

# Value-based outcome evaluation methods used by occupational therapists in primary care: a scoping review

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## ABSTRACT

**Objective:** This scoping review aimed to map how occupational therapists evaluate the outcomes of services they provide within primary care. This evidence was considered in relation to how identified outcome evaluation methods align to principles of value-based health care.

**Introduction:** Primary care services are experiencing unprecedented demands. Occupational therapy is an allied health profession that supports health and care provision in primary care, using a timely and proactive approach. There has been a notable increase in occupational therapy roles across primary care services in the past decade; however, the mechanisms for evaluating outcomes and the wider impact of these services remain under-researched. The aim of value-based health care, a global transformative approach, is to establish better health outcomes for individuals and communities through addressing value in system-wide care. However, it is not yet clear how evaluation methods used within occupational therapy align to the principles of a value-based agenda.

**Inclusion criteria:** Peer-reviewed journal articles and gray literature written in English were included to identify outcome evaluation methods used by occupational therapists to evaluate the effectiveness and impact of occupational therapy services provided in a primary care setting. Outcome evaluation methods used exclusively for the purpose of conducting research and not for capturing data within an occupational therapy primary care setting as part of routine clinical practice were excluded.

**Methods:** This review followed JBI methodology for scoping reviews. The literature search was undertaken during June and July 2022. The following databases were searched from their earliest dates of availability: Cochrane Library, MEDLINE via Ovid, Embase via Ovid, CINAHL via EBSCOhost, Scopus, AMED, and Web of Science Core Collection. Two reviewers extracted data supported by an extraction form developed by the reviewers. Findings were mapped using a framework developed based on key principles of value-based health care.

**Results:** From 2394 articles, 16 eligible studies were included in the review. Of these, 9 were quantitative and 7 were of mixed methods design. Studies were from the UK, USA, Sweden, Spain, and Canada. The occupational therapy services represented were mainly heterogeneous. Four services were part of multidisciplinary programs of care and 12 services were specific to occupational therapy. Identified outcome evaluation methods broadly aligned to principles of value-based health care, with most alignment noted for measures demonstrating the aim of establishing better health. A wide range of evaluation methods were described to address both individual-level and service-level outcomes, with the use of patient-reported outcome measures identified in 13 studies. To capture patient experience, most studies reported a variety of methods. The aim of reducing the per capita cost of health care was least represented in the literature.

**Conclusion:** This scoping review highlights a multifaceted but inconsistent approach to measuring the outcomes of occupational therapy provided in primary care. This has implications for establishing effectiveness and capturing data at scale to assist with wider planning of care and to enable the profession to demonstrate its contribution to value-based health care.

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DE is an associate editor of JBI Evidence Synthesis but was not involved in the editorial processing of this manuscript. The other authors declare no conflict of interest.

DOI: 10.11124/JBIES-23-00183

**Review registration:** Open Science Framework <https://osf.io/hnaq4/>

**Keywords:** allied health profession; occupational therapy; outcome evaluation; primary health care; value-based health care

*JBI Evid Synth* 2025; 23(1):108–142.

## Introduction

Health and well-being can be most effectively achieved through holistic care provision situated as close as possible to a person's own environment.<sup>1</sup> Primary care delivers this using a whole-system approach, including initial access to a range of community-based facilities and services, across the life-span.<sup>2</sup> With the number of people older than 60 years expected to double in the next 25 years,<sup>3</sup> and with the associated rise in chronic conditions, a significant change is required to the way health care is delivered. *Population health* is used to describe ambitions for increasing the health and well-being of citizens, and includes traditional health services as well as a greater emphasis on prevention and promoting health.<sup>4</sup> To achieve the transformation required to address population health, the potential benefit of using a wider skill mix within primary care has been identified. Allied health professionals have been identified as an essential component.<sup>5–7</sup> As such, occupational therapy (OT) roles within areas such as care of older adults, vocational rehabilitation, and mental health have emerged in primary care.<sup>8</sup> Occupational therapists are allied health professionals who use a person-centered preventive approach to support health and well-being through enabling and empowering people to participate in activities of daily life that are important to them.<sup>9</sup> Through employing knowledge that spans physical and psychological health, and working with individuals of all ages and communities across the health continuum, occupational therapists are well positioned to work alongside holistic and preventive approaches.<sup>10</sup>

Evidence that recognizes the emergence of OT in primary care has started to grow.<sup>11–15</sup> Although there is some support for the prudent use of resources and cost-effectiveness of the OT role,<sup>16</sup> evidence specifically related to the effectiveness of OT interventions in this setting remains limited.<sup>13,17</sup> To continue to flourish within primary care, practitioners need to understand how best to demonstrate the effectiveness and impact of their services and, to achieve this,

which evaluation methods to use.<sup>18,19</sup> Evaluation is a key part of OT practice.<sup>20</sup> The Health Foundation defined *evaluation* as “the process of determining the merit, worth or value of something.”<sup>21(p.4)</sup> Creek observed the interchangeable use of *assessment* and *evaluation* in practice, and reaffirms the latter as a process of “measuring action.”<sup>22(p.230)</sup>

For the purpose of this review, *evaluation* refers to the methods used to show evidence of outcomes or, put another way, how the effectiveness of OT provision is determined. It includes appraising end results or outcomes of care, the therapist's evaluation of their input, as well as wider service-level judgments.<sup>22</sup> The need to consider mechanisms to address this at both an individual and wider service levels within primary care and to justify ongoing investment has been recognized.<sup>23,24</sup> However, at present, it is unclear how occupational therapists are measuring and demonstrating the success of their service within this setting.<sup>23</sup> More knowledge is needed to support sharing good practice, inform service design, and identify research gaps. Without this knowledge, the value and contribution of OT within the current transformation agenda may be difficult to establish, leading to variations in service delivery resulting in inequality of care. Given current financial pressures, establishing value and ensuring clinical and cost-effectiveness have become imperative.<sup>25</sup> It has become essential to demonstrate efficiency alongside effectiveness through using evaluation methods that show the impact of health care provision at all levels; it has also become necessary to better understand what constitutes value within this process.

Value-based health care (VBHC) addresses the need for sustainability in health and encompasses the aim of achieving better outcomes of care per dollar spent.<sup>26</sup> Essentially, a system that aims to be value-based emphasizes through evaluation what works best for people, with elements synonymous to achieving equity and improved population health.<sup>27</sup> The approach aligns with goals of primary care transformation,<sup>28</sup> as it addresses health care across the

lifespan to maintain population wellness. As such, the person-centered approach has also been recognized for its discernible alignment to values underpinning OT.<sup>10</sup> Internationally, VBHC has been applied and adapted to local needs.<sup>29</sup> In the United States, where the consumer-based model is gaining momentum,<sup>30</sup> value is achieved through Donald Berwick's "triple aim" goals of improving population health, improving patient experience, and reducing cost.<sup>31</sup> In publicly funded systems such as the United Kingdom, a population-based perspective places greater emphasis on quality and promoting value through reducing waste.<sup>32</sup> Sir Muir Gray identifies interdependent dimensions of value to achieve this: personal value, based on meaningful outcomes and experiences; the effective use of resources through technical value; and allocative value, a consideration for resource distribution across populations.<sup>33</sup> Despite differing perspectives, the ambition to improve patient outcomes is central to increasing value.<sup>27</sup> This agreement has informed a definition of VBHC as "the equitable, sustainable and transparent use of available resources to achieve better outcomes and experiences for every person."<sup>34(p.3)</sup> Given the potential for this approach to have benefits for communities at scale, adoption is growing and policy-driven international examples of VBHC programs are increasingly described.<sup>32,35</sup>

Although consistent with professional ambitions, how OT aligns to VBHC is less clear. Evidence for the affiliation of OT with this approach is currently limited.<sup>36</sup> Moreover, measuring and evaluating health care provision against dimensions of VBHC in wider practice is not yet established.<sup>37</sup> To address implementation of Gray's 3 types of value,<sup>33</sup> the literature highlights outcome measurement as pivotal for enabling comparison relative to cost.<sup>38-40</sup> Along with more clinical-based outcomes to support understanding population health,<sup>40</sup> person-centered health and quality-of-life outcomes, particularly patient-reported outcome measures (PROMs) and patient-reported experience measures (PREMs), have been gaining popularity.<sup>39,41</sup> These inform shared decision-making and measure effectiveness of care provided to individuals; however, captured at scale, technical value can be addressed at service-provision level, and, when data are aggregated, allocative value can support high-level change.<sup>40,41</sup> Mechanisms described for systems pursuing the triple aim build on earlier work<sup>4</sup> and, to accommodate growing emphasis on population health, describe

outcomes for measurement through a series of domains.<sup>42</sup> To determine health of the population, domains include health outcomes, disease burden, behavioral factors, participation and functioning, and quality of life. To consider patient experience through quality of care, domains include patient safety (hospital admissions or avoidance), timeliness (eg, waiting times or accessing services), responsiveness (communication and coordination of care), effectiveness (experiences of care provided), and accessibility (accessing care), and within the dimension of cost, the analysis of direct and indirect cost.<sup>42</sup> As the focus of measuring outcomes appears central to VBHC theory, albeit in different ways, plans to standardize data collection appear underway.<sup>43</sup> At present, however, evidence relating to how this is being embedded remains limited.<sup>37</sup>

A comparative study mapping triple aim alignment reported greater consideration of patient experience than other outcome domains and a lack of consistency in measures used globally.<sup>44</sup> A systematic review considering the impact of the triple aim at the policy level also highlighted the need for a more consistent approach.<sup>37</sup> These findings are consistent with a review conducted in the context of primary care.<sup>45</sup> While all of these papers provide examples of framework application focused on the population level, for OT that operates at a micro or individual service-user level, understanding is needed on which evaluation methods can contribute to higher-level objectives. As such, recommendations aligning the profession to VBHC are emerging.<sup>36</sup> Some insight has been identified into how OT can demonstrate value,<sup>46</sup> although there is recognition that occupational therapists need to do more to position themselves within the value-based landscape.<sup>36</sup> This, together with the lack of consensus about what to measure to establish value, suggests that more insight is required into how occupational therapists are capturing the value of their services and contributing to VBHC ambitions.

With current uncertainty about how best to achieve outcome evaluation<sup>19</sup> and a notable lack of evidence to support OT's alignment to VBHC, there is a risk of the profession getting left behind. Identifying how occupational therapists are evaluating effectiveness and wider impact within primary care transformation is essential. Practitioners and commissioners need to understand what value OT can bring to primary care, thus a thorough review is required of

what evaluation outcomes are currently being used to demonstrate this. An initial search of PubMed, Cochrane Database of Systematic Reviews, the JBI Evidence-Based Practice database, PROSPERO, Open Science Framework, and Figshare identified literature on the emergence of OT roles. A number of clinical trials were identified; however, research was sparse on outcome evaluation methods used routinely by occupational therapists in primary care. Scoping reviews have been conducted that map interventions and services used,<sup>13,17</sup> and include a focus on underserved populations<sup>47</sup>; however, no completed or in-progress systematic or scoping reviews with specific consideration of OT in primary care, outcome evaluation methods, and VBHC were found.

The lack of literature and an accelerated agenda for OT in primary care suggests that a review to establish what is currently known about evaluation methods used in practice and how they align to establishing VBHC is required. Greater understanding may offer insight for stakeholders, inform service design, and assist with identifying gaps for future research. The objective of this scoping review, therefore, was to identify the outcome evaluation methods used by OT services in primary care, at both an individual care level and at a service level, to provide an increased understanding of how the profession is currently evaluating outcomes and showing the effectiveness of their services, and to review how the methods used align to the VBHC agenda.

**Review questions**

- i) What are the outcome evaluation methods being used by occupational therapists in primary care?
- ii) Do the outcome evaluation methods used by occupational therapists in primary care align to the principles of VBHC?

**Inclusion criteria**

*Participants*

This scoping review considered qualified occupational therapists, regardless of grade, position, or specialty, who provide services within an OT-specific primary care service or as part of a multidisciplinary team.

