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Lifestyle medicine integrated care models in primary care and factors that contribute to their effective implementation: a rapid scoping review

Emma King[A,*], David Taniar[B,C], Sam Manger[A] and Karen Carlisle[A]

For full list of author affiliations and declarations see end of paper

***Correspondence to:**
Emma King
College of Medicine and Dentistry, James Cook University, Townsville Bebegu Yumba, Qld 4810, Australia
Email: emma.king5@my.jcu.edu.au

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ABSTRACT

Background. Globally, there has been a rise in chronic disease attributable to a change in lifestyle post-industrialisation. Lifestyle medicine has shown promise in preventing and managing these conditions, yet within the context of Australia it remains underutilised in general practice due to structural and systemic barriers. Lifestyle medicine focuses on behavioural interventions across modifiable lifestyle factors to prevent and treat noncommunicable disease. Additionally, it has been established that behavioural change is more likely when social and lifestyle needs are addressed as a whole system. This rapid scoping review evaluated implementation of lifestyle medicine in primary care and identified key enablers and barriers to inform its effective integration into the Australian primary healthcare system. **Methods.** Following an adapted Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for scoping reviews method for rapid scoping reviews, MEDLINE Ovid and CINAHL databases were searched for models of care utilising lifestyle medicine interventions in primary care. In total 28 studies were included for review. **Results.** Key enablers included embedding lifestyle medicine into standard care pathways, employing health coaches and social prescribers, offering group or digital interventions, and incorporating lifestyle medicine into medical education. Identified barriers included time constraints, fee-for-service funding models that discourage holistic care, limited practitioner training in health coaching, and poor integration with community services. **Conclusions.** Although lifestyle medicine holds significant promise, its success depends on integrated care models, team-based delivery, policy support, and further research using implementation science frameworks. We suggest using lifestyle medicine as a quality improvement framework to guide future system reform, practice innovation, and evidence generation in primary care in Australia.

Keywords: chronic disease, family medicine, general practice, holistic care, implementation effectiveness, integrated care, lifestyle medicine, models of care, non-communicable disease, personalised care, primary care.

Introduction

Over the past century, there has been a marked rise in chronic, noncommunicable diseases (NCDs), largely driven by lifestyle change. Globally, 74% of deaths are attributable to NCDs such as cardiovascular disease, diabetes, and cancer (World Health Organization 2020). In Australia, 9 in 10 deaths are considered largely preventable through lifestyle measures (Katz *et al.* 2018).

Decades of research have established the key lifestyle behaviours associated with a reduced incidence of NCDs and premature death (Katz *et al.* 2018). Smoking cessation, physical activity, dietary measures, and maintenance of a Body Mass Index under 30 can prevent 80% of chronic disease and premature death (Ford *et al.* 2009). The Australian Institute of Health and Welfare estimated that 5.6 million years were lost in 2024 due to preventable diseases and that 38% of the burden could have been reduced by addressing smoking, overweight and obesity, and poor diet (Australian Institute of Health and Welfare 2024).

Behavioural change is more likely to be achieved when health management goals are patient-driven and embedded within an individual's broader social and environmental context (Conn and Curtain 2019). The adjunct discipline of lifestyle medicine offers an approach for addressing this and is defined as 'the application of environmental, behavioural, and motivational principles, including self-care and self-management, to the management of lifestyle-related health problems in a clinical setting' (Egger *et al.* 2017). Importantly, it offers a structured framework to address six inter-related behavioural 'pillars': healthful eating, physical activity, restorative sleep, stress management, positive relationships, and avoidance of harmful substances. It emphasises upstream determinants of health and applies behavioural change techniques, including health coaching, to support sustained behaviour change (Egger *et al.* 2017). Rather than addressing behaviours in isolation, lifestyle medicine conceptualises them as part of a dynamic system that includes social and emotional wellbeing (SEWB) (Egger 2019; Massar *et al.* 2023).

In Australia, both patients and general practitioners (GPs) perceive lifestyle advice in primary care to be important (Somerville *et al.* 2021; Lepre *et al.* 2024). National health policy increasingly supports patient-centred, multidisciplinary models of care aimed at preventing lifestyle disease (Australian Government Department of Health 2022; Australian Government Department of Health and Aged Care 2022). With 9 in 10 Australians visiting a GP annually (The Royal Australian College of General Practitioners 2024), general practice is well positioned to support integrated lifestyle interventions. However, most practices are small, privately owned businesses operating within a fee-for-service funding model, with 92% employing nurses and 52% employing allied health practitioners (The Royal Australian College of General Practitioners 2024). Medicare reimbursement structures discourage longer consultations and limit multidisciplinary engagement, posing challenges to the delivery of comprehensive, team-based preventive care (Breadon *et al.* 2022).

International and national guidelines provide recommendations for brief lifestyle interventions across nutrition, physical activity, smoking, alcohol use, and sleep and emphasise behavioural science approaches such as motivational interviewing and the '5 As' Framework (The Royal Australian College of General Practitioners 2015; National Heart Foundation of Australia 2016; Anderson *et al.* 2022). Although studies have examined patient experiences of assessment and advice related to diet, physical activity, and substance use (Somerville *et al.* 2021; Lepre *et al.* 2024), these behaviours are often addressed in isolation. There is limited research examining delivery models that incorporate other lifestyle pillars such as sleep, stress management, and social connection, or that embed health coaching across the patient journey (Britt *et al.* 2015; Conn and Curtain 2019). As a result, there remains limited guidance on how to operationalise a 'whole system' lifestyle medicine approach within contemporary primary care settings.

This rapid scoping review aimed to identify primary care delivery models that enable a whole system approach to lifestyle medicine, incorporating upstream determinants or health (including SEWB), the six lifestyle medicine pillars, and behavioural change interventions. The objectives were to assess the extent of the existing literature, identify key characteristics of effective implementation, and highlight gaps in order to inform future practice, research, and policy.

Methods

Design

A rapid scoping review was undertaken to map the extent, nature, and characteristics of the existing literature on lifestyle medicine delivery models in primary care. Scoping reviews are appropriate for 'identifying the types of available evidence in a given field' and for examining how research is conducted and where knowledge gaps exist (Munn *et al.* 2018). This approach was considered most suitable given the relatively nascent and evolving nature of lifestyle medicine as a formalised discipline. The review was conducted in accordance with the Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for scoping reviews (PRISMA-ScR) (Tricco *et al.* 2018) with pragmatic modifications informed by principles for rapid reviews (King *et al.* 2022). These adaptations were applied to balance methodological rigour with feasibility and timeliness, consistent with the primary aim of rapidly establishing an overview of the literature to inform future research, practice, and policy, particularly within the Australian primary care context.

Eligibility criteria

Eligibility criteria were defined *a priori* using the Participants–Concept–Context (PCC) framework and applied to screening and selection (Tricco *et al.* 2018) (Table 1).

Participants

Studies involving adult participants (≥18 years) receiving care within primary care or general practice settings were eligible for inclusion.

Concept

Studies were required to address all three of the following concepts:

1. Lifestyle medicine
   The primary focus of included studies was lifestyle medicine conceptualised as a discipline or integrated approach, rather than single lifestyle interventions alone. Given the emergent nature of the field and variability in terminology over time, the search strategy incorporated

terms used prior to the establishment of a consistent definition of lifestyle medicine (Table 2). Studies were eligible if they addressed lifestyle medicine either comprehensively (defined as inclusion of SEWB, all six lifestyle medicine pillars, and health coaching or behavioural change techniques) or partially (defined as one or more pillars in addition to SEWB and/or explicit application of health coaching or behavioural science principles).

