'non-professional' support; developing and testing more culturally specific support interventions; developing more culturally appropriate standardised measures of health outcomes; providing longer term follow-up of social support interventions; and exploring the role of social support on the delay in subsequent pregnancy.

Appendix 6.1 - PRISMA Flowchart Respiratory theme



Appendix 6.2 - Characteristics of included studies (respiratory diseases)

Article	Country	Study Type	Respiratory Condition	Sample Size	Sample characteristics	Intervention	Outcome of interest	Results
Aboumatar et al. (2018)[273]	USA	RCT	Moderate-severe COPD	240	Mean age 64.9 years; 61.7% female; 82.5% White ethnicity	3-month transitional care + SM (COPD nurses)	Readmissions	Fewer COPD-related hospitalizations (RR 0.68) and ED visits at 6 months after discharge (RR 0.72).
Au et al. (2022)[256]	USA	RCT	Moderate-severe COPD	352	Mean age 69.7 years; 95% male; 80.5% White ethnicity	Proactive virtual E-consult review	Readmissions	Adjusted OR in means of readmission 0.83 (37.9% vs 45.66%); QoL measured by CCQ improved by 0.47 points.
Batteux et al. (2022) [263]	UK	SR	COVID-19	Varied by study	General population, vaccine-hesitant groups	Communication, reminders, incentives	Vaccine uptake	Personalised communications and reminders increased uptake (8.1%). Mixed results for other interventions.
Benzo et al. (2016) [253]	USA	RCT	Severe COPD	215	Mean age 68 years; 48% male	Health coaching + action plan	Readmissions	11.6% absolute risk reduction (15.4% vs. 27.7%). LoS: reduced by 0.8 days; Emotional Function: Improved at 6 months (mean difference = 0.50). Physical Function: Improved at 6 months (mean difference = 0.33).
Bourbeau et al. (2019) [243]	Multiple countries	Economic Evaluation	COPD	319	Mean age 70 years; severe/very severe COPD	Home-based disease management program	Length of Stay	LoS: reduced by 2.16 days per patient; In Germany, ICER EUR 2,541.
Broadbent et al. (2018) [301]	New Zealand	RCT	COPD	60	Mean age 70 years; 90% White ethnicity	Home-based robot (medication, exercise support)	Readmissions	Improved medication adherence (48.5% vs 29.5%) and exercise frequency; no hospitalisation reduction; no significant differences in QoL

Article	Country	Study Type	Respiratory Condition	Sample Size	Sample characteristics	Intervention	Outcome of interest	Results
Briggs et al. (2024) [233]	UK	Economic Evaluation	Long COVID-19	3,435	Adults with acute respiratory illness; hospitalised	ESD / Hospital-at-home	Cost-effectiveness	Comprehensive services more clinically effective (mean QALY 0.789 vs 0.725), ICER £1,700
Burge et al. (2020) [302]	Australia	Economic Evaluation	COPD	166	Mean age 70 ± 9 years; 60% female; mean FEV_1: 49–53% predicted	Home-based pulmonary rehabilitation	Cost-effectiveness	Between-group mean difference point estimates for cost (−$4,497), utility (0.025 QALY).
Corcoran et al. (2024) [303]	Multiple countries	SR	COPD	1,967	Patients >18 years old	Home-based management service/facility	Readmissions, length of stay	OR of readmission 0.48. Mean difference in hospital stay - 1.87 days (non-significant reduction)
Echevarria et al. (2016) [244]	UK	SR	COPD	1,414	Mean age 65–80 years; moderate to severe COPD	ESD or Hospital at Home	Cost-effectiveness	Significant reduction in readmissions (RR 0.84); Costs: £877 vs. £1,753 for UC.
Federman et al. (2019) [251]	USA	RCT	Asthma	391	Mean age 67.8 years; 15.1% male; 56.3% Hispanic; 36.8% limited English proficiency	Tailored screening + targeted actions + reinforcement by asthma coaches	Readmissions	Fewer ED visits OR 0.8 (95% CI 0.6–0.99; p=0.03); reduced readmissions (6.2% vs. 12.7%)
Hall et al. (2016) [235]	Multiple countries	SR	Asthma	773	Children aged 14 months–16 years	Caseworker-assigned discharge plans	Readmissions	Hospitalisations: Caseworker plans reduced readmissions (11.4% vs. 30.3%, OR 0.29). No difference in ED/GP Visits. No difference in QoL.
Hegelund et al. (2020) [304]	Denmark	RCT	COPD	99	Median age 73 years, 29% female	Personalised action plan delivered at/post-discharge	Readmissions	Significant reduction in readmissions; CAT scores improved (median decrease: 5 in AP vs. 2 in control); HADS-depression decreased in AP group