*Concept*

The review identified literature that described outcome evaluation methods used by occupational therapists in primary care practice, and included those used by occupational therapists specifically as well as those used by occupational therapists working as part of a multidisciplinary team. Evaluation methods included individual patient and service-level outcomes used in all types of OT primary care services, irrespective of whether they aligned with VBHC as determined by an analytic framework (see Table 1). Studies that described evaluation outcome methods used solely for a trial, research project, or academic clinic and not described as part of existing routine OT practice were excluded, as the aims of the review were

**Table 1:** Value-based health care analytic framework

Framework	Health outcome	Experience outcome	Cost value outcome
Triple value model, UK <sup>33</sup>	Personal value: outcomes meaningful for individuals	Technical value: optimal allocation of resources (removing waste, right time/right place)	Allocative value: distribution of resources across population
Analytic population health framework by Struijs et al. <sup>42</sup>	Health outcomes Disease burden Behavioral/physiological factors Participation Functioning/quality of life	Patient safety Timeliness Responsiveness Effectiveness Accessibility	Direct costs Indirect costs
Outcome evaluation methods as indicated by VBHC theory <sup>33,42</sup>	Health outcomes PROMs Performance indicators PREMs	PREMs PROMs Performance indicators Cost analysis	Outcomes/cost analysis/ resource analysis
VBHC principles for the current scoping review analysis	Maintaining better health Evaluation methods*: Health outcomes PROMs Performance indicators	Improved experience Evaluation methods*: PREMs Performance indicators	Higher value Evaluation methods*: Cost/ resource analysis

\*Evaluation methods considered by the authors to assess alignment to principles of developed framework. PREMs, patient-report experience measures; PROMs, patient-reported outcome measures; VBHC, value-based health care.

to capture what is being done in everyday practice. Where this was not clear, authors were contacted and articles were excluded if they did not appear to meet the inclusion criteria or in the absence of clarification.

### *Context*

For the purpose of this review, OT services were located within a primary care first-point-of-contact setting, as described by the World Health Organization, which includes models of provision such as family practice or general practice.<sup>48</sup> All countries were included, and studies were not limited by race, culture, or location. Services located within a hospital or hosted by secondary care organizations, such as outpatient services or emergency services, were excluded.

### *Types of sources*

Qualitative, quantitative, and mixed methods study designs were considered. Systematic reviews, textual evidence papers, professional and government reports, and guidelines and unpublished material were also included if they met the inclusion criteria outlined.

### **Methods**

This scoping review was conducted in accordance with the JBI methodology<sup>49</sup> and reported in line with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR).<sup>50</sup> This review was also conducted in accordance with an a priori protocol.<sup>51</sup>

### *Search strategy*

Guidance was sought from senior health and academic librarians to locate both published and unpublished studies, reports, and guidelines. Following the initial search previously described, text words contained in the titles and abstracts of relevant articles and the index terms used to describe the articles were used to develop a full search strategy. The search strategy was adapted for each included database and/or information source to accommodate variable keyword and subject term descriptors. Cochrane Database of Systematic Reviews, MEDLINE (Ovid), Embase (Ovid), CINAHL (EBSCOhost), Scopus, AMED, and Web of Science Core Collection were searched in June and July 2022 (see Appendix I). The search also included hand-screening the reference lists of all included sources of evidence, and forward and

backward citation checking was conducted to identify additional sources. Authors were contacted when additional information or reports were required. Due to limited resources, including time and finances, studies included were limited to the English language.

Gray literature was searched in the following sources: EThOS, Dimensions, ProQuest Dissertations and Theses Global, Overton, DART Europe, Open Access Theses and Dissertations, and Google using an advanced search and review of the first 5 pages. The search also included contacting the primary care practice advisor at the Royal College of Occupational Therapists for additional sources; this step was not included in the protocol, and thus represents a deviation. Included gray literature was limited to English language. No date limits were applied to the gray literature or peer-reviewed searches.

Additional sources of unpublished studies and gray literature were also searched, and a pragmatic approach was used to include a selection of the larger OT member organization websites, including the Royal College of Occupational Therapists, Canadian Association of Occupational Therapists, American Occupational Therapy Association, and Occupational Therapy Australia. Government organization websites in the UK were also searched for relevant reports, including the Scottish Government, NHS Scotland, Northern Ireland Executive, GOV.UK, NHS England, GOV.Wales, and NHS Wales.

### *Study selection*

Following the searches, identified citations were collated and uploaded into EndNote v20.4.1 (Clarivate Analytics, PA, USA) and duplicates removed. Citation details were then imported into Covidence data extraction software (Veritas Health Innovation, Melbourne, Australia). Following pilot testing, titles and abstracts were screened in duplicate by 2 reviewers independently (LI and CP) for assessment against the inclusion criteria. In the case of gray literature where abstracts were seldom available, executive summaries or tables of contents were reviewed by the same reviewers. No disagreements required review by a third reviewer. For potentially relevant papers where available information was insufficient, 7 authors were contacted (6 successfully) by email to request additional details. Full-text papers were retrieved and managed in Covidence

and assessed in detail against the inclusion criteria by the lead reviewer (LI). All of the included papers and a percentage of excluded papers were reviewed by the second reviewer (CP), and incongruities were resolved through additional discussions with a third reviewer (AC). Reasons were noted for excluded sources of evidence at the full-text review stage (see Appendix II).

### Data extraction

A data charting template tool was developed by the reviewers and then piloted, with amendments made to the sources of evidence categories (see Appendix III). Data were then extracted from papers by the lead reviewer. The data extracted included specific details about the evidence source and study design, OT services provided, the setting and interventions used, evaluation methods, and alignment to VBHC, to enable consideration of the review questions. All extracted data were reviewed by the second reviewer (CP), and findings were discussed with the third reviewer (AC) during this stage. Although originally included in the review protocol, assessment of the methodological quality of included papers was not charted, as this is not typically required in a scoping review and thus is acknowledged as a deviation.

### Data analysis and presentation

The results charted from the scoping review have been presented descriptively to enable consideration of the review questions using a deductive approach.<sup>52</sup> With inconsistency in how best to measure value and from observing interdependent aspects of the 3 concepts of value<sup>33</sup> and triple aim dimensions,<sup>42</sup> a simplified framework for data charting and analysis has been developed by the review team (see column 4, Table 1). International variations on VBHC theory have been observed, but to simplify analysis, domains proposed by Struijs *et al.*<sup>42</sup> have been used to map OT evaluation methods to broad categories. For the purpose of this review, VBHC principles are, therefore, indicated as maintaining better health, including, for example, health outcomes, PROMs, and performance indicators; improved experience to capture measures of patient experience and quality of care; and higher value to consider measures for analyzing costs and resources. The findings are discussed in a narrative summary, and accompanying visual representations have been used to report findings.

## Results

### Study inclusion

Database searches identified 2361 records, and an additional 33 were identified from sources of gray literature (see Figure 1). After duplicates from both sources were removed, the title and abstracts of 1485 records were screened. Of those, a total of 87 records were identified for retrieval. Despite contacting authors, 2 gray literature sources and 4 conference abstracts were unable to be retrieved in full. Therefore, full-text screening was conducted on 81 studies, with 65 excluded. As outlined in Appendix II, reasons for exclusion were noted. A total of 16 studies were included in the review.

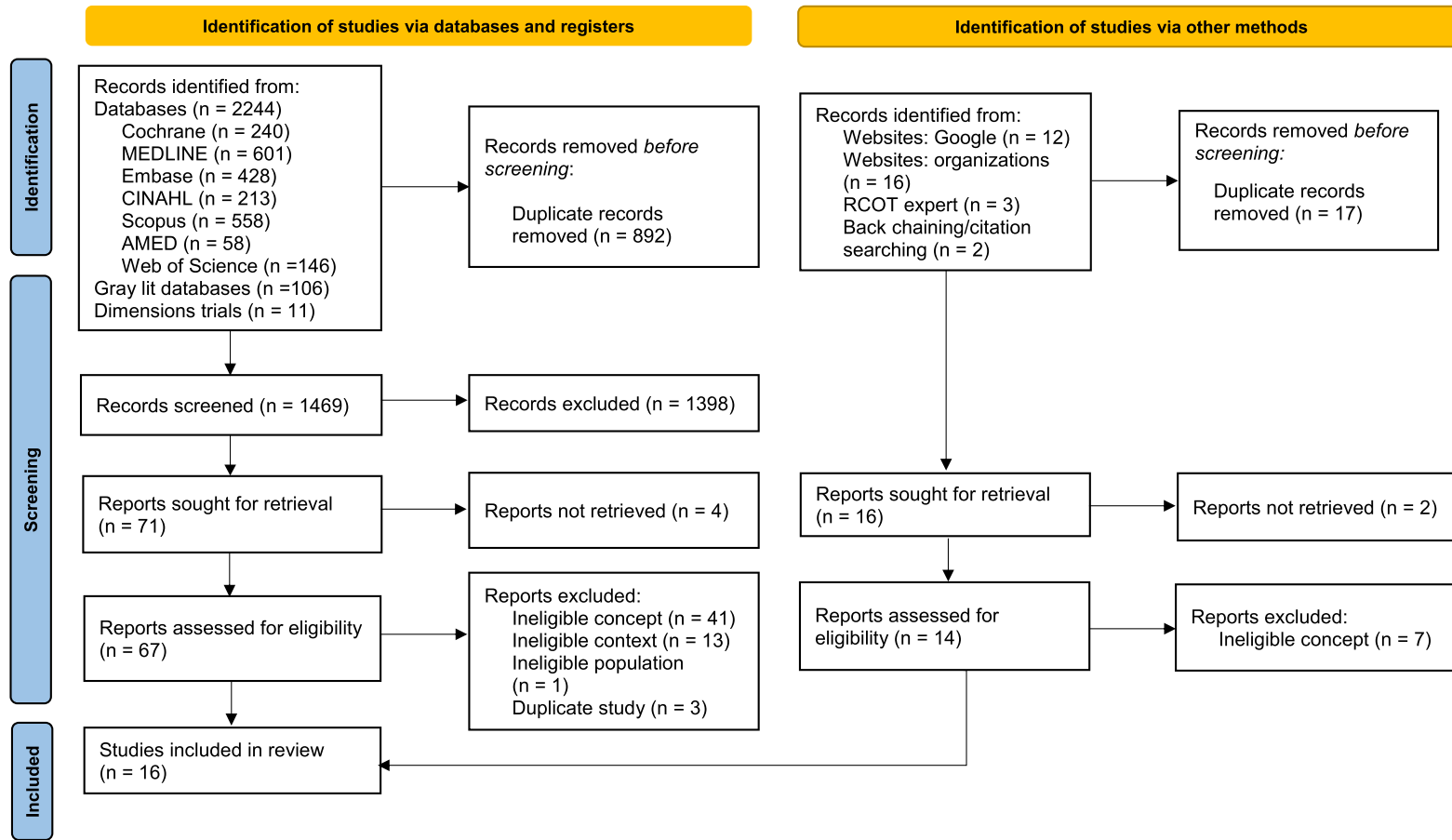
### Characteristics of included studies

Of the included studies, 1 study was conducted in Spain,<sup>53</sup> 9 were from the UK,<sup>54–62</sup> 2 were from Sweden,<sup>63,64</sup> 1 was from Canada,<sup>65</sup> and 3 were from the USA.<sup>66–68</sup> Of these, 4 reported on evaluation methods for OT delivered as part of a multidisciplinary team approach where interventions were based on motor skills<sup>53</sup> and biopsychosocial approaches<sup>63,64,67</sup> for chronic pain<sup>53,64,67</sup> and stress-related disorders.<sup>63</sup> Within the other 12 studies, details were reported on evaluation methods used specifically in OT service provision. Of those, 3 did not identify interventions used.<sup>54,61,65</sup> The remaining studies reported a range of interventions delivered by OT practice in primary care settings, including self-management for physical chronic conditions,<sup>55</sup> functional skills/activities of daily living provided as part of mental health care,<sup>66,68</sup> psychological planning in mental health,<sup>56</sup> a range of preventive interventions in the care of frail older adults,<sup>60</sup> and a range of preventive interventions in mental health.<sup>62</sup> Three studies described various preventive and self-management interventions in services provided to those with either physical or mental health conditions (or a combination),<sup>57–59</sup> 2 of which included vocational rehabilitation advice<sup>57,59</sup> (see Appendix IV). All studies included were OT services working with individuals aged 16 years and older with the exception of 1 study that reported an age range of between 13 and 91 years. The sample sizes ranged from a single case<sup>66</sup> to 424 individuals<sup>62</sup> who had received OT intervention.

