Is There Sufficient Economic Evidence for Reimbursing Behavioral Interventions? A Targeted Literature Review

HSD66

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Background

- Reimbursement frameworks have traditionally focused on medicines and medical devices, often overlooking preventive gains from behavior change
- Digital health interventions (DHIs) in particular represent a rapidly growing and scalable means of delivering behavioral change, offering real-time monitoring, personalized feedback, and broader population reach
- We aimed to assess the availability of economic evidence supporting behavioral interventions in improving health outcomes and reducing disease risk
- By explicitly examining DHIs, we address a gap in current reimbursement discussions which have historically concentrated on traditional behavioral programs without accounting for the unique value and implementation potential of digital solutions

Methods

- Targeted literature review (TLR) following PRISMA guidelines
- Full-text articles retrieved June 10, 2025 from PubMed and Google Scholar
- Inclusion criteria:
  - Systematic literature reviews (SLRs) published within the last 5 years
  - Reported quantitative cost-effectiveness or other economic data for behavioral interventions
  - In sub-analysis, further restricted to records focusing on DHIs specifically
- For SLRs meeting inclusion criteria, grouped records into not cost-effective, inconclusive/mixed, or cost-effective
- For records that reported ICERs, summarized the ICER ranges for the studies included across these records

Results

- Of the 95 SLRs identified, 16 met inclusion criteria, consisting of 300+ individual publications
- Reported outcomes included economic data (e.g. QALYs, life years saved) as well as BMI changes, work productivity, and symptom improvement
- Cost-effectiveness was mixed across intervention types -- group-focused interventions were generally not cost-effective, while individually-oriented approaches were more consistently cost-effective (Table 1)
- 4 of the 16 SLRs reported ICERs (Table 2) – the lowest was £119 per QALY for web-based CBT for depression, while the highest was £152,822 per QALY
- 6 of the 16 SLRs (which included 24% of all individual studies) focused on digital health interventions specifically, including web-based CBT, telehealth, SMS reminders, mobile apps, and digital coaching; these DHI-focused interventions were more consistently cost-effective

Table 1: Summary of SLRs meeting inclusion criteria with indicator of cost-effectiveness results

Ref #	Condition / Population	Intervention(s) description / Other Notes	Digital Health Intervention(s) Focused? (Yes , No)	Cost-effective? (Yes, mixed/ inconclusive, No)
1	Mental health (general)	Dance exercise, walking; 1:1 telephone or web-based support	No	Mixed/inconclusive
2	ADHD – awareness & knowledge (caregivers/clinicians/teachers)	Psychosocial therapy / parent education and behavioral management	No	Yes
3	Insomnia (adults)	Cognitive behavioral therapy (CBT) (including digital CBT-I)	Yes	Yes
4	School-based chronic disease interventions	Classroom-based CBT for mental health; certain multi-component obesity programs	No	No
5	Depression, MUS, MS; breast cancer pain; MDD history; ADHD; cancer (selected groups)	Mindfulness-based cognitive therapy (vs usual care) in selected indications	Yes	Yes
6	Depression (adults)	Face-to-face / online CBT ± antidepressants (vs usual care)	No	Yes
7	Depression (children & adolescents)	CBT – evidence remains inconclusive	No	Mixed/inconclusive
8	Prevention of overweight/obesity; obesity-related behaviors	Telehealth / eHealth delivery (selected studies)	Yes	Yes
9	Preschool autism spectrum disorder (ASD)	Communication-focused therapy (not cost-effective)	No	No
10	Youth mental disorders in LMICs – digital mental health	Effectiveness shown; cost-effectiveness data limited (Anxiety and depression in low- and middle-income countries)	Yes	Mixed/inconclusive
11	Infertility (adjunct)	Lifestyle interventions (coaching, behavioral guidance, nutrition, exercise, weight mgmt., smoking cessation, mindfulness)	No	Yes
12	Body dysmorphic disorder	Internet-based CBT	Yes	Yes
13	Mild cognitive impairment / dementia	Selected non-pharmacological interventions (e.g., activity, cognition, training, multicomponent, assistive technology and other (specialist dementia care, group living, home care vs care home))	No	Yes
14	Medically unexplained symptoms (primary care)	Psychotherapies, exercise-based, multimodal, relaxation/social support, guided self-help, GP reattribution – mixed results vs usual care	No	Mixed/inconclusive
15	Insomnia (adults) – economic review	CBT-I cost-effective vs pharmacotherapy or no treatment	Yes	Yes
16	Depression & unhealthy alcohol use – integrated care in LMIC primary care	Behavioral health integration (cost-effective estimates despite higher direct costs)	No	Yes

Table 2: Cost-effectiveness results of individual studies within SLRs that reported ICERs

Ref #	Area of Focus	No. of Studies reporting ICER	Cost per QALY Range
1	Mental health	11	£119 – £152,822
4	Chronic-disease interventions in schools	22	€275- -€19,734
7	Depression (adults)	35	From dominance to $73,841
14	Medically unexplained symptoms	21	£1,397 – £129,267

Conclusion

- Economic evidence for behavioral interventions is growing but remains limited and fragmented
- However, individually-oriented behavioral interventions tend to be more consistently cost-effective, in particular those that offer digital solutions
- Future research is needed to explore how individualized digital health interventions—anchored in real-time data and personalized guidance—can strengthen the economic case for reimbursement and accelerate the integration of behavioral change strategies into standard healthcare practice
- A promising direction may be to establish reimbursement frameworks that explicitly link behavioral change to clinical outcomes
  - This is exemplified by continuous glucose monitoring (CGM) in diabetes care, where individually-tailored digital biofeedback has improved self-management behaviors, leading to measurable clinical improvements and demonstrable economic value.

Accepted for presentation at ISPOR Europe 2025 | 9-12 November 2025 | Glasgow, Scotland, UK

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Acknowledgements

This study was funded by Abbott. FLG and AK are Abbott employees and stockholders