Article	Country	Study Type	Respiratory Condition	Sample Size	Sample characteristics	Intervention	Outcome of interest	Results
Iannizzi et al. (2025) [262]	Multiple countries	SR	COVID-19	NA	Not reported	Communication-based interventions	Vaccine uptake	Education and information-based interventions increase vaccine uptake the most compared with no intervention
Jenkins et al. (2024) [249]	Multiple countries	SR	COPD	1,309	Mean age 60-74 years, FEV1 36%-55%	Home-based rehabilitation	Readmissions	Reduced readmissions (OR 0.48), improved exercise capacity (6min walk test, MD 57m) 52% reduction in odds (OR 0.48, risk 37% vs 49%)
Johnson-Warrington et al. (2016) [255]	UK	RCT	COPD	78	Mean age 68 years, FEV_1 42% predicted, MRC dyspnea grade 4	SM Program of Activity, Coping, and Education (SPACE)	Readmissions, length of stay	No significant difference in 3-month readmissions. Fewer 30-day readmissions in intervention (12.82% vs 25.64%. LoS: reduced by 3 days
Jordan et al. (2015) [305]	UK	SR	COPD	836	Mean age 66-74 years, moderate to severe COPD	Varied SM interventions	Readmissions	Post-discharge SM support (£683 more expensive and 0.0831 QALY gain), but not significant reduction in readmissions (HR 0.78, 95% CI 0.52-1.07).
Köksal and Durgun (2025) [306]	Turkey	RCT	COPD	80	Age 64.15±10 years; 75% male	Telecounselling, home monitoring, and exercise training	Readmissions	Significantly reduced readmissions (1.51 vs. 3.26) $p < 0.05$. Significant improvement in physical function, role difficulty, energy/vitality, pain, general health. No significant difference in mental health or social functioning
Kuwornu et al. (2024) [232]	Canada	Economic Evaluation	COPD	1,518	Mean age 62.6 years; 56.4% female	COPD care pathway program	Cost-effectiveness	Not cost-effective (ICER: $5,268.64; 55.5% probability of cost-effectiveness at WTP $2,000)

Article	Country	Study Type	Respiratory Condition	Sample Size	Sample characteristics	Intervention	Outcome of interest	Results
Latarissa et al. (2024) [259]	Multiple countries	SR	COVID-19	1,968	Age >18 years, mild to moderate COVID-19 symptoms	Herbal medication	Length of Stay	LoS reduced by 1.60 per person
Le et al. (2022) [260]	Multiple countries	SR	Influenza	310,900	Not reported	Pharmacist involvement in vaccination uptake	Vaccine uptake	Significantly increased immunisation rate. Subgroup analysis of influenza vaccine in community setting also statistically significant increase in vaccine rate (1.17)
Leemans et al. (2021) [266]	Multiple countries	SR	COPD	3,261	Mean age 67.1 years; Mean FEV1: 51%	Pulmonary rehabilitation; Airway clearance techniques; Integrated disease management; Early assisted discharge	Cost-effectiveness	ICERs: 6 studies had ICERs below the cost-effectiveness threshold (USD $77,509/QALY)
Lundell et al. (2014) [307]	Sweden	SR	COPD	982	Mean age 65–70 years; 34% women; moderate to severe COPD	Phone calls; Web-based support; Mobile phone reminders; SM	Readmissions	Improved physical activity but had no significant effect on hospital readmissions (10.8% vs 16.4%)
MacDonell et al. (2020) [240]	Iceland	SR	COPD	NA	Mean age: 65–75 years; 39–51% women; moderate to severe COPD	Care bundles and pathways, case management, coaching	Readmissions, length of stay	Structured interventions (bundles/pathways) reduced LoS by 1.25 days and readmissions, but results were inconsistent. Case management improved QoL.
Machlaurin et al. (2019) [267]	Multiple countries	SR	TB	Not reported	Healthcare workers, homeless people older than 35 years, infants at high risk of TB	Various vaccine strategies	Cost-effectiveness	Universal strategies targeting either infants or older children were identified as the most cost-effective option when