2. Primary care/general practice
   Eligible settings included private general practice (family medicine) clinics, or community-controlled or government-funded primary healthcare services, including those delivered by and for First Nations Peoples.
3. Models of Care/Implementation effectiveness
   Given the limited number of studies explicitly evaluating implementation effectiveness identified during preliminary searching, a broad range of study designs were included. These encompassed evaluations of models of care, feasibility and utility studies, participant or clinician perspectives, and descriptive studies that identified barriers and enablers to delivery of lifestyle medicine in primary care.

Studies that focused solely on the efficacy of individual lifestyle interventions (e.g. nutrition or physical activity) without consideration of behavioural science, SEWB, or delivery within a model of care were excluded. Studies addressing wellbeing or social determinants of health without explicit linkage to lifestyle medicine pillars were also excluded.

Context

Lifestyle medicine has emerged as a distinct discipline only over approximately the last two decades (Clarke and Hauser 2016). Publications were searched from the period in which lifestyle medicine had progressed beyond early

Table 1. Eligibility criteria.

Area	Inclusion	Exclusion
1. Concept – Lifestyle medicine	Articles explicitly addressing lifestyle medicine as a discipline or integrated approach. Studies were classified as 'comprehensive' (addressing all six lifestyle medicine pillars and SEWB, with application of health coaching or behavioural change techniques) or 'partially' (addressing one or more lifestyle medicine pillars in addition to consideration of SEWB and/or explicit use of health coaching or behavioural science principles).	Articles not specific to lifestyle medicine as a field, including studies addressing isolated behaviours (e.g. diet or physical activity alone) without consideration of SEWB or behavioural change processes.
	Studies could be disease-specific (one or more lifestyle-related conditions) or non–disease-specific.	Studies focused solely on general wellbeing, patient-centredness, or social determinants of health without any linkage to any lifestyle medicine pillar.
		Intervention-efficacy studies examining the impact of lifestyle behaviours on disease outcomes, without reference to implementation or delivery within a model of care.
2. Concept – Primary care	Articles situated in primary care or general practice (family medicine) settings, including private fee-for-service general practice and community controlled or government-funded primary healthcare services, including those delivered by and for First Nations Peoples.	Articles limited to tertiary, inpatient, or specialist-only settings.
	Studies describing lifestyle medicine within or alongside primary care.	Studies conducted exclusively in non-healthcare settings (e.g. occupational, educational).
3. Concept – Implementation	Articles addressing delivery models, implementation effectiveness studies or general implementation approaches, funding structures, feasibility, acceptability, utility, clinician or patient experience, or identification of barriers and enablers to implementing lifestyle medicine in primary care.	Articles not addressing implementation, delivery, or the application of lifestyle medicine (e.g. purely theoretical or outcome-focused studies (e.g. intervention-efficacy studies) with no reference to models of care).
4. Context – Geographical location	Studies conducted in health systems broadly comparable to (e.g. New Zealand, Canada, and the United Kingdom).	Studies from jurisdictions with healthcare systems not comparable to the Australian primary care setting that only partially addressed lifestyle medicine or were embedded within large-scale, centrally funded systems not transferable to Australian general practice.
	Studies from any jurisdiction addressed lifestyle medicine comprehensively as a whole-system approach and met all PCC criteria.	
5. Publication characteristics	Empirical research and practice-based literature, including systematic reviews, implementation studies, intervention studies (where implementation was examined), observational studies, and case studies.	Conference abstracts, books, book chapters, and grey literature.
	Theoretical papers, commentaries, editorials, opinion pieces.	Articles not available in English or not available as full text.
	English-language publications available in full text.	

definitional work towards applied and conceptualised focused research within a developing discipline, informed by author expertise, and to facilitate a rapid review (2013 onwards).

No formal country restrictions were applied during execution of the search. However, the rapid review screening prioritised relevance to health systems broadly comparable to the Australian primary care context, characterised by community-based general practice, multidisciplinary care, and predominantly fee-for-service or mixed funding models. Studies from Australia, New Zealand, Canada, and the United Kingdom were therefore included where they met the PCC criteria. Studies from other jurisdictions were included when lifestyle medicine was addressed 'comprehensively', and the model of care was transferable to Australian general practice. Large-scale, centrally funded primary care programs operating within substantially different organisational or funding structures were excluded, as these were considered non-comparable to the predominantly small, privately owned Australian general practice setting (Table 1).

The review sought to understand how lifestyle medicine models were applied in real-world general practice, including the conditions addressed, whether the intervention targeted primary or secondary prevention, and the stage(s) of the patient journey at which the intervention was delivered (e.g. appointment, screening, assessment, management, follow-up).

Literature search

An iterative search strategy was employed. A preliminary search in MEDLINE (Ovid) indicated limited use of Medical Subject Headings (MeSH) related to lifestyle medicine as a discipline, reflecting the incipience of the field. To maximise sensitivity, bibliographic databases were searched using MeSH terms and keywords aligned with the concepts of 'lifestyle medicine' in 'primary care', with the 'implementation' concept applied during screening.

Given the focus on lifestyle medicine as a defined field, search terms relating to lifestyle medicine were restricted to the article title and were informed by terminology identified during preliminary searching (Table 2).

The search strategy was developed in consultation with two experienced health sciences librarians (SA, AM), refined through team discussion, and piloted in MEDLINE (Ovid).

The final search was conducted in MEDLINE (Ovid) and CINAHL Complete in September 2024, covering publications from 1 January 2013 to 20 September 2024, and was re-executed in September 2025 (given the time that had passed since the original search). The selection of two databases aligns with guidance for rapid scoping reviews, which recommends a limited number of key databases to enable timely yet rigorous mapping of a field (Tricco *et al.* 2017). MEDLINE was selected for its broad coverage of biomedical literature and CINAHL to capture allied health, nursing, and health services research relevant to multidisciplinary care.

Only English-language publications involving human subjects were included. Reference lists of relevant reviews were scanned, and targeted hand-searching of key journals (e.g. 'Lifestyle Medicine') was undertaken. At the manual searching and re-execution stages, only studies meeting the definition of comprehensive lifestyle medicine were retained, consistent with the review's focus on whole system implementation.

Study selection

Search results were exported to EndNote and duplicates removed. Title and abstract screening was conducted by one reviewer (EK), with a second reviewer independently screening a random 10% sample (DT). Discrepancies were resolved through discussion with a third reviewer (KC). Inter-rater agreement for title and abstract screening was assessed using Cohen's κ, yielding a value of 0.86, indicating almost perfect agreement (Higgins *et al.* 2024).

During screening, studies were assessed against the PCC criteria (Table 1). The initial search revealed a substantial volume of literature addressing individual lifestyle behaviours (e.g. physical activity or nutrition), or behavioural interventions more broadly. In line with the review aim, studies were included if they addressed lifestyle medicine either partially or comprehensively, defined as consideration of at least one lifestyle pillar in conjunction with SEWB and/or explicit use

Table 2. Search string in MEDLINE (Ovid) and CINAHL complete.