### Study design

Of the 16 included studies, 9 were quantitative. These included 1 case report,<sup>66</sup> 5 uncontrolled

**Figure 1:** Search results and source of evidence selection and inclusion process<sup>50</sup>



longitudinal or retrospective quasi-experimental pre-test-post-test interventions,<sup>53,54,63,64,68</sup> and 3 observational cohort designs.<sup>60,61,67</sup> The remaining 7 studies were mixed methods, describing outcome evaluation methods used by occupational therapists.<sup>56–62</sup> Most of the studies identified through gray literature searching were reports of service evaluations using a range of methods.<sup>57–59,62</sup> These, together with the mixed methods studies identified from the database searching, mostly included pre-test-post-test outcome data combined with a qualitative element of either service-user or staff interviews or focus groups,<sup>55,65</sup> collected feedback,<sup>57,59,62</sup> or patient experience captured through satisfaction surveys.<sup>56</sup>

### Review findings

Across the services, a wide range of methods to evaluate outcomes were reported (review question 1). Table 2 provides a summary of all evaluation methods identified. To support a comprehensive analysis of these within the context of VBHC (review question 2), a narrative review of the evidence is presented within the 3 broad principles of VBHC as outlined within the review team's VBHC analytic framework. The number of studies that addressed each principle is summarized in Figure 2.

### Better health

All but 1 included study reported details of outcome measures that align to the VBHC ambition of achieving better population health and well-being (Table 2). A range of methods were used to show outcomes at both an individual level and in wider service review; however, the key method for reporting OT outcomes was through the use of PROMs.

Of the included studies, 13 specified the use of 1 or more PROMs in services provided.<sup>53–56,58,61–68</sup> Three studies used unvalidated measures, including visual analogue scales<sup>64,67</sup> and an unvalidated questionnaire rating health and disease.<sup>53</sup> In the other studies, 4 broad categories of PROMs were identified, including profession-specific, functional or skills-for-life, condition-specific, and quality-of-life and well-being measures. A profession-specific measure was used in 7 studies and mostly considered the Canadian Occupational Performance Measure (COPM)<sup>55,58,61,65,66,68</sup> developed by Law *et al.*,<sup>69</sup> a measure that evaluates an individual's satisfaction and performance with meaningful occupations pre- and post-intervention.

Another profession-specific measure, the Binary Individualized Outcome Measure,<sup>75</sup> was adapted for an OT service audit and measured goal achievement during an early example of OT provision in primary care.<sup>54</sup> When considering how these OT PROMs were used in outcome evaluation, reports of completion both at baseline and post-intervention for the COPM were relatively low. Completion of both ranged from between 1 to 45 people within the studies, with a mean number of 21.<sup>55,58,61,65,66,68</sup>

Alongside a condition-specific tool for measuring the impact of fibromyalgia,<sup>79</sup> functional and skills-for-life PROMs were used in a study of a multidisciplinary program delivered for the management of fibromyalgia.<sup>53</sup> These included the Barthel Index for Activities of Daily Living<sup>80</sup> and the Lawton and Brody Scale of instrumental activities of daily living.<sup>81</sup> In addition, the Social Functioning Scale<sup>72</sup> was used in a mixed methods PhD study of mental health services in primary care<sup>56</sup> alongside 2 clinician-rated measures evaluating symptoms and ability to cope.<sup>73,74</sup> Measures that were condition-specific were also considered in 2 other studies<sup>55,63</sup> (the specific tools<sup>70,77</sup> are presented in Table 2), and a global PROM to evaluate management of chronic symptoms post intervention<sup>71</sup> was observed in a study evaluating primary care OT with people managing diabetes.<sup>55</sup>

The 4 studies that used quality-of-life and well-being PROMs<sup>76,82–84</sup> described a range of different measures to address individuals experiencing burn-out,<sup>63</sup> chronic pain,<sup>61</sup> unspecified physical and mental health conditions,<sup>58</sup> and specific mental health conditions.<sup>62</sup> Of these studies, all used this PROM among other disease-specific or profession-specific measures, with the exception of work described in a comprehensive service evaluation<sup>62</sup> where a single PROM was used alongside other methods and service-level performance indicators to demonstrate achieving better health.

While the majority of the studies incorporated the use of PROMs, a small number of other methods were reported for service evaluation and categorized as measures to address achieving better health. One service reported collecting numerical data on functional achievements,<sup>57</sup> while another that developed a new service in mental and physical health collected data for a comparison of documents provided to confirm ill health to employers and medication reviews.<sup>59</sup> Another study that described OT service



**Table 2:** Summary of evaluation methods used by occupational therapists in primary care

Citation	VBHC principle better health: PROMS/clinical-based measures	VBHC principle: improved experience (patient experience)	VBHC principle: improved experience (quality of care)	VBHC principle: higher value
Clarke, 2019 <sup>55</sup>	Canadian Occupational Performance Measure <sup>69</sup> Diabetes Self-Management Questionnaire <sup>70</sup> Stanford Self-Efficacy in Managing Chronic Disease 6-item Scale <sup>71</sup>	Semi-structured patient interview	Not reported	Not reported
Cook, 2001 <sup>56</sup>	Engagement measure (unvalidated) Social Functioning Scale <sup>72</sup> Modified Krawiecka, Goldberg, Vaughan scale <sup>73</sup> Health of the Nation Outcome Scales <sup>74</sup> (clinician rated)	Satisfaction interview/use of Social Functioning Scale	Staff interviews	Cost analysis
Davies et al., 2021 <sup>57</sup>	Percentage of functional improvements	Patient testimonials	Number of referrals Admission, average wait, prevention, and stakeholder testimonials	Not reported
Donnelly et al., 2017 <sup>65</sup>	Canadian Occupational Performance Measure <sup>69</sup>	Not reported	Occupational therapy focus group to explore feasibility of measure	Not reported
Eames et al., 1999 <sup>54</sup>	The Westcotes Individualised Outcome Measure for occupational therapy (adaptation of Binary Individualized Outcome Measure) <sup>75</sup>	Not reported	Not reported	Not reported
Ekvall Hansson et al., 2009 <sup>63</sup>	Unvalidated questionnaire EuroQol-5D visual analogue scale <sup>76</sup> Shirom-Melamed Burnout Questionnaire <sup>77</sup>	Client Satisfaction Questionnaire <sup>78</sup>	Not reported	Descriptive cost analysis
Foran-Conn and Shah-Hall, undated <sup>59</sup>	Standardized pre-/post-measures (unspecified) Comparison of documents to confirm ill health to employers and medication changes Subjective review of long-term outcomes	Patient feedback	Number of assessments completed Comparison of self-management interventions Number of contacts at GP practice Comparison of mental health referrals made GP feedback	Limited cost analysis
Gonzalez Gonzalez et al., 2015 <sup>53</sup>	Fibromyalgia Impact Questionnaire <sup>79</sup> Barthel Index (activities of daily living) <sup>80</sup> Lawton and Brody Scale (instrumental activities of daily living) <sup>81</sup> Unvalidated questionnaire (perception of disease/health)	Unknown (not available translated)	Not reported	Not reported
Greer et al., 2019 <sup>58</sup>	Canadian Occupational Performance Measure <sup>69</sup> EUROHIS-QOL 8-item index <sup>82</sup>	Patient and carer interviews	GP satisfaction (semi-structured interviews) Frequency of GP contacts Occupational therapist feedback (semi-structured interviews)	Not reported
Mårtensson et al., 1999 <sup>64</sup>	Unvalidated visual analogue scale (well-being, pain, and complaints) Personality-Physical-Cognitive Questionnaire	Not reported	Not reported	Not reported
Roberts et al., 1993 <sup>67</sup>	Unvalidated pain visual analogue questionnaire	PREM questionnaire	Not reported	Descriptive cost analysis

Table 2: (continued)

Citation	VBHC principle better health: PROMS/clinical-based measures	VBHC principle: improved experience (patient experience)	VBHC principle: improved experience (quality of care)	VBHC principle: higher value
Sanderson <i>et al.</i> , undated <sup>61</sup>	Canadian Occupational Performance Measure <sup>69</sup> Warwick-Edinburgh Mental Wellbeing Scale <sup>83</sup>	Patient feedback	Themes of progress GP feedback Analysis of patient progress dependent on area of deprivation	Not reported
Slarsky and Kumar, 2021 <sup>66</sup>	Canadian Occupational Performance Measure <sup>69</sup>	Not reported	Not reported	Not reported
Synovec, 2020 <sup>68</sup>	Canadian Occupational Performance Measure <sup>69</sup>	Not reported	Number of individuals completing intervention Frequency/type of goals Diagnostic demographics of referrals	Not reported
Welsh Government North Wales Regional Partnership Board, 2022 <sup>62</sup>	Recovering Quality of Life questionnaire <sup>84</sup> Predicted outcomes, care episode outcomes	Generic PREM feedback form	Crisis and risk reduced (subjective) Number of referrals Reduction of GP appointments and community mental health team referrals Case studies Stakeholder feedback	Cost-saving analysis (case study)
Whelan <i>et al.</i> , 2016 <sup>60</sup>	Not reported	Patient feedback	Number of falls post-intervention Safety and confidence in ability to manage Repeat appointments at GP practice Hospital admissions/readmissions	Not reported

GP, general practitioner; PREM, patient-reported experience measure; PROM, patient reported outcome measure; VBHC, value-based health care.

provision in primary care as part of a larger regional development reported the predicted clinical outcomes as a measure of care, which arguably could be used for care of the individual as well as for analysis service-wide.<sup>62</sup>

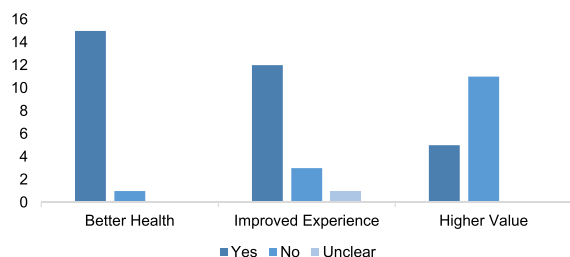
**Improved experience**

The focus on improved patient experience to uphold quality of care and achieve value was observed in 12 of the 16 studies (Table 2). In studies reporting data collected directly from people accessing care, a number of different approaches were represented. Interviews

were used in 3 studies, 1 of which used an independent researcher to objectively collate findings,<sup>58</sup> while the others reported findings from interviews conducted by the intervening therapists.<sup>55,56</sup> These included a mixed methods study<sup>55</sup> evaluating the effect of a primary care OT service for diabetes self-management where the author used qualitative findings from people who had used OT services, alongside quantitative data, to demonstrate improvement toward achieving their personal goals.

Aside from the aforementioned studies, a number of studies collecting patient feedback provided brief examples through the use of narratives but without details of the specific methods of data collection.<sup>57,59-61</sup> This feedback was specifically with regard to OT service provision, enabling some qualitative evaluation on the impact of OT. In contrast, other studies provided details of feedback that was global and not fully attributed to OT. In the case of the iCAN Primary Care project reported by the Welsh Government North Wales Regional Partnership Board,<sup>62</sup> people reported satisfaction levels with the care they had received from their overall program. Other OT services provided as part of a multidisciplinary program

Figure 2: Alignment of number of included studies to value-based health care framework



reported feedback, with only 1 reporting the use of a validated measure: Ekvall Hansson *et al.*<sup>63</sup> used the Client Satisfaction Questionnaire<sup>78</sup> in a study of 13 service users to evaluate a multidisciplinary-led stress management course delivered for burnout.