Article	Country	Study Type	Respiratory Condition	Sample Size	Sample characteristics	Intervention	Outcome of interest	Results
								applied in high-incidence countries
Mardi et al. (2022) [264]	Multiple countries	SR	COVID-19	Not reported	Not reported	Incentives on COVID-19 vaccination	Vaccine uptake	Studies mostly assessed financial incentives. High financial incentives are attributed to a higher vaccination rate. 59% studies increased uptake, 37.5% increased intention
McDowell et al. (2015) [254]	Northern Ireland	RCT	Moderate-severe COPD	100	Mean age 70 years; 58% female; 38% current smokers; FEV1: 45% predicted	Telemonitoring + usual care	Readmissions, cost-effectiveness	Hospitalisations: No significant difference in readmissions (0.50 vs. 0.65, p=0.42). Not cost-effective, ICER £203,900
McDowell et al. (2025) [308]	Multiple countries	SR	Long COVID-19	448	Mean age 49.9 years, 53.9% male, experiencing long covid	Exercise	QoL, symptoms	Exercise interventions lead to short-term improvements in dyspnoea, fatigue, physical function and the physical domain of quality of life among people with long COVID
Mosher et al. (2022) [265]	USA	Economic Evaluation	COPD	Not applicable	Mean age: 76.9 years; 58.6% female; 48% severe COPD	Pulmonary Rehabilitation	Cost-effectiveness	Decision model societal perspective. PR resulted in savings of $5,721 per person (95% prediction interval $3,307-$8,388), QALE gains of 0.53 (95% prediction interval 0.43–0.63) years.
Ng et al. (2021) [252]	Hong Kong	RCT	Asthma	112	Children 4–11 years, admitted with asthma exacerbations	Nurse-led Web-Based Home Asthma Education Program	Readmissions	Improved caregiver knowledge, reduced readmissions by 0.24 per patient
Park et al. (2023) [309]	Republic of Korea	SR	COPD	2,001	Mean age 64–73 years; 55–75%	Multi-component transitional care programmess	Readmissions	Reduced risk of readmission (RR 0.68, 95%CI 0.56-0.84). No difference in ER visits:

Article	Country	Study Type	Respiratory Condition	Sample Size	Sample characteristics	Intervention	Outcome of interest	Results
					male; moderate to severe COPD	(education, discharge planning, follow-up)		MD = -0.67, 95% CI -1.95-0.60)
Ryrsø et al. (2018) [245]	Denmark	SR	COPD	634	Mean age 58-74 years, FEV1 34-56% predicted	Supervised early pulmonary rehabilitation	Readmissions, length of stay	Mortality reduced (RR = 0.58). Readmissions reduced (RR = 0.47). LoS reduced by 4.27 days. HRQoL improved (SGRQ MD = -19.43 post-treatment, -8.74 at follow-up)
Sadeghi et al. (2020) [236]	Iran	RCT	COVID-19 (moderate or severe)	66	Median age 58 years	Sofosbuvir, Daclatasvir	Readmissions	Clinical recovery within 14 days by 88% in treatment and 67% in control; Significantly reduced median duration of hospitalisation (6 vs 8 days)
Seedat et al. (2018) [261]	Multiple countries	SR	TB	248,402	Migrants, including asylum seekers, refugees	Infectious disease screening programs	Vaccine uptake	Coverage: median 39.29%.Uptake: median 79.50%. Highest in primary care (96.77%). Infections detected: median 3.74%. 84% infections treated.
Seys et al. (2018) [238]	Multiple countries	RCT	COPD	257	Mean age 70 years, 66% male, GOLD stages II-IV	Care Pathway for COPD exacerbation management	Readmissions	30-day Readmissions: Significantly lower in intervention group (10.3% vs. 19.6%, p=0.042). Higher adherence in intervention group (47.3% vs. 24.8%, p=0.012)
Swift et al. (2024) [247]	UK	Economic Evaluation	COVID-19	310	Mean age 55±13.7 years; 40.6% female	Digital respiratory ward with remote monitoring and specialist support	Readmissions, length of stay	Net savings: $504,197 ($1,626/patient). Reduced LoS (4.2 vs. 5.5 days). Bed-days saved: 846.5. Reduced readmissions (2.1% vs 4.2%)

Article	Country	Study Type	Respiratory Condition	Sample Size	Sample characteristics	Intervention	Outcome of interest	Results
Tamblyn et al. (2015) [257]	Canada	RCT	Asthma	4,447	Age 30% 5–45 years, 70% >45 years; 67% females	Integrated computer-based decision support within MOXXI EHR	Readmissions	Significant improvement in ICS/FABA ratio; significant reduction in out-of-control events only in patients with poorly controlled asthma at baseline. Mean difference in readmissions: mean ratio difference 0.27
Vanhaecht et al. (2016) [239]	Multiple countries	RCT	COPD	342	Mean age 70 years; 66.7% male; GOLD stages I-IV	Care pathway including diagnostic, pharmacological, non-pharmacological management	Readmissions, length of stay	30-day readmissions significantly lower in CP group (9.7% vs 15.3%, OR 0.427, p=0.040); no significant difference in 6-month readmissions (27.3% vs 33.0%, p=0.158) or LoS (12.0 vs 12.8 days, p=0.960)
Vianello et al. (2016) [246]	Italy	RCT	COPD	334	Mean age 76 years; 66-69% male; 61-66% former smokers; mean FEV1 ~41% predicted	Home telemonitoring with pulse oximeter and gateway for data transmission	Readmissions, length of stay	TM did not improve HRQoL. Readmission rates were insignificantly lower in TM group (IRR 0.43 for AECOPD, p=0.04; IRR 0.46 for any cause, p=0.01) (7% vs. 15%). LoS: shorter mean hospital stay (18.93 vs. 23.29 days)
Vidigal et al. (2024) [310]	Multiple countries	SR	COPD	9,497	Mean age 61.2–84 years; 60.1%-64.2% male	Home care programmes	Readmissions, cost-effectiveness	Home care reduced readmissions and emergency visits. Home care was cheaper in 13/14 studies and more effective.
Wang et al. (2021) [258]	Multiple countries	SR	COVID-19	208,132	General population and healthcare workers from various countries.	Seasonal influenza vaccination strategy	Readmissions	No statistically significant result on ICU admission or hospitalisation (OR 0.74). Significant reduction on infections (OR 0.86)