Search	Search terms
1#	('General practitioners' or 'physicians, family' or 'physicians, primary care' or 'general practice' or 'family practice' or 'family medicine' or 'primary health care' or 'primary healthcare' or 'GP*').mp. [mp = title, book title, abstract, original title, name of substance word, subject heading word, floating subheading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms, population supplementary concept word, anatomy supplementary concept word]
2#	('Lifestyle' or 'life style' or 'risk reduction behavio*' or 'lifestyle education program' or 'behaviour* modification' or 'behaviour* modification' or 'holistic healthcare' or 'holistic' or 'wellness' or 'wellbeing' or 'well being' or 'well-being' or 'multicomponent program').m_titl.
3#	1 and 3
4#	limit 4 to (English language and humans)
5#	limit 5 to year = '2013–Current'

of health coaching or behavioural change techniques. Studies focused solely on disease outcomes without consideration of behavioural processes or models of care were excluded.

The full text screening was conducted using the same criteria. Re-execution of the search in September 2025 identified an additional 144 records; none met the definition of comprehensive lifestyle medicine according to the PCC framework.

Data charting, synthesis, and reporting

Data was extracted using a data charting form by EK. The data items extracted were:

- Geographical location/study design
- Participants/sampling
- Context
  - Health condition
  - Treatment stage (primary or secondary prevention)
  - Stage of patient journey
- Concepts
  - Elements of lifestyle medicine included (SEWB, health coaching, six 'pillars')
  - Nature of primary care setting
  - Nature of the implementation
- Study outcomes, barriers, and enablers

Two broad types of study emerged amongst the concept of implementation. Drivers of success were determined by identifying barriers and enablers of implementation described in the included reports and grouped according to similar themes across each type of study:

1. Evaluation of a behavioural lifestyle intervention (BLI): efficacy of the intervention and elements driving success
2. Studies or reviews that specifically identified characteristics of lifestyle medicine models, barriers and enablers, or mechanisms for implementation

Results were synthesised through a descriptive summary of the research findings with respect to each of these two types of reports. Content analysis was guided by identification of recurrent themes and summarising the barriers and enablers of effective implementation across the included studies (Hsieh and Shannon 2005).

Ethics approval

This article does not contain any studies with human or animal subjects.

Results

The search identified 1411 studies. After removal of 325 duplicates, title and abstract screening resulted in 58 reports for full text screening. Reports were excluded if they did not meet the definition of partial or comprehensive lifestyle medicine ($n = 14$), were not applicable to Australian general practice ($n = 7$), or did not address any aspect of implementation ($n = 7$). Manual searching identified two additional comprehensive lifestyle medicine reports, but studies that addressed lifestyle medicine only partially were excluded to focus on whole-system approaches. A total of 28 reports met the inclusion criteria (Fig. 1).

Results were structured according to participant, context, and concept criteria, followed by analysis of the barriers and enablers of lifestyle medicine implementation across the two study types: (A) empirical studies evaluating behavioural lifestyle interventions (BLIs) and (B) studies describing key features of lifestyle medicine models (Tables 3 and 4).

Participants

Most studies sampled healthcare workers (including doctors, nurses, allied health staff, and intervention team members) and patients. Additional samples, which included a Delphi panel of members of the American Academy of Family Physicians, members of the American Society of Lifestyle Medicine, and community-based fitness program providers, were included.

Representation of First Nations participants was limited, with only two studies reporting their inclusion. One study highlighted additional cultural diversity, identifying participants from nine distinct ethnic groups.

Context

Of the 28 included studies, most originated from Australia ($n = 14$), with others from the United Kingdom ($n = 6$), Canada ($n = 3$), New Zealand ($n = 2$), and the United States ($n = 3$).

Health conditions

Of the included reports, 17 studies specifically assessed an NCD, whereas 11 did not specify a health condition. Among those that addressed an NCD, five focused on cardiovascular disease, two on type 2 diabetes, and three on mental health conditions. Two studies targeted patients who were overweight or obese, one examined metabolic syndrome, and two reviews included studies broadly referring to NCDs with some disease-specific focus. One study recruited participants with cardiovascular disease, type 1 or type 2 diabetes, chronic obstructive pulmonary disease, or those at high risk of cardiovascular disease or type 2 diabetes.

Treatment stage

In most studies ($n = 24$), the stage of treatment was clearly reported, although four did not specify this information. Of the studies where treatment stage could be determined, seven focused exclusively on primary prevention, two on secondary prevention, and 15 addressed both stages.

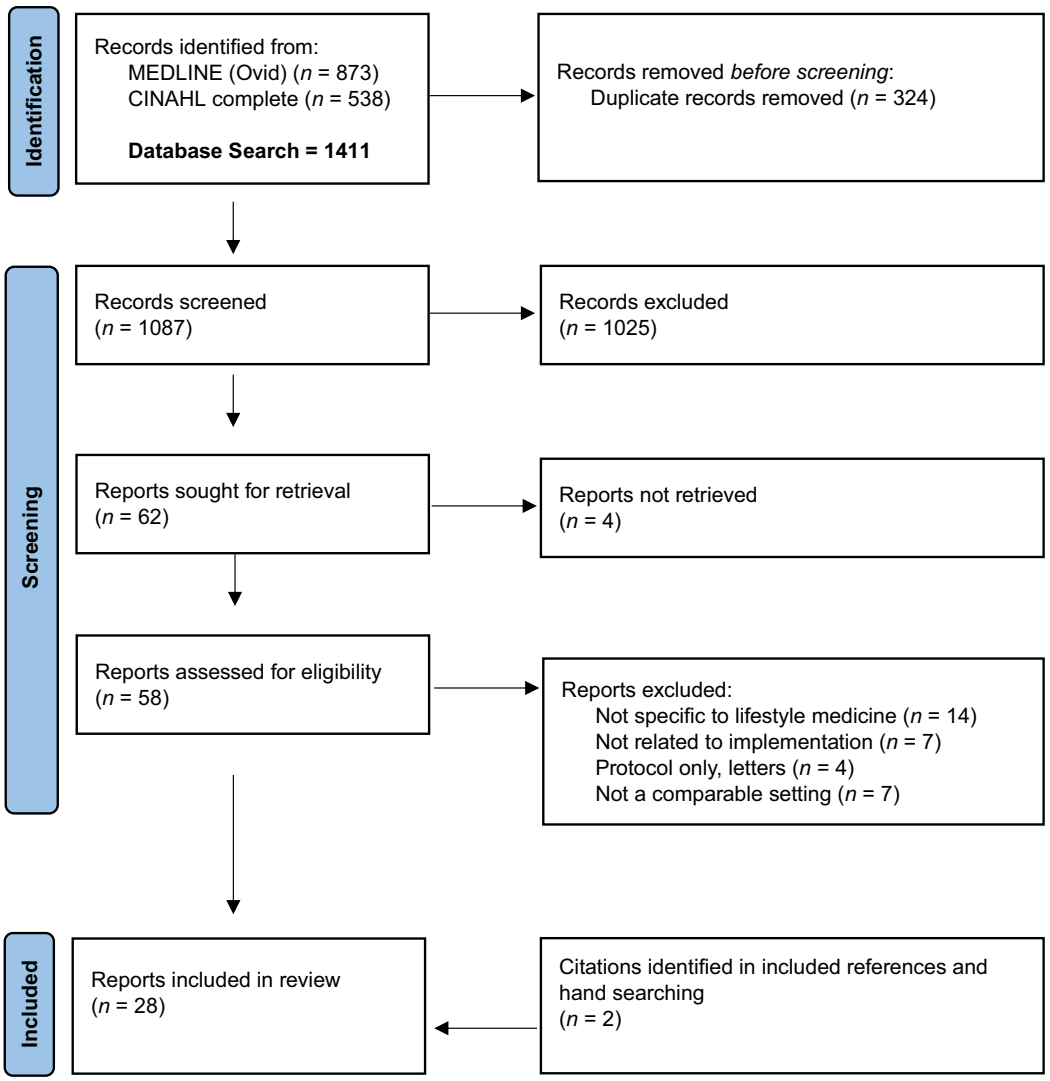

Fig. 1. PRISMA-ScR chart showing selection of studies for the scoping review.