A number of other methods of outcome evaluation were considered that can be broadly categorized as part of the quality-of-care aspect of overall experience (Table 2). Of the peer-reviewed studies, Donnelly *et al.*<sup>65</sup> used a practitioner focus group to explore the feasibility of using an outcome measure as part of care provided to individuals in a primary care service. Cook's study<sup>56</sup> used qualitative staff interviews to explore the impact of a new service, while the gray literature reported outcomes used to evaluate a range of new models of care.<sup>57–62,68</sup> These outcomes included the use of data collected from people using the service. Two studies described referral numbers,<sup>57,62</sup> aligning to the quality domain of accessibility, along with 2 other studies that described data for people accessing assessment and interventions.<sup>59,68</sup> Also within this domain was the outcome of a reduction in general practitioner (GP) medical appointments required for individuals after OT intervention, as identified across 4 studies.<sup>58–60,62</sup>

Measures of quality of care related to the domain of patient safety were also observed. Two studies reported on avoidance of hospital admission,<sup>57,60</sup> with 1 of them also including a measure of fall reduction.<sup>57</sup> Another study described an outcome of mental health crisis reduction.<sup>62</sup> While the gray literature varied in methods used and did not obviously align with a domain of quality described in previous frameworks, the majority of sources appeared to incorporate some aspect of qualitative data to inform their overall outcome evaluations. Although this could also denote evidence for the principle of *better health outcomes*, 5 of 7 studies identified in the gray literature incorporated feedback gathered from occupational therapists, GPs, or other stakeholders to support evaluation of the impact of the overall services provided.<sup>57–59,61,62</sup>

### Higher value

To determine the cost-effectiveness of services provided, 5 of the 16 studies considered cost analysis (Table 2). Cook's<sup>56</sup> PhD thesis presented a comprehensive account of an economic evaluation as part of a case study that evaluated an early example of OT delivered in primary care. The analysis identified

costs of the newly established service for 37 individuals on an intention-to-treat basis, and attributed added costs following integration of the service to re-engagement into wider mental health services for individuals experiencing psychosis. Estimated costs 2 years before and 2 years after the start of the service were compared, while a longer-term analysis was recommended for a more accurate understanding of the longer-term effects of the service. The thesis provided the most comprehensive review among the studies that considered cost as part of reported outcomes.<sup>56</sup> Of the other studies, mainly descriptive estimates were provided, omitting indirect costs, with analysis focused on OT and GP time comparisons,<sup>59</sup> and the predicted avoidance of using medications and accessing community mental health services following OT intervention in primary care.<sup>62</sup>

Roberts *et al.*<sup>67</sup> provided a cost estimate of a behavioral rehabilitation program delivered between 1982 and 1990 and compared it to an estimated cost of a medical treatment used in chronic pain. Also reporting a program delivered as part of multidisciplinary team care, Ekvall Hansson *et al.*<sup>63</sup> presented outcomes for a stress management program and reported cost-effectiveness based on course duration and the OT and physiotherapy salary costs without a direct comparison to alternative service provision. These 2 studies give some consideration of cost; however, the true financial value of OT intervention, specifically among multidisciplinary teams, was not possible to derive.

### Discussion

This review identified methods for OT outcome evaluation used in services across primary care. A secondary aim was to understand how evaluation methods align with principles of VBHC. In the studies presented, findings were consistent with recent evidence describing the scope of OT interventions and services across primary care.<sup>13,17</sup> To demonstrate effectiveness of care provided and to show wider impact, a range of outcome evaluation methods were identified and have been presented. Viewed broadly within a framework underpinned with VBHC theory, the methods demonstrate alignment and indicate that occupational therapists are using methods that can determine value. The main findings, however, suggest that there is no consensus among

practitioners regarding the methods used to demonstrate value, and potential implications for the profession are discussed.

The review showed consistent use of outcome evaluation methods that align to the value-based goal of supporting health. A range of outcome dimensions were considered in order to evaluate and demonstrate the impact of OT services on people's health. These included thorough use of a range of condition-specific, profession-specific, global health, functional, and quality-of-life measures. In comparison to the evaluation dimensions posed to measure health status in the framework by Struijs *et al.*,<sup>42</sup> functioning/quality of life was the only dimension that appeared to align with how OT services were evaluating health outcomes within the included studies. This finding is unsurprising given that achieving health through promoting participation in occupations through function is central to the beliefs of the profession.<sup>9</sup> Other domains outlined within the measurement framework, such as disease burden, were not considered in the included studies.

While it is recognized that some domains are not relevant<sup>44</sup> (eg, some aspects of population health are not suitable for evaluation within services operating at a micro level), it is interesting that the outcome domain of *participation* was not identified. In OT, participation (ie, what people take part in) is an essential construct and fundamental focus of the profession.<sup>85</sup> Participation is also considered a valid outcome for people accessing OT in primary care.<sup>23</sup> In addition, theoretical perspectives of the OT interpretation of participation align closely with international classifications of function and disability on which the population health framework is underpinned.<sup>4</sup> One explanation for this unexpected finding is that occupational therapists consider participation within measures that address other spheres of health, such as function and quality of life.<sup>23</sup> Domains such as function or disease burden can impact participation. As such, participation is often viewed more broadly as an outcome of care, demonstrating effectiveness at many levels.<sup>86</sup> If measures address constructs significant to OT practice in a way that affects the profession's ability to demonstrate its full impact, it is unclear how stakeholders identify and interpret these data for the purpose of higher-level care. Other authors have identified similar difficulties in applying the framework to practice, recognizing that interpreting and

using the framework to suit local contexts could pose challenges with demonstrating progress toward VBHC.<sup>37,45</sup> This potential shortfall could also be problematic for OT.<sup>36</sup>

One of the main mechanisms for demonstrating effectiveness and capturing health outcome data consistent with VBHC was through the use of PROMs. This is contrary to the international review by Hendrikx *et al.*<sup>44</sup> of measures to support the triple aim in practice, where a low uptake of the use of PROMs was observed. Within the studies included in the present review, most used a PROM to address outcomes of health and, in over half of the studies, this included the use of more than one. While patterns identified from the review suggest a preference for profession-specific or global health measures in OT services, there is no established consensus. This was noted even in the studies offering similar services.<sup>57-59</sup> Although this may suggest that occupational therapists recognize the importance of using data from patients using the services, which is a concept imperative to VBHC theory,<sup>39,87</sup> limited insight was derived into how measures are being selected.

One similarity observed across the studies was the inclusion of the OT-specific COPM measure.<sup>69</sup> This may be attributed to its wide application<sup>68</sup> and through previous calls to capture the unique impact of the profession in primary care.<sup>65,88,89</sup> The COPM is also compatible with a collaborative approach. This supports the findings of the qualitative study by Wong *et al.* where goal-orientated care in OT was recognized as fundamental to achieving personal value.<sup>36</sup> Moreover, goal-based measures to operationalize VBHC have also been advocated to assist with decision-making,<sup>39</sup> a key aspect of person-centered care and synonymous with achieving value.<sup>40</sup> Despite this, within the included studies, uptake of the COPM beyond assessment remained low. For OT, this may be limiting. To address this, Donnelly *et al.*<sup>65</sup> examined the feasibility of using the COPM in primary care and reported that only 14% of 161 measures in the COPM were readministered post-intervention to capture change. The difficulties with embedding outcome measures in OT practice are long-standing.<sup>90</sup> Within a primary care context for OT, brief episodes of care commonly provided and limited opportunities for follow-up are attributed to the challenges of post-intervention evaluation.<sup>65</sup> Brief interventions and the inability to capture post-intervention outcome data were consistently identified within evaluations

conducted by other practitioners in this review.<sup>58</sup> This limits capacity for demonstrating effectiveness and impact, and is consistent with previous reports that suggest further work is needed.<sup>23,65</sup> This is particularly important if occupational therapists also need to consider further alignment of tools to the domains of population health. While some of the review findings encouragingly demonstrate that occupational therapists are gathering data on their contribution to support the achievement of better health, further research is warranted.<sup>46</sup>

Another important part of the VBHC approach is considering aspects of personal experience to determine the quality of care received by patients.<sup>91</sup> Alongside improving health outcomes, this interdependent aspect of value supports the second aim of the triple aim model, in that when patient experience is improved, health can be optimized. To achieve this, resource allocation is considered and organized with a focus on quality, safety, and removing waste.<sup>33</sup> Within the review, a wide range of evaluation methods encapsulating domains of patient experience and quality dimensions were observed. Creative examples of capturing both patient experience and the construct of quality were consistent in the service evaluations from the gray literature. Combined with measures to demonstrate better health, occupational therapists appear to recognize the need to triangulate data to evidence the outcomes of their care, not only at an individual level but also at service and population levels. It may also be the person-centered approach synonymous with VBHC<sup>40</sup> and inherent to OT<sup>86</sup> that supports practitioners to readily consider evaluative data taken directly from those using their services. While this appears well considered by the OT services included in the review, the evidence for how well patient experience is considered more globally appears conflicted. Hendrikx *et al.*<sup>44</sup> reported a general lack of consideration for patient perspectives within triple aim initiatives internationally, whereas other commentators have reported more favorably on evidence of patient experience measurement.<sup>45</sup> To enable integrated system-wide planning and improve outcomes, the use of patient experience needs to be improved.<sup>92</sup> On the basis of this review's findings, OT is reassuringly aligning with this agenda.

Similar to using PROMs in practice, however, variation was noted in the measures used to address patient experience and quality. The ways of collecting

patient feedback varied, with reports of a single validated measure among patient narratives and other methods. The most consistent quantitative finding identified within the domain of accessibility was the use of data to support a reduction in GP contacts. This lack of uniformity was also identified in evaluation methods that were analyzed in alignment to the third aim of VBHC: achieving higher value.<sup>31,87</sup> To achieve this ambition and consider value across wider health care systems, outcomes need to be viewed in relation to resource use, including cost.<sup>26</sup> Within the evaluation methods identified, there was evidence of this being considered in practice, although this was the VBHC principle with the least alignment.

The studies that considered resource use mainly assumed costs rather than presenting analysis based on actual costs. This is a challenge consistent with a systematic review reporting the quality of economic evaluation in rehabilitation.<sup>93</sup> The lack of consistency observed in the present review is also consistent with the review by Obucina *et al.*<sup>45</sup> conducted in primary care. To add to this possible limitation, Porter<sup>26</sup> reinforced that to determine value, cost is best analyzed at a whole pathway or population level. Political ambitions for transforming the health and well-being of populations through the effective use of data are clear.<sup>94,95</sup> However, while internationally there are examples of VBHC developing at scale,<sup>41,96</sup> when working at a micro level or involved at a relatively small part of the care pathway,<sup>40</sup> it is not yet clear how the impact of OT can be best determined. Given the inconsistencies and lack of attention to resource use and cost, a greater understanding is needed on how to evaluate this and present data at scale to inform service planning. Demonstrating value using cost analysis is essential to secure resource allocation and to grow the OT offer in primary care.<sup>24</sup>

To achieve a better understanding of measurement and to collect data that support service evaluation, investment is needed.<sup>45</sup> Within VBHC, there is necessity to understand how to capture outcomes through data at scale, across the pathway of care, and enable analysis for the purpose of considering resources.<sup>97,98</sup> The wide selection of methods identified in this review is consistent with recent reviews looking at the triple aim in operation,<sup>37,44,45</sup> and also with a lack of confidence reported from practice.<sup>18,19</sup> Inconsistency in measures used to evaluate the outcomes of practice may lead to continued confusion, limiting

the potential to establish the impact of individual care and, more widely, to inhibit achievements at higher levels.<sup>37</sup> Further consensus is needed on how to evaluate and demonstrate outcomes and enable an influential contribution for those planning resource allocation at a population health level.