Article	Country	Study Type	Respiratory Condition	Sample Size	Sample characteristics	Intervention	Outcome of interest	Results
Yan et al. (2023) [237]	Canada	RCT	COPD	3,776	Mean age 71 years; 48.1% male	Transition Care Bundle with 7 core elements	Length of stay, cost-effectiveness	TCB reduced inpatient costs: CAN$7,634 (with coordinator) and CAN$8,080 (without) vs. CAN$13,131 (UC). Shorter LoS: 6.1 days vs. 7.1 days (UC); Total cost savings: CAN$5,416 per patient with TCB
Yoo et al. (2021) [242]	Multiple countries	SR	COPD	3,472,633	Age 76.1 ± 12.7 years, 41% male	Continuity of care, ESD, pharmacist-led reviews,SM, telemonitoring, structured care	Readmissions	CCPs reduced all-cause hospitalisations (HR 0.70, 95% CI: 0.63-0.79; p<0.001); and mortality (HR: 0.69, 95% CI: 0.573-0.83; p<0.001).
Zwerink et al. (2016) [241]	Netherlands	Economic Evaluation	COPD	153	Age 63.6 ± 7.9 years, 58.2% male	COPE-active: community-based exercise program + SM sessions	Cost-effectiveness	Net deterioration prevented in 7% more patients (COPE-active vs. control), ICER €6,257. Steps/day: Net improvement of 27.7% (COPE-active), ICER €1,564. QALYs: 0.04 gain, ICER €10,950. Total costs: €6,949 (COPE-active) vs. €6,511 (control)