Stage of patient journey

Of the 28 included studies, 13 reported the specific stage of the patient journey within primary care, whereas four discussed the journey in general terms. Six studies were implemented as discrete programs independent of usual care, and five did not specify the stage of the journey. Among those that described the patient journey, one was applied pre-visit in the waiting room, five were conducted during patient assessment, six during patient management (five in the context of chronic care plans and one using a prescription tool), and one encompassed ongoing patient follow-up (Fig. 2).

Concept

Aspects of lifestyle medicine addressed

In total, seven of the included studies comprehensively addressed lifestyle medicine.

Lifestyle medicine pillars addressed in the reports that partially addressed lifestyle medicine (n = 21) included nutrition and physical activity (n = 9); smoking, nutrition, alcohol use, and physical exercise (SNAP) (n = 9); physical activity and harmful substance use (n = 2); and smoking, nutrition, alcohol use, physical exercise, stress reduction, and social connection (n = 1).

Nature of implementation study and primary care setting

Reports were categorised into two groups: behavioural lifestyle interventions (BLIs) evaluating the efficacy of a specific intervention (n = 15), and qualitative assessments or reviews identifying factors for successful implementation of lifestyle medicine (n = 13) (Tables 3 and 4). Of the BLIs, 10 were delivered independently of usual care, and five tested brief interventions within existing services. These occurred

Table 3. Behavioural lifestyle interventions data charting.

References	Study description	Participants	Context	Concept	Study outcomes, barriers and enablers
Ingle *et al.* (2024)	United Kingdom; Evaluation of a 2-year, health and lifestyle coaching pilot. Retrospective, quantitative cohort study (descriptive analysis)	705 locally referred patients with a NCD (nine ethnic groups identified)	CVD, Type 1/2 diabetes, chronic obstructive pulmonary disease, patients at high risk of CVD or type 2 diabetes; Both primary and secondary prevention; Independent of the patient journey within the GP clinic	Health coaching (transtheoretical model, MI, goal setting), addressed SEWB; Pillars: nutrition, physical activity, use of harmful substances, stress reduction, social connection; Discreet referral-based program implemented by LHN Implementation effectiveness not conducted	Willingness to utilise, rate of attendance and retention were satisfactory, and there was consistent uptake by diverse ethnic groups suggesting 'high demand'. Authors point out that it was difficult to determine whether there were clinically meaningful outcomes due to lack of a control group, and limited data regarding anthropometrics and lifestyle behaviours, nor a cost-effectiveness study
Slater *et al.* (2022)	Australia; 12-week online weight management and lifestyle program to support general practice. Clustered RCT (high intensity (HI) vs low intensity (LI) arms)	Practices recruited via expression of interest and financially compensated 26 GP practices, 695 patients (10% ATSI). Patient group: Adult overweight and obese patients (BMI > 25)	Overweight and obesity; Primary prevention; Discreet program delivered independent of usual care	Behavioural modification strategies (goal setting, monitoring support). Pillars: nutrition, physical activity; Delivered wholly within general practices by 23 RNs, three GPs, and one dietician supported by a PHN program coordinator; Primary outcome was anthropometric change Patient and practitioner satisfaction assessed via survey	Patients in the HI arm lost more weight than those in the LI arm (HI 3.2 kg, LI 1.7 kg weight loss; HI 29%, LI 17% < 5% weight loss; WC: −3.9 cm HI, −2.2 cm LI). Qualitative data indicated that reduced face-to-face (4–5) sessions may improve patient and practitioner retention. PHN staff suggested that retention may be increased by changing eligibility to a BMI of >30, only including those with an established chronic disease, assessing readiness to change, more training for practitioners, matching role requirements with staff capacity, offering remote delivery options
Heron *et al.* (2022)	United Kingdom (Ireland); Evaluation of an existing tool for shared decision-making (SDM) [SHARE-D] REF. Mixed methods convergent study: online survey, then interview	Purposive sample of 34 participants. 12 GPs, seven other health professionals, 11 patients, and four support workers across five National Health System (NHS) Trusts	Cardio- or cerebrovascular condition; Secondary prevention; Initial brief screening tool (to enable SDM through the subsequent patient journey)	Health coaching: SHARE-D is based on the behavioural science theory. Pillars: nutrition and physical activity; Health professionals working in cardiovascular medicine in primary care and hospital settings; Evaluation of the perceptions of an established SDM tool	The SHARE-D decision aide was found to have good content validity and acceptability. Patients placed importance on goal setting and examples of these to facilitate further conversations on this, later follow-up, and using positive language within the aide. Barriers: time to complete, paper-based format, lack of clarity in original tool

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Table 3. (*Continued*).

References	Study description	Participants	Context	Concept	Study outcomes, barriers and enablers
Harding *et al.* (2022)	Australia; Evaluation of a weight loss program within rural general practice – five sessions over a 6-month period. Mixed methods study	Australia; 16 rural general practices 1217 patients; BMI > 30 kg/m^2, priority given to those with healthcare card (HCC) and diagnosed mental health condition. 12 general practice staff (two GPs, nine nurses, and one practice manager)	Overweight and obesity. No data collected on other comorbidities; Risk discussed in the context of primary prevention. Unknown how many participants had an established chronic disease; Participants identified and recruited by practice staff independent of usual GP care	Health coaching (goal setting, identifying barriers and enablers, MI, utilisation of a 'Wellness Wheel'). Pillars: nutrition and physical activity; Within private general practices, conducted independent of usual care; Evaluation of patient weight loss (BMI, waist circumference, and blood pressure), functional status, QoL, staff perceptions of program	36.9% completion with participation decreasing over time. Average 3.2 kg was lost per completer, 31.4% lost >5% of initial weight. 3.7 cm waist circumference was lost amongst completers. 40% lost >5 cm, 11% lost >10 cm. Enablers: importance of functional measures given studies show these are sustained for up to 24 months, even in the context of weight gain, training in MI, and the structured process for identifying priorities and barriers using the 'Wellness Wheel'. Barriers: scepticism amongst non-involved clinicians, workload demands of usual care, resources, and funding for primary prevention
Kapadia *et al.* (2021)	United Kingdom; Evaluation of a recruitment activity aimed at increasing patient participation in the Reducing Weight with Intensive Dietary Support (REWIND) program: 12-month diabetes management program. Cross-sectional qualitative study via an evaluation survey	45 patients recruited through practice database search: established diagnosis of type 2 diabetes diagnosed within the last 12 years, and those on regular glucose-lowering medication	Type 2 diabetes; Secondary prevention; Activities conducted independent of usual care	Behavioural change strategies (nudging, digital technologies). Pillars: nutrition, physical activity; Conducted amongst general practice patients of a single practice; Qualitative evaluation of a recruitment initiative	Mean interest in REWIND had increased from 2.7 to 4.7. Knowledge about REWIND had increased from 2.1 to 4. Self-reported likelihood of enrolling had increased from 2.6 to 4.2. Reported usefulness of the leaflet and webinar was scored 3.7 and 4.4, respectively
Cornell *et al.* (2020)	United Kingdom (Wales); Evaluation of a lifestyle prescription form (LRx) in the context of cardiovascular health. Mixed methods study. (HPs were asked to issue the LRx to whomever they thought it may be relevant over a 1-month period)	36 HPs (18 doctors, 15 nurses, three healthcare assistants), 11 primary care HPs, 12 secondary care HPs	Conducted in cardiovascular care (patients with risk factors for CVD or an established cardiac condition); Primary and secondary prevention; Utilised during the management stage of the patient journey and incorporated into usual care	Utilisation of health coaching principles. Pillars: nutrition, physical activity, reduction of harmful substances (smoking and alcohol); HPs in both general practice and hospital settings (80% utilisation in outpatient clinic, 20% wards); Evaluation of perceptions of HPs on the feasibility of a brief prescription tool	Feedback on tool was positive as means for conveying information regarding lifestyle interventions. Use of the form was similar across primary and secondary settings. Time constraints was the most quoted barrier to use