### *Limitations*

Although no date limits were applied to the literature search of this review, a lack of available resources required the review team to restrict the search to English-language sources only. This may have resulted in the omission of studies from non-English-speaking countries, leading to under-representation of some areas of practice. When searching gray literature, only UK-based government sources were searched and included in the review, creating a possible UK bias. In addition, as the full texts of relevant papers were not screened by all reviewers, some eligible literature may have been excluded. However, given the use of the data charting tool, a reasonable proportion of studies checked by the second reviewer, and with full agreement on decisions made, the reviewers are confident that findings are representative of the literature. Finally, in line with previous scoping reviews mapping OT provision in primary care,<sup>13,99</sup> challenges were encountered when identifying suitable models of primary care service delivery for inclusion in the review. International variations were observed, and evidence may have been excluded on this basis, as is the case when outcome evaluation methods used as part of routine practice or for the purpose of research appeared ambiguous.

### **Conclusion**

This scoping review provides insight into the range of evaluation methods used to demonstrate the impact of OT in primary care. The included studies, which were heterogeneous both in services provided and in measures reported, used methods of evaluation that align with and have potential to demonstrate the contribution of OT to the VBHC agenda. The findings suggest that occupational therapists recognize the importance of using measures that evaluate the outcomes of care both at an individual level and for presenting data that can be used to influence wider service planning. The findings of this review uphold conclusions drawn from previous research<sup>23,36</sup> showing that to foster the evidence base for OT in primary

care and to establish value in the offer, particularly to influence service planning beyond individual care, more work is needed. Given the challenges around measuring against current population health frameworks, and the inconsistencies and pitfalls identified in the tools used, this work highlights an evidence gap. Further understanding is needed to inform which outcome evaluation methods that align with VBHC should be used in OT standard practice to determine the effectiveness of these service models for individual patients and for use at higher levels.

### *Implications for research*

This review revealed a multifaceted approach to capturing evaluation outcome data, although with a lack of consistency across reported outcome evaluation methods. While evidence is emerging to inform a better understanding of how to evaluate OT in primary care, given the lack of understanding of how to measure value, further research is required. To enable the profession to understand what works best, for whom, and in what circumstances, greater insight from current practice is needed. To establish effectiveness and efficiency with suitably scaled data sets, more consistency is needed across outcome evaluation reporting. A greater understanding from stakeholders would further this agenda. There is an appetite to advance the understanding about the where, what, when, and why of evaluation method selection to firmly establish OT in the landscape of population health; however, further research is required to identify what stakeholders need to achieve this. This may include contributions from service users to gain insight into what is acceptable, as well as from managers, service planners, and policymakers to establish what is required for best practice, particularly for processes and data requirements to inform service planning at higher levels. Establishing robust and effective mechanisms for outcome evaluation is essential to ensure that OT is positioned to maintain and improve population health.

### **Acknowledgments**

Staff at Swansea Bay Library and Knowledge Services, Swansea Bay University Health Board, Swansea, UK, and academic-based librarian Elizabeth Gillen at The School of Healthcare Sciences, Cardiff University, Cardiff, UK, provided guidance to develop the search strategy to inform this review.

This scoping review was conducted as a preliminary stage of LI's doctoral research and will contribute toward a PhD at the School of Healthcare Sciences at Cardiff University, Cardiff, UK.

## Funding

Funding was provided by Elizabeth Casson Trust and Swansea Bay University Health Board to support the doctoral study of LI. The funders did not assume a role in content development.

## Author contributions

LI designed and coordinated the review, conducted the main analysis, and produced the first draft of the findings and manuscript. CP advised on review design, participated in the title, abstract, and full-text review, and assisted with editing the manuscript. AC advised on review design, contributed to discussions on inclusion for the purpose of resolving disputes, and contributed to editing the manuscript. DE advised on the design and conduct of the review, and contributed to editing of the manuscript.

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## Appendix I: Search strategy

Ovid MEDLINE(R) ALL <1946 to June 10, 2022 >

Search conducted: June 10, 2022

Search number	Description	Records retrieved
1	exp Occupational Therapy/ or exp Occupational Therapists/	14,570
2	Occupational Therap*.ti,ab.	15,484
3	exp evaluation studies as topic/ or exp program evaluation/	1,188,032
4	Evaluati*.ti,ab.	1,656,043
5	exp Treatment Outcome/ or exp Outcome Assessment, Health Care/ or exp Patient Reported Outcome Measures/	1,288,668
6	Outcome*.ti,ab.	2,095,715
7	exp Patient Satisfaction/	97,554
8	"Clinical outcome*".ti,ab.	209,769
9	Effectiveness.ti,ab.	530,449
10	exp Cost-Benefit Analysis/	89,869
11	"Cost benefit analys#s".ti,ab.	4866
12	"Cost effectiveness".ti,ab.	68,065
13	"Patient reported outcome*".ti,ab.	26,426
14	"Patient rated outcome*".ti,ab.	214
15	"Patient rated evaluati*".ti,ab.	8
16	"Program* evaluati*".ti,ab.	5567
17	PROM*.ti,ab.	2,179,387
18	PREM*.ti,ab.	306,748
19	"Self efficacy".ti,ab.	34,600
20	"Goal attainment".ti,ab.	2131
21	"patient rated experience*".ti,ab.	7
22	exp Primary Health Care/	183,407
23	"Primary care".ti,ab.	130,321
24	"General practi*".ti,ab.	86,849
25	"GP cluster*".ti,ab.	27
26	"General practice cluster*".ti,ab.	11
27	"Family health*".ti,ab.	7092
28	1 or 2	21,718
29	3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 or 14 or 15 or 16 or 17 or 18 or 19 or 20 or 21	7,431,542
30	22 or 23 or 24 or 25 or 26 or 27	330,715

(Continued)

Search number	Description	Records retrieved
31	28 and 29 and 30	626
32	limit 31 to English language	601

## Ovid Embase &lt;1974 to June 10, 2022 &gt;

Search conducted: June 10, 2022

Search number	Description	Records retrieved
1	exp occupational therapy/	24,358
2	Occupational Therap*.ti,ab.	22,680
3	exp evaluation study/	83,268
4	Evaluatio*.ti,ab.	1,958,346
5	exp outcome assessment/ or exp treatment outcome/	1,993,304
6	exp outcome assessment/ or exp patient-reported outcome/	728,297
7	Outcome*.ti,ab.	3,086,825
8	exp patient satisfaction/	156,618
9	"Clinical outcome*".ti,ab.	334,176
10	Effectiveness.ti,ab.	705,427
11	exp "cost benefit analysis"/	90,593
12	"Cost benefit analys#s".ti,ab.	6414
13	"Cost effectiveness".ti,ab.	97,414
14	"Patient reported outcome".ti,ab.	18,641
15	"Patient rated outcome".ti,ab.	167
16	"Patient rated evaluati*".ti,ab.	9
17	"Program* evaluati*".ti,ab.	7095
18	PROM*.ti,ab.	2,720,804
19	PREM*.ti,ab.	392,456
20	"Self efficacy".ti,ab.	41,244
21	"Goal attainment".ti,ab.	3291
22	"Patient rated experience*".ti,ab.	10
23	exp primary health care/	192,102
24	"Primary care".ti,ab.	177,776
25	"General practic*".ti,ab.	48,859

(Continued)

Search number	Description	Records retrieved
26	"GP Cluster*".ti,ab.	54
27	"General practice cluster*".ti,ab.	11
28	"Family Health".ti,ab.	7628
29	1 or 2	33,186
30	3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 or 14 or 15 or 16 or 17 or 18 or 19 or 20 or 21 or 22	8,722,805
31	23 or 24 or 25 or 26 or 27 or 28	295,607
32	29 and 30 and 31	436
33	limit 32 to English language	428

## CINAHL (EBSCOhost) &lt;1937 to June 2022 &gt;

Search conducted: June 11, 2022

Search number	Description	Records retrieved
1	(MH "Occupational Therapy+")	28,235
2	AB Occupational Therap* OR TI Occupational Therap*	24,942
3	(MH "Evaluation+") OR (MH "Program Evaluation")	68,979
4	AB Evaluati* OR TI Evaluati*	390,489
5	(MH "Treatment Outcomes+") OR (MH "Outcome Assessment")	462,535
6	(MH "Patient-Reported Outcomes+") OR (MH "Outcomes (Health Care)+")	548,037
7	AB Outcome* OR TI Outcome*	776,711
8	(MH "Patient Satisfaction+")	59,765
9	AB "Clinical outcome*" OR TI "Clinical outcome*"	65,168
10	AB Effectiveness OR TI Effectiveness	178,232
11	(MH "Cost Benefit Analysis") OR (MH "Costs and Cost Analysis+")	130,199
12	AB "Cost benefit analys#s" OR TI "Cost benefit analys#s"	1270
13	AB "Cost effectiveness" OR TI "Cost effectiveness"	26,991
14	AB "Patient reported outcome" OR TI "Patient reported outcome"	6076
15	AB "Patient rated outcome" OR TI "Patient rated outcome"	68
16	AB "Patient rated evaluation" OR TI "Patient rated evaluation"	0
17	AB "Program* evaluation" OR TI "Program* evaluation"	3072
18	AB PROM* OR TI PROM*	358,796
19	AB PREM* OR TI PREM*	68,592

(Continued)

Search number	Description	Records retrieved
20	AB "Self efficacy" OR TI "Self efficacy"	24,701
21	AB "Goal attainment" OR TI "Goal attainment"	1483
22	AB "Patient rated experience" OR TI "Patient rated experience"	3
23	(MH "Primary Health Care")	67,968
24	AB "Primary care" OR TI "Primary care"	78,172
25	AB "General practice" OR TI "General practice"	14,881
26	AB "GP cluster" OR TI "GP cluster"	6
27	AB "General practice cluster" OR TI "General practice cluster"	3
28	AB "Family health" OR TI "Family health"	4294
29	S1 OR S2	41,337
30	S3 OR S4 OR S5 OR S6 OR S7 OR S8 OR S9 OR S10 OR S11 OR S12 OR S13 OR S14 OR S15 OR S16 OR S17 OR S18 OR S19 OR S20 OR S21 OR S22	1,908,355
31	S23 OR S24 OR S25 OR S26 OR S27 OR S28	123,876
32	S29 OR S30 OR S31	213

Scopus <1971 to June 2022 >

Search conducted: June 11, 2022

Search number	Description	Records retrieved
1	(TITLE-ABS-KEY ("occupational therap*") AND TITLE-ABS-KEY ("evaluation studies" OR "program evaluation") OR TITLE-ABS-KEY (evaluati*) OR TITLE-ABS-KEY ("treatment outcome" OR "outcome assessment health care" OR "patient reported outcome measure*") OR TITLE-ABS-KEY (outcome* OR "patient satisfaction" OR "clinical outcome" OR "cost benefit analysis") OR TITLE-ABS-KEY ("cost effectiveness") OR TITLE-ABS-KEY ("patient reported outcome*" OR "patient rated outcome*" OR "patient rated evaluati*") OR TITLE-ABS-KEY ("program* evaluati*") OR TITLE-ABS-KEY (prom* OR prem*) OR TITLE-ABS-KEY ("self efficacy" OR "goal attainment" OR "patient rated experience*") AND TITLE-ABS-KEY ("primary health care") OR TITLE-ABS-KEY ("primary care") OR TITLE-ABS-KEY ("general practi*" OR "GP Cluster*" OR "General practice cluster*") OR TITLE-ABS-KEY ("Family Health")) AND PUBYEAR > 1970 AND (LIMIT-TO (LANGUAGE , "English"))	558

AMED (Dialog) <1984 to June 2022 >

Search conducted: June 12, 2022

Search number	Description	Records retrieved
1	(SU.EXACT.EXPLODE("OCCUPATIONAL THERAPY MODALITIES") OR SU.EXACT.EXPLODE("OCCUPATIONAL THERAPY SPECIALITY") OR "Occupational Therap*") OR (SU.EXACT.EXPLODE("OCCUPATIONAL THERAPY MODALITIES") OR SU.EXACT.EXPLODE ("OCCUPATIONAL THERAPY SPECIALITY") OR "Occupational Therap*")	13,442
2	Searched for: (SU.EXACT.EXPLODE("QUALITY OF HEALTH CARE"))	7845