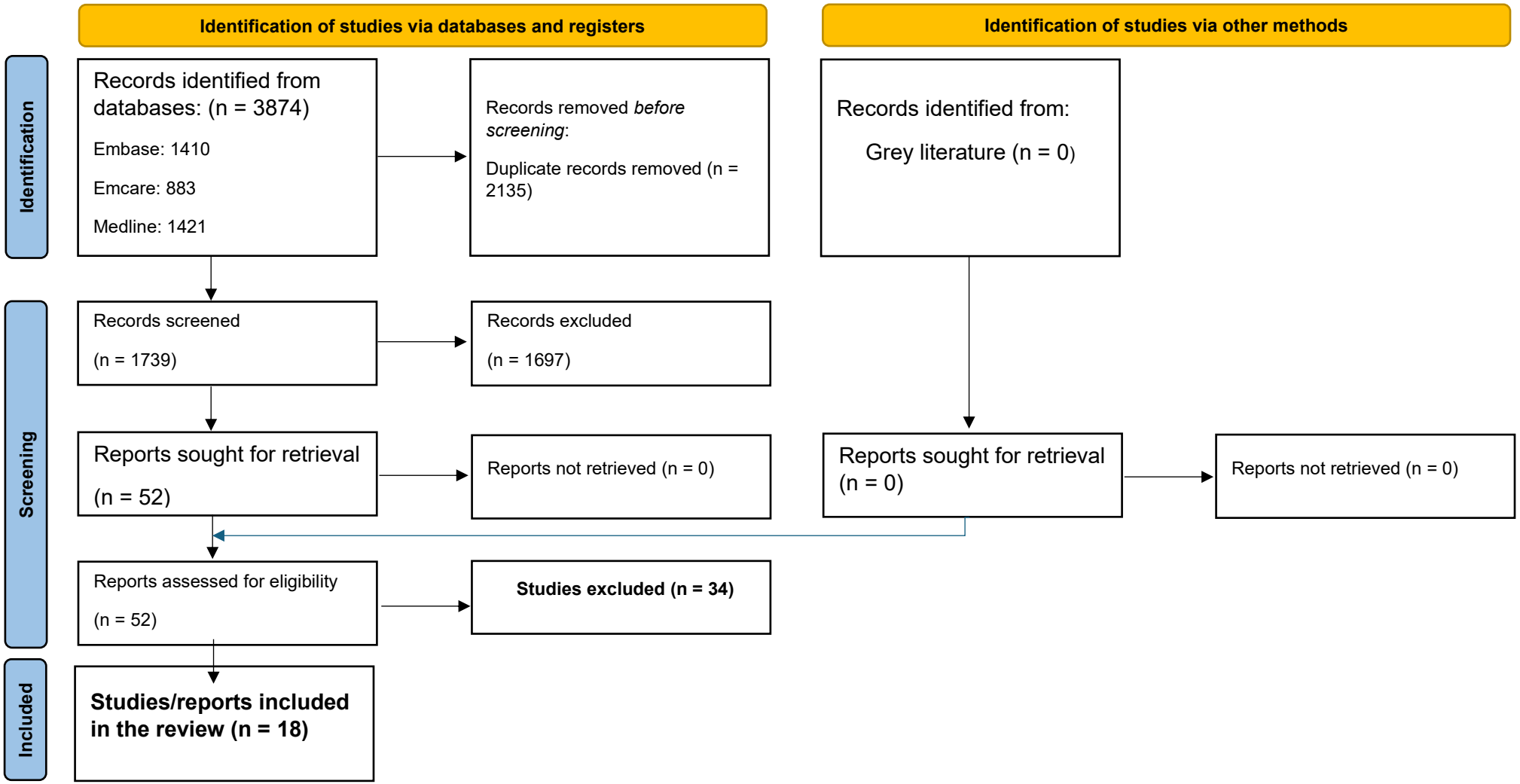
RCT: Randomised Controlled Trial. COPD: Chronic Obstructive Pulmonary Disease. ED: Emergency Department. RR: Relative Risk. OR: Odds Ratio. QoL: Quality of Life. CCQ: Clinical COPD Questionnaire. ARR: Absolute Risk Reduction. LoS: Length of Stay (in hospital, measured by days). MD: Mean Difference. ICER: Incremental Cost-Effectiveness Ratio. QALY: Quality-Adjusted Life Year. WTP: Willingness to Pay. FEV1: Forced Expiratory Volume in 1 second. CAT: COPD Assessment Test. AP: Action Plan. HADS: Hospital and Anxiety Depression Scale. PR: Pulmonary Rehabilitation. HR: Hazard Ratio. CI: Confidence Interval. SR: Systematic Review. ESD: Early Supported Discharge. UC: Usual Care. MRC: Medical Research Council Dyspnoea Scale. SM: Self-Management. 6MWT: 6 Minute Walk Test. NA: Not applicable. SMD: Standardised Mean Difference. HRQoL: Health Related Quality of Life. SGRQ: St. George's Respiratory Questionnaire. MOXXI HER: Medical Office of the 21st Century Electronic Health Record. ICS/FABA ratio: Ratio of Inhaled Corticosteroids (ICS) to Fast-Acting Beta-Agonists (FABA). GOLD: Global Initiative for Chronic Obstructive Lung Disease, as measured in stages I – IV. CP: Care Pathway. TM: Telemonitoring. IRR: Incidence Rate Ratio. AECOPD: Acute exacerbation of COPD. TCB: Transition Care Bundle. CCP: Continuity of Care Programme. COPE-active: Community Based Exercise Programme. MDI: Metered Dose Inhaler. TB: Tuberculosis. ICU: Intensive Care Unit.

Appendix 7.1 - Summary of available evidence from Cochrane reviews (across all conditions)

Intervention	Hospital use	Evidence
Where care is provided and changes to the healthcare environment		
'Hospital at home' services: provision of active treatment by healthcare professionals in the patient's home for a condition that would otherwise require acute hospital inpatient care [59].	Inpatient admission	-
	Length of inpatient stay	Reduction in initial average hospital length of stay. Some evidence from the UK
	Inpatient readmission	No difference on the likelihood of being readmitted to hospital. Some evidence from the UK
	A&E attendances	-
	Outpatient appointments	-
Early discharge hospital at home is a service that provides active treatment by healthcare professionals in the patient's home for a condition that otherwise would require acute hospital inpatient care [311].	Inpatient admission	-
	Length of inpatient stay	Early discharge hospital at home may reduce hospital length of stay. Some evidence from the UK
	Inpatient readmission	No difference in hospital readmission. Some evidence from the UK
	A&E attendances	-
	Outpatient appointments	-
Who provides care and how the healthcare workforce is managed		
Self-management for multi-morbidity: educational or self-management support-type interventions in primary care and community settings [57].	Inpatient admission	No difference in hospital admissions. Limited evidence from the UK
	Length of inpatient stay	-
	Inpatient readmission	-
	A&E attendances	-
	Outpatient appointments	-
Coordination of care and management of care processes		
Stand-alone clinical pathways – document-based tools that provide a link between the best available evidence and clinical practice [312].	Inpatient admission	-
	Length of inpatient stay	Reduction in length of hospital stay compared to usual care. No evidence from the UK
	Inpatient readmission	No reduction in hospital readmission
	A&E attendances	-
	Outpatient appointments	-
Care navigation involving individual case management by a trained professional who is not involved in the person's direct care [313].	Inpatient admission	Reduction in unplanned hospital admission rates within 12 months. No evidence from the UK
	Length of inpatient stay	
	Inpatient readmission	
	A&E attendances	No difference in emergency department presentation
	Outpatient appointments	Increase in the proportion of patients having hospital outpatient appointments. No UK evidence
Community-based integrated care intervention that focuses on the planning, provision, and co-ordination of healthcare and	Inpatient admission	No difference in hospital admission. Limited evidence from the UK
	Length of inpatient stay	-
	Inpatient readmission	-
	A&E attendances	-