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Table 3. (*Continued*).

References	Study description	Participants	Context	Concept	Study outcomes, barriers and enablers
Simmavong *et al.* (2019)	Canada; Evaluation of implementation of a healthy lifestyle program, HealtheSteps and identification of best practice principles for implementation, especially in rural and remote settings. A qualitative naturalistic inquiry approach	43 interviews were conducted across 15 sites (rural and urban). 20 program participants and 23 program delivery staff/partners interviewed	Type 2 diabetes; Secondary prevention; Discreet program comprising bi-monthly sessions with health coach independent of usual care	Health coaching strategies, supported by ehealth tools Pillars: physical activity, nutrition; Rural and remote primary care settings; Multicentre process evaluation to assess feasibility and acceptability of the program	Respondents reported the program drove patient self-efficacy through coaching approach and felt it promoted success and sustainability. Enablers: pragmatic program design, participant-focused, alignment with site's goals and mandates, ongoing support offered by project team, knowledge transfer to participants, and tangibility of outcomes. Patients were assigned a coach, which increased accountability. It was perceived that cost and resource requirements were relatively low Barriers; resource constraints and competing interests (facilities, scheduling, program delivery, staff continuity), more limited success in remote settings
Ryan (2019)	New Zealand; Evaluation of existing program (Tane Takitu Ake) founded in the principles of Māori wellbeing, supported by physical, mental, spiritual, and family health. Qualitative study: focus group	Nine Māori adult male program participants	Patients at risk of, or diagnosed with NCD (including mental health conditions); Both primary and secondary prevention; Program conducted independent of usual patient care	SEWB framework considering cultural, spiritual, and social needs (kaupapa Māori). Pillars: nutrition, physical activity; Based at a community health service (Korowai Aroha Health Centre) but conducted in natural settings, community facilities and meeting rooms; Qualitative evaluation of perceptions of a cohort of participants in an existing program	Participants reported: sense that the learning environment enabled self-growth and self-identity, cultural pride and comradeship supported increased understanding of health and medical conditions and lead to behaviour change, particularly with respect to food choices and physical activity. The authors affirm the importance of culturally safe practices in healthcare provision, recognition of barriers to Māori men in particular, and suggest providing it in environments other than traditional health care centres

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Table 3. (*Continued*).

References	Study description	Participants	Context	Concept	Study outcomes, barriers and enablers
Brauer *et al.* (2019)	Canada; Evaluation of perspectives on the Canadian Health Advanced by Nutrition and Graded Exercise (CHANGE) study program. Convergent parallel mixed methods design; questionnaire and focus group	Adult participants of the CHANGE study: 164 questionnaire responses. 41 focus group participants	Metabolic syndrome (MetS); Primary prevention with the aim of reversing or reducing the number of MetS features; Conducted within practice setting with FP monitoring support	Multidisciplinary team approach to health coaching. Pillars: nutrition, physical activity; Discreet program delivered across three general practices – oversight and monitoring by FP; Evaluation of participants perspectives of the program	19% reversal of MetS at 12 months. Participants were positive regarding the program and reported it increased their knowledge and motivation. Enablers: personalised but flexible nature of the program, supportive staff, and accountability created by oversight of their 'trusted' physician, weekly visits, recruitment of family and friends, enjoyment of the social aspects of physical interventions. Barriers: difficulty with behavioural change, time, limited attention to poor mental health. Enablers: FP played a key role, team functioning, social component of the program could be enhanced, addition of a mental health worker
Cass *et al.* (2016)	Australia; To investigate effectiveness of passive health-related waiting room interventions in improving lifestyle behaviours. Integrative review	33 included studies: Participants from 9 to 40,684. Studies included across eight countries	Multiple conditions addressed, including NCDs and non-lifestyle related conditions; Primary and secondary prevention; Pre-visit while attending a primary care waiting room	Behavioural change interventions (nudging). Pillars: nutrition, physical activity, smoking cessation, alcohol consumption; Studies included general practice and other primary care and hospital settings; Integrative review of the literature on the efficacy of passive waiting room interventions	10 studies assessed intention to make a behavioural change after the intervention. Between 25% and 97% reported an intention to change. 14 studies reported on the rate of change after the intervention (0.79% to 44%). There were mixed results regarding impact on attitudes to health behaviours. Overall, passive interventions in the waiting room have a positive impact on patient knowledge, attitudes, and behaviours

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Table 3. (*Continued*).