<i>(Continued)</i>		
Search number	Description	Records retrieved
3	(SU.EXACT.EXPLODE("PROGRAM EVALUATION"))	2386
4	ab(Evaluati*) OR ti(Evaluati*)	21,177
5	(SU.EXACT.EXPLODE("TREATMENT OUTCOME"))	19,236
6	ab(Outcome*) OR ti(Outcome*)	35,661
7	(SU.EXACT.EXPLODE("PATIENT SATISFACTION"))	3095
8	ab("Clinical outcome*") OR ti("Clinical outcome*")	1831
9	ab(effectiveness) OR ti(effectiveness)	10,799
10	(SU.EXACT.EXPLODE("COST BENEFIT ANALYSIS"))	690
11	Searched for: ab("Cost benefit analysis") OR ti("Cost benefit analysis")	47
12	ab("Cost effectiveness") OR ti("Cost effectiveness")	716
13	ab("Patient reported outcome") OR ti("Patient reported outcome")	363
14	ab("Patient rated outcome") OR ti("Patient rated outcome")	9
15	ab("Program* evaluati*") OR ti("Program* evaluati*")	250
16	ab(PROM*) OR ti(PROM*)	14,309
17	ab(PREM*) OR ti(PREM*)	1681
18	ab("Self efficacy") OR ti("Self efficacy")	1389
19	ab("Goal attainment") OR ti("Goal attainment")	228
20	ab("Patient rated experience*") OR ti("Patient rated experience*")	0
21	(SU.EXACT.EXPLODE("PRIMARY HEALTH CARE"))	1042
22	ab("Primary care") OR ti("Primary care")	2004
23	ab("General practi*") OR ti("General practi*")	1364
24	ab("GP Cluster*") OR ti("GP Cluster*")	0
25	ab("General practice Cluster*") OR ti("General practice Cluster*")	1
26	ab("Family health") OR ti("Family health")	60
27	S20 OR S19 OR S18 OR S17 OR S16 OR S15 OR S14 OR S13 OR S12 OR S10 OR S9 OR S8 OR S7 OR S6 OR S5 OR S4 OR S3 OR S2	86,357
28	S26 OR S25 OR S24 OR S23 OR S22 OR S21	3667
29	S28 AND S27 AND S1	58

*Web of Science Core Collection*

Search conducted: June 12, 2022

Search number	Description	Records retrieved
1	ALL = ("Occupational Therap*")	30,927
2	(ALL = ("Evaluation stud*") OR ALL = ("Program evaluat*") OR ALL = ("Evaluati*") OR ALL = ("Treatment outcome") OR ALL = ("Patient reported outcome measure*") OR ALL = ("Outcome*") OR ALL = ("Patient Satisfaction") OR ALL = ("Clinical outcome*"))	5,669,917
3	(ALL = ("Effectiveness") OR ALL = ("Cost benefit analysis") OR ALL = ("Cost effectiveness") OR ALL = ("Patient reported outcome*") OR ALL = ("Patient rated outcome*") OR ALL = ("Patient rated evaluati*") OR ALL = ("Program* evaluati*") OR ALL = (PROM*) OR ALL = (PREM*) OR ALL = ("Self efficacy") OR ALL = ("Goal attainment") OR ALL = ("Patient rated experience"))	5,958,356
4	#2 AND #3	895,351
5	(ALL = ("Primary health care") OR ALL = ("Primary care") OR ALL = ("General practi*") OR ALL = ("GP cluster*") OR ALL = ("General practice cluster*") OR ALL = ("Family health"))	330,974
6	#1 AND #4 AND #5 and English (Languages)	146

*Cochrane Database of Systematic Reviews <1995 to June 2022 >*

Search conducted: June 11, 2022

Search number	Description	Records retrieved
1	MeSH descriptor: [Occupational Therapy]	823
2	(Occupational Therap*):ti,ab,kw	7314
3	MeSH descriptor: [Program Evaluation]	6514
4	(Evaluati*):ti,ab,kw	239,838
5	MeSH descriptor: [Treatment Outcome]	152,387
6	MeSH descriptor: [Outcome Assessment, Health Care]	160,642
7	MeSH descriptor: [Patient Reported Outcome Measures]	985
8	(Outcome*):ti,ab,kw	658,229
9	MeSH descriptor: [Patient Satisfaction]	12,788
10	("Clinical outcome*"):ti,ab,kw	42,428
11	("effectiveness"):ti,ab,kw	1,066,841
12	MeSH descriptor: [Cost-Benefit Analysis]	7704
13	("Cost benefit analysis"):ti,ab,kw	10,238
14	("cost effectiveness"):ti,ab,kw	29,679
15	("Patient reported outcome*"):ti,ab,kw	11,350
16	("Patient rated outcome*"):ti,ab,kw	70



(Continued)

Search number	Description	Records retrieved
17	("Patient rated evaluati*"):ti,ab,kw	0
18	("Program* evaluati*"):ti,ab,kw	0
19	("PROM"):ti,ab,kw	1379
20	("PREM"):ti,ab,kw	61
21	("Self efficacy"):ti,ab,kw	14,975
22	("Goal attainment"):ti,ab,kw	1023
23	("Patient rated experience"):ti,ab,kw	2
24	MeSH descriptor: [Primary Health Care]	8364
25	("Primary care"):ti,ab,kw	20,123
26	("General practi*"):ti,ab,kw	0
27	("general practice"):ti,ab,kw	6518
28	("GP Cluster"):ti,ab,kw	17
29	("General practice cluster"):ti,ab,kw	19
30	("Family health"):ti,ab,kw	1015
31	#1 OR #2	7314
32	#3 OR #4 OR #5 OR #6 OR #7 OR #8 OR #9 OR #10 OR #11 OR #12 OR #13 OR #14 OR #15 OR #16 OR #17 OR #18 OR #19 OR #20 OR #21 OR #22 OR #23	1,366,347
33	#24 OR #25 OR #26 OR #27 OR #28 OR #29 OR #30	29,557
	#31 AND #32 AND #33	240

*EThOS*

Search conducted: June 24, 2022

Search number	Description	Records retrieved
1	Occupational Therapy AND Primary Care	5

*Dimensions*

Search conducted: June 24, 2022

Search number	Description	Records retrieved
1	"Occupational therapy" AND Evaluati* And "Primary Care"	71 Publications 11 Trials

*ProQuest Dissertations and Theses Global*

Search conducted: June 24, 2022

Search number	Description	Records retrieved
1	(ti("Occupational Therap*") OR ab("Occupational Therap*")) AND ((TI, AB "Primary Health Care") OR (TI, AB "Primary care") OR (TI, AB "General practi*") OR (TI, AB "GP Cluster*") OR (TI, AB "General practice cluster") OR (TI, AB "Family health")) AND (((TI, AB "Evaluation Stud*") OR (TI, AB "Program evaluation") OR (TI, AB evaluation) OR (TI, AB Outcome*) OR (TI, AB "Treatment outcome*") OR (TI, AB PROM*) OR (TI, AB PREM*) OR (TI, AB "Self efficacy") OR (TI, AB "Goal attainment") OR (TI, AB "Patient rated experience") OR (TI, AB "Patient reported experience")) OR ((TI, AB "Patient reported outcome measure*") OR (TI, AB "Patient satisfaction") OR (TI, AB "Clinical outcome") OR (TI, AB Effectiveness) OR (TI, AB "Cost benefit analysis") OR (TI, AB "Cost effectiveness") OR (TI, AB "Patient reported outcome*") OR (TI, AB "Patient rated outcome*") OR (TI, AB "Patient rated evaluation") OR (TI, AB "Program* evaluation")))) AND la.exact("ENG")	19

*Overton*

Search conducted: June 29, 2022

Search number	Description	Records retrieved
1	"Occupational Therapy" AND "Primary care" AND Evaluat*	5

*DART Europe*

Search conducted: June 29, 2022

Search number	Description	Records retrieved
1	Occupational Therapy AND Primary Care AND Evaluation	3

*Open Access Theses & Dissertations <2008 – July 2022 >*

Search conducted: July 7, 2022

Search number	Description	Records retrieved
1	Title: ("Occupational Therapy") AND abstract: ("Occupational Therapy") AND title: ("Primary Care") AND abstract ("Primary Care")	3

*Google*

Search conducted: July 7, 2022

Search number	Description	Records retrieved
1	"Occupational therapy" AND Primary Care AND Evaluation	12

*Organizational websites*

Search conducted: July 14, 2022

Search number	Description	Records retrieved
1	"Occupational Therapy" AND Primary Care/ Primary Health Care	16

## Appendix II: Studies ineligible following full-text review

1	Allan LM, Wheatley A, Smith A, Flynn E, Homer T, Robalino S, et al. An intervention to improve outcomes of falls in dementia: the DIFRID mixed-methods feasibility study. <i>Health Technology Assessment</i> . 2019;23(59). <i>Reason for exclusion:</i> Ineligible concept
2	Cockayne S, Pighills A, Adamson J, Fairhurst C, Crossland S, Drummond A, et al. Home environmental assessments and modification delivered by occupational therapists to reduce falls in people aged 65 years and over: the OTIS RCT. <i>Health Technology Assessment</i> . 2021;25(46). <i>Reason for exclusion:</i> Ineligible concept
3	Nik Adib NA, Ibrahim MI, Ab Rahman A, Bakar RS, Yahaya NA, Hussin S, et al. Predictors of caregivers' satisfaction with the management of children with autism spectrum disorder: a study at multiple levels of health care. <i>International Journal of Environmental Research and Public Health</i> . 2019;16(10):1684 <i>Reason for exclusion:</i> Ineligible context
4	Australian New Zealand Clinical Trials Registry. NHMRC Clinical Trials Centre, University of Sydney (Australia); 2005. Identifier ACTRN12619001563156 Group Transdiagnostic Treatment for Anxiety and Depression in Primary Care [internet]. 2019 Nov 13 [cited 2023 Feb 20]. Available from: <a href="https://www.anzctr.org.au/Trial/Registration/TrialReview.aspx?id=377797&amp;isReview=true">https://www.anzctr.org.au/Trial/Registration/TrialReview.aspx?id=377797&amp;isReview=true</a> <i>Reason for exclusion:</i> Ineligible concept
5	Hasthorpe HF, Ellis C, Gaffney K. Patient outcomes in rheumatology practitioner outreach clinics in Norfolk. <i>Rheumatology</i> . 2009;48:i144. <i>Reason for exclusion:</i> Ineligible context
6	Fritz H, Hu YL, Tarraf W, Patel P. Feasibility of a habit formation intervention to delay frailty progression among older African Americans: a pilot study. <i>Gerontologist</i> . 2020;60(7):1353-63 <i>Reason for exclusion:</i> Ineligible concept
7	Gillespie P, Hobbins A, O'Toole L, Connolly D, Boland F, Smith SM. Cost-effectiveness of an occupational therapy-led self-management support programme for multimorbidity in primary care. <i>Family Practice</i> . 2022;39(5):826-833 <i>Reason for exclusion:</i> Ineligible concept
8	Gruwsvéd Å, Söderback I, Fernholm C. Evaluation of a vocational training programme in primary health care rehabilitation: a case study. <i>Work</i> . 1996;7(1):47-61. <i>Reason for exclusion:</i> Ineligible concept
9	Fisher AG, Adler K, Potts A. Effectiveness of occupational therapy with frail community living older adults. <i>Scandinavian Journal of Occupational Therapy</i> . 2007;14(4):240-9. <i>Reason for exclusion:</i> Ineligible concept
10	Iwarsson S, Isacson Å. Development of a novel instrument for occupational therapy of assessment of the physical environment in the home - a methodologic study on 'The Enabler'. <i>Occupational Therapy Journal of Research</i> . 1996;16(4):227-44. <i>Reason for exclusion:</i> Ineligible concept
11	De Coninck L, Bekkering GE, Bouckaert L, Declercq A, Graff MJL, Aertgeerts B. Home- and community-based occupational therapy improves functioning in frail older people: a systematic review. <i>Journal of the American Geriatrics Society</i> . 2017;65(8):1863-9. <i>Reason for exclusion:</i> Ineligible concept
12	Connolly D, Anderson M, Colgan M, Montgomery J, Clarke J, Kinsella M. The impact of a primary care stress management and wellbeing programme (RENEW) on occupational participation: a pilot study. <i>British Journal of Occupational Therapy</i> . 2019;82(2):112-21. <i>Reason for exclusion:</i> Ineligible concept
13	Shepens Niemiec SL, Vigen CLP, Martínez J, Blanchard J, Carlson M. Long-term follow-up of a lifestyle intervention for late-midlife, rural-dwelling latinos in primary care. <i>American Journal of Occupational Therapy</i> . 2021;75(2):1-11. <i>Reason for exclusion:</i> Ineligible concept
14	Wolpert R, Leuchter S, Schmidt M. Summer day camp for multihandicapped children. <i>Physical Therapy</i> . 1976;56(3):299-304. <i>Reason for exclusion:</i> Ineligible context
15	Sturesson M, Bylund SH, Edlund C, Falkdal AH, Bernspång B. Collaboration in work ability assessment for sick-listed persons in primary healthcare. <i>Work</i> . 2020;65(2):409-20. <i>Reason for exclusion:</i> Ineligible concept
16	Cunningham R, Valasek S. Occupational therapy interventions for urinary dysfunction in primary care: a case series. <i>American Journal of Occupational Therapy</i> . 2019;73(5):1-8. <i>Reason for exclusion:</i> Ineligible context