social care tailored to meet the needs of individuals with high support and care needs [314].	Outpatient appointments	-
Medication review: a structured evaluation of a patient's medication conducted by healthcare professionals in hospital settings [315].	Inpatient admission	-
	Length of inpatient stay	-
	Inpatient readmission	Reduction in hospital readmission. No evidence from the UK
	A&E attendances	Reduction in emergency department contacts. No evidence from the UK
	Outpatient appointments	-
Medication reconciliation to prevent medication errors during care transitions [316]	Inpatient admission	-
	Length of inpatient stay	-
	Inpatient readmission	Medication reconciliation during care transitions had no impact on unplanned rehospitalisation, including in one study from the UK
	A&E attendances	-
	Outpatient appointments	-
Comprehensive geriatric assessment in community settings: a multidimensional interdisciplinary diagnostic process focused on determining an older person's medical, psychological and functional capability to develop a co-ordinated and integrated care plan [317].	Inpatient admission	Reduction in the risk of unplanned hospital admissions. Some evidence from the UK
	Length of inpatient stay	-
	Inpatient readmission	-
	A&E attendances	No difference on emergency department visits
	Outpatient appointments	-
Discharge planning: development of an individualised discharge plan for a patient prior to them leaving hospital for home [318].	Inpatient admission	-
	Length of inpatient stay	A small reduction in the initial hospital length of stay. Evidence from the UK
	Inpatient readmission	Reduction in readmission to hospital over an average of three months follow-up. Evidence from the UK
	A&E attendances	-
	Outpatient appointments	-
Change to the organisation of care delivery in primary care and community settings: Case management or enhanced multidisciplinary teamwork for multi-morbidity [57].	Inpatient admission	No difference in admission-related outcomes
	Length of inpatient stay	-
	Inpatient readmission	-
	A&E attendances	-
	Outpatient appointments	-

Appendix 7.2 - PRISMA flow chart (economic interventions)



From: Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ 2021;372:n71. doi: 10.1136/bmj.n71. For more information, visit: http://www.prisma-statement.org/

Appendix 7.3 Economic interventions – search strategy and findings

Full search strategy

1. ((financial adj2 (incentiv* or reward* or scheme* or program* or payment* or mechanism* or model* or policy or intervention*)) or (economic adj2 (incentiv* or reward* or mechanism* or intervention* or policy or payment*)) or (pay adj3 (performance or quality or value or coordinat* or outcome* or result* or target*)) or ("pay for performance" or "P4P" or "value based" or "outcome based" or "results based" or "performance based" or "shared saving*" or "bundled payment*" or "capitation" or "pooled budget*" or "integrated budget*" or "global payment*" or "prospective payment*" or "remuneration" or "reimbursement*" or "financial mechanism*" or "funding model*" or "provider payment system*") or (commission* adj3 (outcome* or performance or quality))).ti,ab.

2. ((transition* adj3 (hospital* or communit* or home or "primary care" or "outpatient*" or "integrated care" or "step down" or "rehabilitation")) or (discharg* adj3 (hospital* or patient* or communit* or home or scheme or intervention or planning)) or (shift* adj3 (care or service* or resource* or setting* or hospital* or communit*)) or ("early supported discharge" or "post-acute care" or "step-down care" or "community care pathway*" or "hospital avoidance" or "care in the community")).ti,ab.

3. 1 and 2

4. limit 3 to yr="2015 -Current"

Findings

A systematic review[319] examined the effects of prospective payment schemes on the quality of inpatient care across 36 studies from the United States, 15 from Asia, 11 from Europe, 1 from Canada and 1 from multiple countries. The review covered inpatient healthcare settings, including hospitals and nursing facilities, and focused on patients treated for diverse conditions affected by changes in reimbursement. The economic intervention included the introduction or modification of prospective or case-based payment mechanisms, such as per case, per diem, capitation, or global budget models. Sixty-four studies met the inclusion criteria, encompassing designs such as before-and-after, quasi-experimental, and difference-in-differences analyses. Outcomes of interest included readmissions, mortality, complications, discharge destination, and length of stay.

The synthesis found mixed results, with statistically significant effects observed in only a subset of studies. While LOS consistently declined, evidence on patient outcomes was heterogeneous and inconclusive. Mixed results were found for readmission rates: one study reported a statistically significant decrease, five studies found a statistically significant increase, and thirty-eight reported no significant change. Only one study examined reimbursement changes, specifically reductions in Medicare payments for hospitals with excess readmission rates; it found significant reduction in likelihood of readmissions by 2.5-2.8% for patients with acute myocardial infarction.