References	Study description	Participants	Context	Concept	Study outcomes, barriers and enablers
Stuart *et al.* (2014)	Australia; Effectiveness of a telephone-based primary prevention care model for patients at risk of developing CVD; 12-week cardiovascular lifestyle intervention programme (CLIP). Multicentre study Randomised controlled trial	49 participants from two general practices, selected based on a system search for CVD risk factors (age, BMI, WC), and invited to participate. Participants randomised to the intervention CLIP ($n = 26$) vs usual care ($n = 23$)	Risk factors for CVD; Primary prevention, although patients were not excluded based on an established condition (e.g. type 2 diabetes); Discreet from usual care. Patient recruitment, randomisation, and clinical assessment supported by usual GP	Health coaching (MI). Pillars: nutrition, physical activity; Patients seen in general practice to measure fasting plasma lipids, blood pressure, weight, height, and waist circumference at point zero and 12 weeks. CLIP program: using existing telephone coaching service; Outcomes included anthropometry, lipid profile, BP, level of physical activity, using International Physical Activity Questionnaire, and reported motivation using Treatment Self- Regulation Questionnaire	Participants in the CLIP arm achieved greater reduction than those in the control (16.8% in LDL-C and 10.4% in total cholesterol). Non-significant effect on weight loss – CLIP group achieved mean weight loss of 3.6 kg compared with 1.0 kg in control group. Enablers: enhanced self-motivation – a predictor for reduced LDL-C, GP-referral to an existing service, low cost, limited time demands for GPs. Barriers: recruitment method did not account for stage of change
Elley *et al.* (2014)	Canada; Assessment of Case-finding Health Assessment Tool (CHAT) in general practice waiting rooms. CHAT screens for nine risk factors for mental illness (depression, anxiety, anger control, smoking, drinking, other drug use, gambling, exposure to abuse, and physical inactivity). Qualitative research study: Cross-sectional survey	Convenience sample: of 265 eligible adults, 176 (66%) of enrolled in the study; 161 (91%) completed the CHAT, and 107 (66%) completed acceptability feedback. Eight FPs involved who completed feedback survey	Mental illness with reference to comorbid substance use; Treatment stage not specified; Brief screening tool conducted in pre-appointment as part of usual care	Addresses SEWB by screening for mental health symptoms, some social needs (safety). Utilises aspects of health coaching – assessing current readiness. Pillars: physical activity, harmful substance use; Utilised in two urban general practices (with different socio-economic profiles) Feasibility and acceptability of screening tool	Participants found the tool acceptable and affirmed feasibility. They valued its brevity and found it promoted self-reflection; The tool allowed identification across nine risk factorss with 48% of patients indicating that they would like help, and 35% requesting help that day
Laws *et al.* (2013)	Australia; Evaluation of factors affecting participation in RCT for a lifestyle modification program to support prevention in CVD, Health Improvement and Prevention Study (HIPS). Concurrent mixed methods study (utilising data collected from the intervention arm of a cluster RCT)	197 adults aged 40–64 years referred within the intervention practices. 16 general practices recruited to the intervention arm (five interviewee intervention officers)	At risk of vascular disease; Primary prevention; Initial session conducted as part of usual care, and those eligible were invited to participate in discreet program	Health coaching and monitoring support (including group meetings, assessment of stage of change). Pillars: nutrition, physical activity, smoking, alcohol use; Intervention conducted within local general practices; Exploration of factors influencing patient participation in the intervention arm of the RCT and assessment of participant satisfaction	36.5% referred to the program did not attend. 59.4% attended at least half of the sessions Independent predictors of attendance were employment status – not working (OR: 2.39 95% CI 1.15–4.94), and having high psychological distress (OR: 2.17 95% CI: 1.10–4.30). Enablers: higher areas of deprivation, smaller practice size, higher numbers of allied health staff that rent rooms, written preventive health protocols, GP endorsement of program, flexibility in delivery, smaller program groups, allowing partners/ family to come Barriers: physical access to the program (transport, program timing during work hours)

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Table 3. (*Continued*).

References	Study description	Participants	Context	Concept	Study outcomes, barriers and enablers
Harris *et al.* (2013)	Australia; Effectiveness of a training program amongst GPNs on the delivery of health coaching in brief lifestyle interventions. Quasi-RCT	Four community nursing services identified via an expression of interest. 804 adult patients recruited prior to being seen by a GPN	Health condition not specified; Treatment stage not specified; Stage of patient journey not specified	Health coaching (MI, 5 As model). Pillars: nutrition, physical activity, reduction of harmful substances; intervention tested in the context of usual care within general community nursing facilities; Discreet program: nurses at four practices were randomised to an early intervention group who received training in how to address smoking, nutrition, alcohol use and physical activity (SNAP) with patients, and a late intervention group who received the same training at the end of a trial period of 6 months	Increase in the incidence of advice and referrals rates for patients with risk factors. Patients reported an increase in readiness to address physical inactivity. There were no changes found in lifestyle behaviours or weight. The authors infer that this was due to the lack of an ongoing relationship and the need for more intensive interventions
Goodyear-Smith *et al.* (2013)	New Zealand; Assessment of a web-based Case- finding Health Assessment Tool (CHAT) amongst patients in two general practice waiting rooms. The web-based tool allowed completion on an iPad, which could be accessed electronically by physicians in the patient management system. Mixed method feasibility and acceptability study: patient completion of eCHAT and staff and patient interviews	233 invited patients, 196 (84%) completed eCHAT and received feedback	Mental illness with reference to comorbid substance use; Treatment stage not specified; Conducted pre-appointment as part of usual care	Addressed SEWB by screening for mental health symptoms, some social needs (safety) Health coaching: assessing current readiness for change. Pillars: physical activity, harmful substance use; Utilised in two general practices; Feasibility study on the use of a web-based version of a lifestyle risk screening tool	Patients requested immediate help with anxiety (9%), depression (7%), physical activity (6%), and smoking (5%) with a 90% response rate. Enablers: patients and staff indicated it was quick and easy to use, physicians appreciated time saving feature of downloading responses into patient software, having this additional information regarding risk, and the authors note that patients are more likely to make lifestyle changes when concerns are raised by them

Key: LM, lifestyle medicine; PC, primary care; GP/N, general practice/nurses; FP, family physician; EP, exercise physiologist; NCD, non-communicable disease; CDM, chronic disease management; HA, health assessment; RCT, randomised control trial; ATSI, Aboriginal and Torres Strait Islander; SEWB, social and emotional wellbeing; BP, blood pressure; WC, waist circumference; MI, motivational interviewing; QoL, quality of life; CVD, cardiovascular disease; HP, health practitioner, LDL-c, low-density lipoprotein cholesterol; OR, odds ratio; CI, confidence interval.

Table 4. Characteristics of lifestyle medicine models data charting.

References	Study description	Participants	Context	Concept	Study outcomes, barriers and enablers
Grega *et al.* (2024)	United States; Development of an Expert Consensus Statement (ECS) to guide integration of LM into primary care. The principles were aimed at defining 'best practice' to guide policy, process, implementation, training, and future research. Delphi study – survey developed based on review of the existing literature on LM in primary care encompassing nutrition or physical activity prescriptions, intervention programs, or Shared Medical Appointments (SMAs)	Facilitated by the American College of LM (ACLM), a panel of experts was derived from primary care clinicians, including physicians, physician assistants (PAs), nurse practitioners (NPs), and clinical psychologists. 28 studies were included to inform draft statements for the Delphi study	Refers to NCDs; Primary and secondary prevention; All stages of the patient journey were addressed within the ECS; screening, assessment, diagnosis, prescription, and management, referral, and follow-up	Comprehensively addressed LM as a discipline and included all three core components; High-level best practice principles derived from studies conducted in varied geographical locations and PC settings, and intended for broad application; Delphi study to determine ECS for best practice principles to guide implementation of LM in primary care	65 statements reached consensus and were developed under topics: integration into primary care, delivery model, provider education, evidence-base for LM, diagnosis and vital signs, treatment, resource referral and reimbursement, patient, family, and community involvement, shared decision-making, social determinants of health and health equity, barriers to LM
Brennan *et al.* (2024)	United States; Review article discussing key considerations for implementation of LM into primary care	Patients presenting to primary care generally	Generally refers to NCDs; Primary and secondary prevention; Does not specifically discuss the patient journey within primary care	Comprehensively addressed LM as a discipline and included all three core components; Discussed general practice and fee-for-service model of care; High-level discussion of barriers to implementation and areas to be addressed	Recommended assessment of patient perceived importance of LM pillars, readiness for change, and identification and amelioration of barriers; patient, physician, and system. It urged policy and medical curriculum change and to address these
Leese *et al.* (2024)	United Kingdom; Overview of the evidence for delivering multiple evidence-based lifestyle interventions within primary care; Narrative review of existing systematic reviews	Six systematic reviews	NCDs; Primary and secondary prevention; Does not specifically discuss the patient journey within primary care	Comprehensively addressed LM as a discipline and included all three core components; Addressed the feasibility of implementation in usual care within general practice; Review of the evidence regarding co-delivery of lifestyle interventions	The literature supported the co-delivery of risk behaviour interventions for nutrition and physical activity (PA), however, suggested that smoking is best addressed sequentially, co-action vs sequential interventions to support alcohol consumption are unclear. There is insufficient evidence regarding the pillars of sleep, mind-body therapies, and social connection, or to guide the ordering of interventions. Barriers: limited time, skills and training, resources, and negative financial implications. Enablers: multi-disciplinary teams, shared medical appointments, further research to encourage greater funding

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Table 4. (*Continued*).