17	<p>ISRCTN registry. BioMed Central. ISRCTN17816427 Increasing physical activity in older people with persistent musculoskeletal pain [internet]. ISRCTN Registry; 2019 [cited 2023 Feb 20]. Available from: <a href="https://www.isrctn.com/search?q=Increasing+physical+activity+in+older+people+with+persistent+musculoskeletal+pain">https://www.isrctn.com/search?q=Increasing+physical+activity+in+older+people+with+persistent+musculoskeletal+pain</a></p> <p><i>Reason for exclusion:</i> Ineligible concept</p>
18	<p>Chuang W-F, Hwang E, Lee H-L, Wu S-L. An in-house prevocational training program for newly discharged psychiatric inpatients: exploring its employment outcomes and the predictive factors. <i>Occupational Therapy International</i>. 2015;22(2):94-103.</p> <p><i>Reason for exclusion:</i> Ineligible context</p>
19	<p>Schepens Niemiec SL, Blanchard J, Vigen CLP, Martinez J, Guzman L, Concha A, et al. Evaluation of Vivir Mi Vida! to improve health and wellness of rural-dwelling, late middle-aged Latino adults: results of a feasibility and pilot study of a lifestyle intervention. <i>Primary Health Care Research and Development</i>. 2018;19(5):448-63.</p> <p><i>Reason for exclusion:</i> Ineligible concept</p>
20	<p>Müllersdorf M, Söderback I. Occupational therapists' assessments of adults with long-term pain: the Swedish experience. <i>Occupational Therapy International</i>. 2002;9(1):1-23.</p> <p><i>Reason for exclusion:</i> Ineligible concept</p>
21	<p>O'Toole L, Connolly D, Smith S. Impact of an occupation-based self-management programme on chronic disease management. <i>Australian Occupational Therapy Journal</i>. 2013;60(1):30-8.</p> <p><i>Reason for exclusion:</i> Ineligible concept</p>
22	<p>Perneros G, Tropp H. Development, validity, and reliability of The Assessment of Pain and Occupational Performance (POP): a new instrument using two dimensions in the investigation of disability in back pain. <i>Spine Journal</i>. 2009;9(6):486-98.</p> <p><i>Reason for exclusion:</i> Ineligible concept</p>
23	<p>Mackenzie L, Clemson L. Can chronic disease management plans including occupational therapy and physiotherapy services contribute to reducing falls risk in older people? <i>Australian Family Physician</i>. 2014;43(4):211-5.</p> <p><i>Reason for exclusion:</i> Ineligible concept</p>
24	<p>Mackenzie L, Clemson L, Usherwood T, Sherrington C. Pilot study to test the feasibility of providing occupational therapy and physiotherapy falls prevention services through the enhanced primary care program for older people at risk of falls...Occupational Therapy Australia, 24th National Conference and Exhibition, 29 June - 1 July 2011. <i>Australian Occupational Therapy Journal</i>. 2011;58:118.</p> <p><i>Reason for exclusion:</i> Ineligible concept</p>
25	<p>Jones C, Pike A, Bremault-Phillips S. Brain Bootcamp: pre-post comparison findings of an integrated behavioural health intervention for military members with reduced executive cognitive functioning. <i>Journal of Military Veteran and Family Health</i>. 2019;5(1):131-40.</p> <p><i>Reason for exclusion:</i> Ineligible context</p>
26	<p>Holmqvist K, Ivarsson AB, Holmefur M. Occupational therapists' practice patterns for clients having cognitive impairment following acquired brain injury. <i>Brain Injury</i>. 2012;26(4-5):458-9.</p> <p><i>Reason for exclusion:</i> Ineligible concept</p>
27	<p>Lambert RA, Harvey I, Poland F. A pragmatic, unblinded randomised controlled trial comparing an occupational therapy-led lifestyle approach and routine GP care for panic disorder treatment in primary care. <i>Journal of Affective Disorders</i>. 2007;99(1-3):63-71.</p> <p><i>Reason for exclusion:</i> Ineligible concept</p>
28	<p>Hand C, Donnelly C, Bobbette N, Borczyk M, Bauer M, O'Neill C. Examining utility and feasibility of implementing patient-reported outcome measures in occupational therapy primary care practice. <i>British Journal of Occupational Therapy</i>. 2022;85(7):477-486</p> <p><i>Reason for exclusion:</i> Ineligible concept</p>
29	<p>Mirza M, Gecht-Silver M, Keating E, Krischer A, Kim H, Kottorp A. Feasibility and preliminary efficacy of an occupational therapy intervention for older adults with chronic conditions in a primary care clinic. <i>American Journal of Occupational Therapy</i>. 2020;74(5):1-13.</p> <p><i>Reason for exclusion:</i> Ineligible concept</p>
30	<p>Pinxsterhuis I, Hellum LL, Aannestad HH, Sveen U. Development of a group-based self-management programme for individuals with chronic fatigue syndrome: a pilot study. <i>Scandinavian Journal of Occupational Therapy</i>. 2015;22(2):117-25.</p> <p><i>Reason for exclusion:</i> Ineligible concept</p>
31	<p>Phipps K, Cooper J. A service evaluation of a specialist community palliative care occupational therapy service. <i>Progress in Palliative Care</i>. 2014;22(6):347-51.</p> <p><i>Reason for exclusion:</i> Ineligible concept</p>
32	<p>Ofori E, James D, Kaczmarek O, Gudesblatt M. Moderators of dual task gait effects in mild cognitive impairment and dementia. <i>Innovation in Aging</i>. 2021;5(Suppl 1):873-4.</p> <p><i>Reason for exclusion:</i> Ineligible context</p>

33	Ranner M. Evaluation and experiences of a client-centred ADL intervention after stroke. PhD Thesis. Norwegian University of Science and Technology; 2016 <i>Reason for exclusion:</i> Ineligible concept
34	Brandis SJ, Tuite AT. Falls prevention: partnering occupational therapy and general practitioners. Australian Health Review. 2001;24(1):37-42. <i>Reason for exclusion:</i> Ineligible concept
35	Pilarska J, Houston V, Buchanan A. The “START” of our integrated rehabilitation journey. Physiotherapy (UK). 2021;113(Supplement 1):e74-e5. <i>Reason for exclusion:</i> Ineligible context
36	Schepens Niemiec SLS, Blanchard J, Vigen CLP, Martinez J, Guzman L, Fluke M, et al. A pilot study of the (i)Vivir Mi Vida! lifestyle intervention for rural-dwelling, late-midlife Latinos: study design and protocol. OTJR. 2019;39(1):5-13. <i>Reason for exclusion:</i> Ineligible concept
37	Johansson M, Wressle E, Marcusson J. Development and psychometric testing of cognitive impairment in daily life (CID). European Geriatric Medicine. 2014;5(Suppl 1):S102. <i>Reason for exclusion:</i> Ineligible concept
38	Drummond A, Coole C, Nouri F, Ablewhite J, Smyth G. Using occupational therapists in vocational clinics in primary care: a feasibility study. BMC Family Practice. 2020;21(1):1-10. <i>Reason for exclusion:</i> Ineligible concept
39	Evans L. The ‘balance’ of frailty: a case study analysis of occupational therapy practice. EthOS: Sheffield Hallam University; 2018. <i>Reason for exclusion:</i> Ineligible context
40	Bauer M, O’Neill C. Occupational therapy in primary health: ‘Right care, at the right time, in the right place’. Occupational Therapy Now. 2012;14(6):5 <i>Reason for exclusion:</i> Ineligible concept
41	King E, Okodogbe T, Burke E, McCarron M, McCallion P, O’Donovan MA. Activities of daily living and transition to community living for adults with intellectual disabilities. Scandinavian Journal of Occupational Therapy. 2017;24(5):357-65. <i>Reason for exclusion:</i> Ineligible context
42	Lambeek LC, Bosmans JE, Van Royen BJ, Van Tulder MW, Van Mechelen W, Anema JR. Effect of integrated care for sick listed patients with chronic low back pain: economic evaluation alongside a randomised controlled trial. BMJ (Clinical research ed). 2010;341:c6414 <i>Reason for exclusion:</i> Ineligible concept
43	Love G, Weissberger M, Sharma T, Vause Earland T, Salzman B. An interdisciplinary approach to increasing exercise in older adults: a needs assessment. Journal of the American Geriatrics Society. 2020;68(Suppl 1):S38-S9. <i>Reason for exclusion:</i> Ineligible concept
44	Tyrrell J, Burn A. Evaluating primary care occupational therapy: results from a London primary health-care centre. British Journal of Therapy and Rehabilitation. 1996;3(7):380-5. <i>Reason for exclusion:</i> Ineligible concept
45	Walters C, Rice V. An evaluation of provocative testing in the diagnosis of carpal tunnel syndrome. Military Medicine. 2002;167(8):647-52. <i>Reason for exclusion:</i> Ineligible concept
46	Tin D, Bain L, Charette S, Thorne C, Kang H, Jeffrey J. Addressing emotional aspects of living with osteoarthritis as a standard of practice in the osteoarthritis therapeutic education program. Journal of Rheumatology. 2014;41(7):1452-3. <i>Reason for exclusion:</i> Ineligible context
47	Richardson J, Letts L, Officer A, Chan D, Wojkowski S, Oliver D, et al. Monitoring physical function for persons with chronic disease in primary care: a population based rehabilitation intervention. Physiotherapy (United Kingdom). 2011;97(Suppl 1):eS1045-eS6. <i>Reason for exclusion:</i> Ineligible concept
48	Bobbette N, Ouellette-Kuntz H, Tranmer J, Lysaght R, Ufholz LA, Donnelly C. Adults with intellectual and developmental disabilities and interprofessional, team-based primary health care: a scoping review. JBI Evidence Synthesis. 2020;18(7):1470-514. <i>Reason for exclusion:</i> Ineligible population
49	Synovec CE. Evaluating cognitive impairment and its relation to function in a population of individuals who are homeless. Occupational Therapy in Mental Health. 2020;36(4):330-52. <i>Reason for exclusion:</i> Ineligible concept
50	Lamb SE. Multidisciplinary assessment of elderly people with a history of multiple falls reduces the risk of further falls. Australian Journal of Physiotherapy. 2009;55(2):139. <i>Reason for exclusion:</i> Ineligible concept