Findings on ambulation and condition at discharge indicated a negative effect of PPS on discharge ambulation outcomes, possibly explained by earlier discharge, though these studies were of limited quality. Evidence on discharge destination was also mixed, with no clear trend in how PPS influenced the likelihood of patients being discharged to home, rehabilitation, or other post-acute care settings. Overall, while PPS was consistently associated with shorter hospital stays and improved cost efficiency, the effects on quality of care and patient outcomes remained inconsistent and context dependent.

Canada

Five studies from Canada explored financial incentive models in hospital, primary care, and community mental health settings. A population-based prospective cohort study[320] evaluated a pay-for-performance scheme for family physicians aimed at improving diabetes management in primary care. The programme, introduced in 2010, provided financial incentives to physicians who adhered to evidence-based care processes for adults aged 35 years or older with diabetes. Linked administrative datasets were analysed using a propensity-score difference-in-differences design. The results showed no evidence that pay-for-performance reduced hospitalisation costs or improved outcomes. The scheme's effect was limited and heterogeneous, with no clear reduction in preventable admissions.

A population-based retrospective cohort study[321] assessed the effects of a hospital pay-for-performance policy to increase timely physician follow-up after hospital discharge and reduce readmissions. The intervention linked a small proportion of hospital funding to post-discharge performance indicators and publicly reported readmission

rates. The study population included patients discharged from acute inpatient beds for a range of medical conditions. Administrative health data from 2008 to 2014 were analysed using an interventional time series design. The study found no significant impact on outpatient visits within 14 days of discharge and 14-day readmissions or mortality following introduction of the policy.

Two related longitudinal cohort studies in Ontario[322,323] analysed the impact of a physician incentive payment designed to increase timely follow-up and reduce readmissions after hospital discharge. Both studies used population-based administrative data covering adult patients aged 18 or older discharged from acute care. The policy linked fee-for-service payments to timely physician follow-up visits within seven days of discharge, complementing earlier hospital-level incentives. Using interrupted time series analysis[322] and propensity-score overlap weights and adjustments[323], the studies assessed changes in the proportion of index discharges with successful follow-up within seven days, and subsequent 30-day readmissions. Both found no significant improvement in follow-up or reduction in readmissions after the incentive introduction. Readmission and mortality trends were unchanged compared with pre-policy periods, and there was no significant reduction in prescription fills for potentially inappropriate medication.

A mixed-methods pragmatic randomised controlled trial[324] tested whether small cash incentives improve engagement with community case management services for adults experiencing homelessness and mental illness. Participants were receiving support through the Coordinated Access to Care for the Homeless (CATCH) programme, providing brief, multidisciplinary case management after hospital discharge. They were randomly assigned to standard CATCH services or an additional weekly payment of 20 Canadian dollars conditional on maintaining engagement for up to six months. Conducting GEE models with negative binomial distribution the results showed no significant differences between groups in hospitalisations, days hospitalised or emergency department visits.

United States

We found seven studies conducted in the United States that examined financial and economic incentives within hospital and post-acute care settings. A randomised controlled trial in three hospitals[325] assessed whether behavioural economic incentives linked to remote patient monitoring improve post-discharge outcomes for adults aged 18-80 with heart failure. Discharged patients were randomly assigned to either usual care or a compound intervention consisting of daily automated weight monitoring, assessment of adherence to diuretics, and a financial incentive conditional on adherence to both medication and weighing. Analyses used a Cox proportional hazards regression model to estimate time to all-cause readmission or death within 12 months. The study found no significant difference in readmission or mortality between intervention and control groups. Adherence was high across both arms, but there were no improvements in clinical outcomes or total hospital days.

A retrospective cohort study evaluated the Medicare Bundled Payments for Care Improvement initiative among hospitals treating common medical conditions.[326] The programme replaced fee-for-service reimbursement with bundled payments for the entire episode of care, including hospitalisation and up to 90 days post-discharge. The study included Medicare patients hospitalised for congestive heart failure, pneumonia, COPD, sepsis, or acute myocardial infarction. Using a difference-in-differences design with matched control hospitals, the authors assessed changes in standardised Medicare payments per episode, readmissions, and mortality before and after programme implementation. There were no significant differences between participating and control hospitals in costs or outcomes. Medicare spending per episode and readmission rates did not change.

A longitudinal cohort study using 2018–2021 Medicare administrative data[327] assessed the impact of financially motivated therapy (operationalised as thresholding, defined as a practice of providing 10 or fewer minutes of therapy above the weekly threshold for higher reimbursement in order to garner higher payment with minimal increase in therapy staffing costs) on post-acute rehabilitation in skilled nursing facilities. It applied generalised mixed-effects logistic regression models. The incentive had a small positive effect on successful discharge to the community (odds ratio 1.03, 95% CI [1.02-1.05]), but no impact on therapy intensity or 30-day readmissions.