References	Study description	Participants	Context	Concept	Study outcomes, barriers and enablers
Fallows (2023)	United Kingdom; Review article discussing the current state of LM as a discipline and key drivers for its implementation from the perspective of the British Society of Lifestyle Medicine (BSLM).	Patients presenting to primary care generally	NCDs, including mental illness; Primary and secondary prevention; Discussed the patient journey in primary care generally, and proposed an alternative, integrated model	Comprehensively addressed LM as a discipline and included all three core components, including offering a definition of LM; Discussed primary care generally with specific reference to general practice; Discussed drivers for successful implementation of LM in primary care	Defined LM as three core principles of: six lifestyle pillars, consideration of SEWB and the use of health coaching techniques to enable a person-centred approach. Enablers: implementation at both the policy and 'grass roots' level, integrated care models, addressing social needs, education (including in self-care) and incorporation into medical curriculum, monitoring support, new roles – health coaches, link workers, shared medical appointments
Bharati *et al.* (2023)	United States; Perceptions of family physicians of LM, their practice of its principles, and barriers to their implementation. Cross-sectional research study: Survey of American Academy of Family Physicians (AAFP) aligned with the core competencies in LM	Facilitated by the American College of LM (ACLM), members of the AAFP were invited to complete the survey. 447 survey responses were included from AAFP members considered to be representative of the total membership (3% board-certified in LM)	Generally addressed NCDs; Primary and secondary prevention; The stage of the patient journey is not specified	Comprehensively addressed LM as a discipline and included all three core components; General practice, particularly fee-for-service models of care; Current state assessment of perceptions amongst primary care physicians on utilising LM	Most respondents considered LM competencies to be important. However, a gap in utilisation existed especially for social connection and sleep (gap 39.4%, 47.0% respectively). Respondents reported lower levels of comfort regarding illicit substance use (65.2%) and social connections (77.5%). Partnering with community-based health organisations was considered important (80.0%), as was public advocacy (85.5%), but not often used (44.2%; 45.4%). 70% engaged in team-based care. Barriers: difficulty changing patient behaviour (88.6%) and limited time (81.2%)

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Table 4. (*Continued*).

References	Study description	Participants	Context	Concept	Study outcomes, barriers and enablers
Morris *et al.* (2022)	Australia; Assessment of how GP nurses (GPNs) support lifestyle change. Integrative literature review	General practice nurses: 16 papers describing 12 studies (one study produced three papers)	Three reports referred to a specific condition (diabetes, cardiovascular condition, six referred to multiple risk factors, five referred to one, and two explored health promotion; Most studies were conducted in the context of CDM (secondary prevention); Scope specific to the role of GPNs in chronic disease management throughout the patient journey	Health coaching (motivational interviewing – MI). Pillars: nutrition, physical activity, smoking cessation, alcohol use; General practice; Current state assessment of GPN approaches to behavioural change in chronic disease management	Major themes identified: establishing relational connections was associated with greater experience amongst GPNs, distancing observed where GPNs showed dissonance in attitudes and behaviours, empowering active participation increased success but was inconsistently applied and could be mitigated by organisational support. Engaging mutual motivation drives patient success; however, GPNs 'often' do not use behavioural change techniques. Advice on diet and exercise was often given; however, GPNs reported lack of skills and confidence in provision of advice, assistance, and follow-up, and many expressed a desire for more training. Barriers: financial and work demands, siloed practice, resource constraints – reinforced task-focused practice
James *et al.* (2021)	Australia; Explored perceived barriers and facilitators to lifestyle change amongst GPNs. Concurrent mixed methods study; video observations and interviews, encompassing the two reports below	15 GPNs convenience sample from ACT and NSW PHN; 40 patients selected consecutively (14 video recordings)	Unspecified NCD, or those eligible for a CDM or HA; Primary and secondary prevention; Specific to the development of a CDM or HA by a GPN	Thematic analysis structured utilising behavioural change approaches (MI). Pillars: smoking, nutrition, alcohol, physical activity; Australian general practice; Current state assessment of GPN role in conducting CDM and HA	GPNs used relational techniques; empathy, reflective listening, and MI tools to build rapport and facilitate identification of some risks and opportunities for change, as well as development of an ongoing relationship. Gauging patients' interactional needs, asking about their current lifestyle, offering advice was frequently conducted. Occasionally, scare tactics were adopted that limit patient self-determination. Enablers: more comprehensive health coaching (MI, importance/confidence scales, and stages of change). Barriers: GPN role clarity, training, siloed practices, time limitations in the context of the CDM, remuneration model, multiple clinical needs (e.g. prioritisation of a SEWB need)
James *et al.* (2020*a*)	Australia; Examined how GPNs support lifestyle change (perceptions and approaches)				
James *et al.* (2020*b*)	Australia; Explored GPNs perceive to be the interactional elements that support lifestyle change				

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Table 4. (*Continued*).

References	Study description	Participants	Context	Concept	Study outcomes, barriers and enablers
Manger (2019)	Australia; Discussed the role of lifestyle measures in the treatment of mental illness. Review article	Discussed mental health patients in primary care generally	Mental illness with reference to comorbid chronic disease; Both primary and secondary prevention; Discussed patient care generally	Comprehensively addressed LM as a discipline and included all three core components; General practice; Discussed barriers to implementation and some mechanisms to address these	Addressed barriers to assessment and management of lifestyle factors in mental illness and urged multidisciplinary team involvement, community engagement, consideration of social needs and practitioner training to address these
James *et al.* (2019)	Australia; Literature review of GPNs perceptions, attitudes, and experience of delivering lifestyle risk communication (2006–2016). Integrative literature review	15 reports: 12 from Europe and three from Australia. All studies sampled GPNs, two also included doctors and one included 'health visitors'	Most studies were generally related to NCDs, one addressed type 2 diabetes, three overweight and obesity, one addressed cardiovascular risk; Both primary and secondary prevention; stage of patient journey not discussed specifically. The study focused on the role of nurses in addressing lifestyle risk during chronic care planning	Health coaching (MI). Pillars: smoking, nutrition, alcohol, physical activity; General practice; Current state assessment of current practices and perceptions	Three papers explored the use of MI with qualitative evidence supporting its value in patient-driven care. However, GPN self-rated performance in this skill was overestimated compared with external assessment, affirming the need for ongoing skills support. Aspects of person-centred care were evident, whereas in some cases directive approaches were taken. Barriers: time, workflow priorities, funding, role clarity, training in MI
Egger (2019)	Australia; Review article that aimed to define LM as a discipline	Discussed with reference to all patients	At risk of NCDs; Both primary and secondary prevention; Discussed patient care generally	Comprehensively addressed LM as a discipline and included all three core components; General practice; General discussion of models of care	Review discussed the importance of addressing the root cause of lifestyle diseases by considering the 'whole system' (both determinants and behavioural drivers of disease). Discussed tools for implementation – telephone triaging, shared medical appointments, and self-efficacy training, peer-to-peer learning, social prescribing

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Table 4. (*Continued*).