51	Buszewicz M, Rait G, Griffin M, Nazareth I, Patel A, Atkinson A, et al. Self-management of arthritis in primary care: randomised controlled trial. <i>BMJ</i> . 2006;333(7574):879. <i>Reason for exclusion:</i> Ineligible concept
52	Brodin N, Bjurehed L, Bjork M. Effectiveness of a six-week hand osteoarthritis program in a primary care setting. <i>Arthritis and Rheumatology</i> . 2016;68 (Supplement 10):1301-2. <i>Reason for exclusion:</i> Ineligible concept
53	Cook S. What interventions produced the evidence of positive outcomes? <i>Mental Health Occupational Therapy</i> . 2003;8(1):20-3. <i>Reason for exclusion:</i> Duplication
54	Cook S, Howe A. Engaging people with enduring psychotic conditions in primary mental health care and occupational therapy. <i>British Journal of Occupational Therapy</i> . 2003;66(6):236-46. <i>Reason for exclusion:</i> Duplication
55	Westland G. Relaxing in primary health care. <i>British Journal of Occupational Therapy</i> . 1988;51(3):84-8. <i>Reason for exclusion:</i> Ineligible concept
56	McManus BM, Richardson Z, Schenkman M, Murphy N, Morrato EH. Timing and intensity of early intervention service use and outcomes among a safety-net population of children. <i>JAMA Network Open</i> . 2019;2(1):e187529-e. <i>Reason for exclusion:</i> Ineligible context
57	Uyeshiro Simon A, Reeves L. Occupational therapy's role in headache management: a lifestyle behavioural approach. <i>Cephalalgia</i> . 2015;35(6 Suppl 1):280-1. <i>Reason for exclusion:</i> Ineligible context
58	Zachry AH, Jones T, Flick J, Richey P. The Early STEPS Pilot Study: the impact of a brief consultation session on self-reported parenting satisfaction. <i>Maternal &amp; Child Health Journal</i> . 2021;25(12):1923-9. <i>Reason for exclusion:</i> Ineligible concept
59	Mårtensson L. Rehabilitation of patients with chronic pain in primary health care. <i>Scandinavian Journal of Occupational Therapy</i> . 2001;8(2):108. <i>Reason for exclusion:</i> Duplication
60	Royal College of Occupational Therapists. Living, not existing: putting prevention at the heart of care for older people in Wales [internet]. Royal College of Occupational Therapists; 2017 [Cited 2023 Feb 15]. Available from: <a href="https://www.bgs.org.uk/sites/default/files/content/attachment/2018-05-10/ILSM-Phase-II-WELSH-ENGLISH.pdf">https://www.bgs.org.uk/sites/default/files/content/attachment/2018-05-10/ILSM-Phase-II-WELSH-ENGLISH.pdf</a> . <i>Reason for exclusion:</i> Ineligible concept
61	Leclair L, Restall G, Edwards J, Cooper J, Stern M, Soltys P et al. Occupational therapists and primary health care. Manitoba Society of Occupational Therapists. n.d. [cited 2023 Feb 15]. Available from: <a href="https://www.msot.mb.ca/wp-content/uploads/2014/05/PositionPaper_PrimaryHealthCare.pdf">https://www.msot.mb.ca/wp-content/uploads/2014/05/PositionPaper_PrimaryHealthCare.pdf</a> <i>Reason for exclusion:</i> Ineligible concept
62	Marcolino TQ, Kinsella EA, Araujo AdS, Fantinatti EN, Takayama GM, Vieira NMU, et al. A community of practice of primary health care occupational therapists: advancing practice-based knowledge. <i>Australian Occupational Therapy Journal</i> . 2020;68(1):3-11. <i>Reason for exclusion:</i> Ineligible concept
63	Stein Duker LI, Sadie Kim HK, Pomponio A, Mosqueda L, Pfeiffer B. Examining primary care health encounters for adults with autism spectrum disorder. <i>American Journal of Occupational Therapy</i> . 2019;73(5):7305185030p1-p11. <i>Reason for exclusion:</i> Ineligible concept
64	Brooks R, Thew M. Occupational Therapy First: Phase 1 Report. Leeds Beckett University; 2020. <i>Reason for exclusion:</i> Ineligible concept
65	Welsh Government. Allied Health Professions framework for Wales looking forward together. Welsh Government; 2018 [cited 2023 Feb 15]. Available from: <a href="https://www.gov.wales/sites/default/files/publications/2020-02/allied-health-professions-framwework-for-wales.pdf">https://www.gov.wales/sites/default/files/publications/2020-02/allied-health-professions-framwework-for-wales.pdf</a> . <i>Reason for exclusion:</i> Ineligible concept

### Appendix III: Data extraction template

Article no:

Scoping review details	
Review questions	What are the outcome evaluation methods used by occupational therapists in primary care?
	Do the evaluation methods used by occupational therapists in primary care align to the principles of value-based health care?
Type of evidence source	Primary research, peer-reviewed article <input type="checkbox"/> Quantitative <input type="checkbox"/> Qualitative <input type="checkbox"/> Mixed methods <input type="checkbox"/> Gray literature <input type="checkbox"/> Type of gray literature:
Evidence source, details, and characteristics	
Title	
Author	
Date published	
Data collection period	
Journal/source	
Volume/issue/pages	
Country	
Context	
Multidisciplinary?	Yes <input type="checkbox"/> No <input type="checkbox"/>
Participants (details)	
Details/results extracted from source	
Evaluation methods used (concept)	
No of validated measures	
PROMs used	
PREMs used	
Other evaluation methods: (specify: eg, cost analysis, patient story, reduction of GP visits)	
Alignment to value-based health care	
Higher value/low cost: (cost analysis, PROMs/cost analysis evaluation)	Yes <input type="checkbox"/> No <input type="checkbox"/>
Improved experience and quality of care: (PREMs/PROMs/cost allocation analysis)	Yes <input type="checkbox"/> No <input type="checkbox"/>
Better health: (PROMs, performance indicators, PREMs)	Yes <input type="checkbox"/> No <input type="checkbox"/>

GP, general practitioner; PREMs, patient-reported experience measures; PROMs, patient-reported outcome measures.



## Appendix IV: Characteristics of included studies

Citation	Participants	Data collection period	Interventions	Multidisciplinary (yes/no)	Study design
Clarke, 2019 <sup>55</sup> Wales, UK	<i>Participants:</i> 4 <i>Gender:</i> female (n = 2, 50%) <i>Age (years):</i> 48-77 <i>Conditions:</i> type 2 diabetes	Unspecified	5-6 sessions Self-management	No	Mixed methods: quasi-experimental pretest-posttest intervention and semi-structured interviews
Cook, 2001 <sup>56</sup> England, UK	<i>Participants:</i> 28 (25 completed all follow-up) <i>Gender:</i> female (n = 3, 12%) <i>Age (years):</i> 26-75 (mean age 53) <i>Conditions:</i> severe and enduring mental health needs	April 1997 – April 1999	OT providing interventions including: care planning, OT, and psychological planning	No	Mixed methods: quasi-experimental pretest-posttest intervention, satisfaction interview, staff impact interviews, and cost analysis
Davies et al., 2021 <sup>57</sup> Wales, UK	<i>Participants:</i> 113 referrals <i>Gender:</i> unspecified <i>Age (years):</i> unspecified <i>Conditions:</i> physical/ mental health – conditions unspecified	Unspecified	Physical and mental health (range of interventions) and work vocational rehabilitation	No	Mixed methods: quantitative descriptive report of outcomes and patient feedback
Donnelly et al., 2017 <sup>65</sup> Canada	<i>Participants:</i> 161 (22 with follow-up data) <i>Gender:</i> female (n = 122, 76%) <i>Age (years):</i> 23-91 (mean age 57) <i>Conditions:</i> unspecified	10 months unspecified	3 occupational therapists – in primary care clinics Interventions unspecified	No	Mixed methods: quasi-experimental pretest-posttest intervention and staff focus group
Eames et al., 1999 <sup>54</sup> England, UK	<i>Participants:</i> discharged patients (n = 78) <i>Gender:</i> unspecified <i>Age (years):</i> unspecified <i>Conditions:</i> unspecified	Dec 1996 – Feb 1997	Interventions unspecified	No	Quasi-experimental pretest-posttest intervention
Ekvall Hansson et al., 2009 <sup>63</sup> Sweden	<i>Participants:</i> 13 <i>Gender:</i> female (n = 10, 77%) <i>Age (years):</i> 29-59 (median age 40) <i>Conditions:</i> stress-related disorder	Unspecified	18 sessions; stress management program using cognitive behavioral therapy approach	Yes	Quasi-experimental pretest-posttest longitudinal design
Foran-Conn and Shah-Hall, undated <sup>59</sup> Wales, UK	<i>Participants:</i> 87 participants in phase 1; phases 2 & 3 unspecified <i>Gender:</i> unspecified <i>Age:</i> unspecified <i>Conditions:</i> physical/ mental health	Jan and Feb 2017 (phase 1) March 2019 (phase 2)	Occupational therapists working across 3 primary care surgeries Self-management, asset-based and preventive approaches including work-related advice services for physical and mental health conditions	No	Mixed methods: quasi-experimental pre-test-post-test intervention, patient feedback, and cost analysis

(Continued)

Citation	Participants	Data collection period	Interventions	Multidisciplinary (yes/no)	Study design
Gonzalez Gonzalez et al., 2015 <sup>53</sup> Spain	Participants: 20 Gender: female (n = 20, 100%) Age (years): 16-55 (mean age 40) Conditions: individuals with fibromyalgia	Feb–May 2012	7 OT sessions Motor skills intervention	Yes	Quasi-experimental pre-test-post-test intervention
Greer et al., 2019 <sup>58</sup> Scotland, UK	Participants: referred to service (n = 288), completed intervention number = unclear Gender: unspecified Age (years): 16-90 Conditions: physical/mental health – conditions unspecified	Dec 2017–Jan 2019	OT service across 2 primary care surgeries Services for self-management, asset-based and preventive approaches for physical and mental health conditions	No	Mixed methods: quasi-experimental pre-test-post-test intervention and semi-structured interviews
Mårtensson et al., 1999 <sup>64</sup> Sweden	Participants: 70 Gender: female (n = 61, 87%) Age (years): 21-65 (mean age 48) Conditions: chronic pain	Unspecified	Biopsychosocial rehabilitation program for chronic pain	Yes	Quasi-experimental pre-test-post-test intervention
Roberts, 1993 <sup>67</sup> USA	Participants: 354 Gender: unspecified Age (years): 13-91 (mean age 46) Conditions: rheumatological, chronic fatigue, and chronic pain conditions	1982-1990	15-20 sessions of OT: behavioral rehabilitation program	Yes	Cohort study
Sanderson et al., undated <sup>61</sup> Scotland, UK	Participants: 57 referred, 31 discharged Gender: unspecified Age: unspecified Conditions: chronic pain	8-month period 2020	OT service for chronic pain issues based in a single primary care surgery	No	Mixed methods: cohort study and patient feedback
Slarsky and Kumar, 2021 <sup>66</sup> USA	Participants: 1 Gender: female (n = 1, 100%) Age (years): 89 Conditions: dementia	Summer 2020	OT providing activities of daily living-focused intervention and carer support	No	Case report
Synovec, 2020 <sup>68</sup> USA	Participants: 45 Gender: female (n = 10, 22%) Age (years): 28-65 Conditions: experiencing homelessness	Unspecified	OT service for functional skill development in an integrated primary care/federally qualified health center	No	Quasi-experimental pre-test-post-test longitudinal design

(Continued)

Citation	Participants	Data collection period	Interventions	Multidisciplinary (yes/no)	Study design
Welsh Government North Wales Regional Partnership Board, 2022 <sup>62</sup> Wales, UK	<i>Participants:</i> 466 referrals; 424 received intervention <i>Gender:</i> female (n = 279, 66%) <i>Age (years):</i> 18 + <i>Conditions:</i> mental health conditions	Mar–Dec 2021	4 occupational therapists piloting prevention/early intervention for mental health needs across 4 primary care surgeries	No	Mixed methods: cohort study, cost saving analysis, and case study
Whelan et al., 2016 <sup>60</sup> Wales, UK	<i>Participants:</i> unspecified <i>Gender:</i> unspecified <i>Age:</i> unspecified <i>Conditions:</i> frail older adults	Nov 2015–June 2016	OT service in 1 primary care surgery	No	Mixed methods: cohort study and patient feedback

OT, occupational therapy.