The introduction of a prospective per diem payment system for inpatient psychiatric care under Medicare, replacing cost-based reimbursement with fixed daily rates, increased length of stay by about one day.[328] The study used Medicare administrative claims for older adult psychiatric inpatients, compared outcomes before and after policy change.

A longitudinal study based on administrative data for nursing homes[329] examined how Medicaid nursing home reimbursement rates, bed-hold policies, and state spending on home- and community-based services (HCBS) relate to discharge patterns. The policy environment combined payment levels and bed-hold incentives with

HCBS spending with the aim of facilitating transitions from institutional to community settings. A 5% increase in Medicaid spending on HCBS was associated with a 0.47 % higher rate of successful discharge to the community.

An observational study based on administrative data[330] analysed the impact of the Medicare Bundled Payments for Care Improvement (BPCI) initiative on outcomes for Medicare beneficiaries undergoing lower extremity joint replacement in skilled nursing facilities (SNFs). The programme replaced separate payments for each service with a single bundled payment covering the full episode of care, including hospitalisation and post-acute rehabilitation. Using difference-in-differences analyses, the study found that BPCI was associated with improved outcomes (readmission rates within 30 and 90 days after SNF discharge) in some facilities but not in others, and in certain cases the reform did not reduce, or could even exacerbate, between-facility differences in performance.

Retrospective observational analysis of the impact of Medicare's BPCI model on hospital and skilled nursing facilities on discharge patterns[331] included Medicare beneficiaries hospitalised for congestive heart failure, renal failure, sepsis, pneumonia, respiratory infections, urinary tract and kidney infections, COPD, and stroke. The study used difference-in-differences analysis to compare discharge patterns and post-acute outcomes between BPCI-participating and non-participating hospitals. Participation in the bundled payment model was not associated with significant differences in discharge patterns or post-acute care outcomes.

Germany

A longitudinal cohort study using G-DRG administrative data assessed the effects of a national change in Germany's nursing home reimbursement law on patterns of hospitalisation among residents.[332] The reform introduced a revised reimbursement rule for nursing homes, under which payments were reduced after four days when a resident remained in hospital instead of in a nursing home, compared with the previous threshold of 1-3 days. The analysis used a difference-in-differences approach comparing before-and-after periods of the reform's implementation. The longer reimbursement period was associated with a statistically significant increase of 11% in short-term hospital stays.

An evaluation was conducted of the impact of Germany's national diagnostic-related payment system for specialised hospitals treating patients with mental and behavioural disorders (ICD-10 categories F00–F99). The reform, known as the Prospective Payment Scheme for Psychiatry and Psychosomatics, linked hospital reimbursement to diagnosis and treatment characteristics rather than to daily costs, with the goal of improving transparency and efficiency in psychiatric inpatient care. The study population included c.7 million inpatients with mental and behavioural disorder diagnoses.[333] The analysis applied a difference-in-differences approach using administrative databases to examine changes in length of stay before and after the introduction of the new payment scheme. The findings showed that diagnostic-related payment was associated with a statistically significant reduction in average length of stay, suggesting greater efficiency in hospital resource use.

Japan

The impact of a financial incentive for early rehabilitation in intensive care units (ICUs) was evaluated in Japan.[334] The intervention allowed hospitals to claim an additional fee when rehabilitation or mobilisation began within 48 hours of ICU admission. The policy sought to encourage earlier initiation of rehabilitation for adult ICU patients, regardless of the underlying acute condition. Interrupted time series analysis of retrospective cohort data from health records found no statistically significant change in mean length of ICU stay, mean length of hospital stay or proportion of patients discharged to home.

China

Two studies from China investigated large-scale payment reforms and their influence on hospital efficiency, expenditure, and quality of care. One was an evaluation of a pilot study in China comparing townships participating in a primary care gatekeeping programme with control townships that continued usual care.[335] The intervention was implemented in community settings under the New Rural Cooperative Medical Scheme and represented a complex reform combining demand- and supply-side components. On the demand side, patients with non-emergency conditions were required to obtain referral letters from primary care before being able to access hospital or specialist services. On the supply side, township health centres became fundholders and were allocated an annual global budget covering all ambulatory service reimbursements for their enrolled populations. The overall aim was to improve care coordination and reduce unnecessary hospital use by incentivising both providers and patients to strengthen primary care utilisation. Difference-in-differences regression models compared outcomes between pilot and non-pilot townships. The effect was reduction of 23% in hospital visits ($p=0.048$). The analyses did not distinguish the relative effects of demand-side and supply-side mechanisms.

A longitudinal cohort study using data from the Guangzhou Urban Employee Basic Medical Insurance database evaluated the Diagnosis-Intervention Packet (DIP) payment reform in China.[336] The study population comprised patients discharged from hospitals with a range of medical and surgical conditions. Interrupted time series analysis found that the policy reform had no effect on 30-day readmissions, while average LOS continued to decline compared with the pre-policy trend, though at a slower rate.

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