References	Study description	Participants	Context	Concept	Study outcomes, barriers and enablers
Volker *et al.* (2016)	Australia; Assessed perceptions of providers of lifestyle modification services on the feasibility of developing a primary prevention program for cardiovascular disease (CVD) in the community. Qualitative study: focus group	34 participants: 20 allied health providers (AHP), 14 LM program providers (fitness/health promotion; LMP)/invitations to community-based providers of endorsed wellness services	Risk factors for cardiovascular disease; Primary prevention; Stage of patient journey not specified	High-level consideration of support through a structured program. Pillars: nutrition, physical activity; Exploration of the feasibility of utilising (mostly private) community-based providers of lifestyle management services to support patients identified as being at risk of CVD within primary care; Assessment of current practices and perspectives of allied health and lifestyle modification providers regarding supporting primary prevention of CVD	Barriers: perception that primary prevention services are not valued as much as treatment services by the community, lack of knowledge on what services exist, very poor integration across community-based services and the healthcare sector, with most users being self-referred, very few referrals for primary prevention (driven by the lack of available funding). Enablers: greater funding for community-based providers to support prevention activities, better access for those on low incomes

Key: LM, lifestyle medicine; PC, primary care; GP/N, general practice/nurses; FP, family physician; EP, exercise physiologist; NCD, non-communicable disease; CDM, Chronic disease management; HA, health assessment; RCT, randomised control trial; ATSI, Aboriginal and Torres Strait Islander; SEWB, social and emotional wellbeing; BP, blood pressure; WC, waist circumference; MI, motivational interviewing.

in general practice (n = 8), community-controlled clinics (n = 3), multiple sites (n = 3), and one combined with a phone-based service. Among review studies, six assessed current practice, two conducted detailed reviews, and five offered general implementation considerations. Most focused on general practice (n = 5), with others addressing primary care broadly (n = 6), multiple settings (n = 1), or allied health providers (n = 1).

Analysis of the characteristics of successful models of lifestyle medicine

Data extraction identified barriers and enablers to implementation across the two study types, which were then grouped into themes (Tables 5 and 6).

Behavioural lifestyle interventions – barriers and enablers

Barriers commonly related to program design, including inflexible scheduling, excessive session requirements, lack of remote delivery options, reliance on paper-based tools, and limited integration with usual care. Other barriers were insufficient practitioner skills in behavioural change, limited focus on emotional and social well-being, workforce capacity constraints, funding limitations, and lack of continuity in patient relationships.

Enablers included continuity of care through co-location and integration with primary care, creation of meaningful and supportive environments, and involvement of family. Flexible program design with remote or digital delivery, use of waiting times, and incorporation of existing services also facilitated success. Strong implementation processes, such as structured staff training, dedicated resources for prevention, and robust measurement and monitoring, were key to program effectiveness (Table 5).

Characteristics of lifestyle medicine models – barriers and enablers

Of the thirteen reviews that directly described characteristics for successful implementation of lifestyle medicine models, four emphasised the importance of a clear, consistent definition of lifestyle medicine, incorporating social and cultural context, all six lifestyle pillars, behaviour change strategies, and their integration as a 'whole system.'

Barriers commonly cited included fee-for-service funding models, time pressures, increased workload complexity, siloed practices, competing priorities, and practitioners' limited skills in health coaching and less frequently addressed pillars such as social connection, sleep, and substance use. Engagement with community partners, advocacy groups, and allied health or fitness providers was also reported as limited.

Integration of care emerged as a key enabler, supported by initiatives such as introducing roles such as health coaches and social prescribers, establishing role clarity, and improving communication systems across multidisciplinary teams.

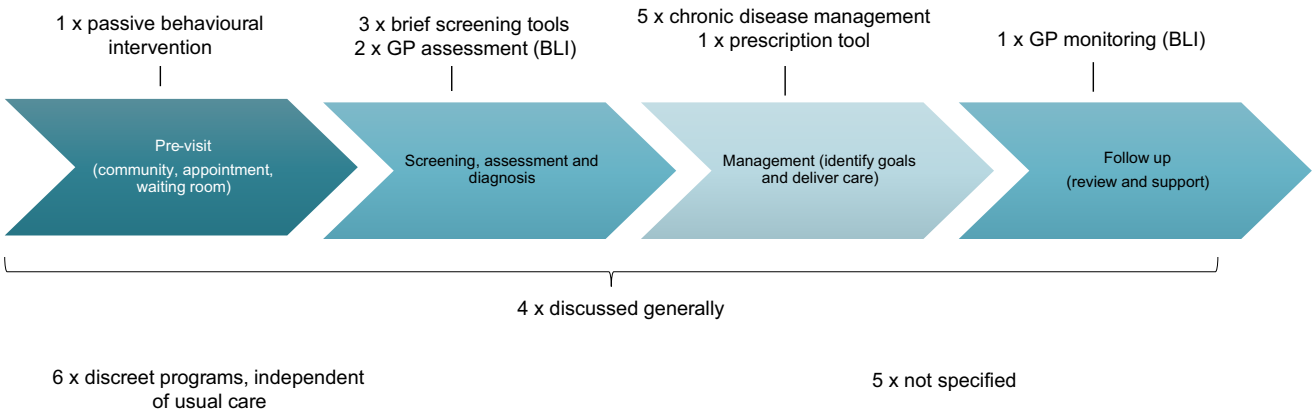


Fig. 2. Distribution or reports across the stage of the patient journey (BLI, behaviour-led intervention; CDM, chronic disease management)

Table 5. Behavioural lifestyle interventions – barriers and enablers.

Barriers	Enablers
Program timing (n = 7)	Continuity of care
Insufficient attention to SEWB or behavioural change skills (n = 3)	Co-location with primary care service (n = 5)
Insufficient staff capacity and other resource constraints (n = 3)	Referral from usual GP (n = 4)
Unclear patient stage of readiness (n = 2)	Ongoing support by GP or health coach (n = 2)
Lack of ongoing relationship (n = 1)	Meaningful, safe environment (n = 1)
Limitations to funding, including primary prevention (n = 1)	Program Design
	Leveraging waiting time (n = 3)
	Ability to involve family (n = 2)
	Pragmatic program design (n = 2)
	Smaller practice/groups (n = 1)
	Utilising existing services (n = 1)
	Program implementation process
	Behavioural change tools (n = 7)
	Staff training and establishment of processes to support activities (n = 2)
	Measurement of functional status in addition to biomedical outcomes (n = 1)

Engagement with community-based providers, use of peer support groups and shared medical appointments, and leveraging health technology were also identified as facilitators. Policy-level advocacy for funding prioritisation, particularly for preventive care, and the inclusion of lifestyle medicine in medical curricula were further enabling strategies (Table 6).

Discussion

We aimed to identify literature describing integrated models of care for lifestyle medicine in primary care, key implementation barriers, and the factors required for successful implementation in Australian general practice. No single study addressed all elements of the research question. Two categories of literature emerged: (1) empirical studies evaluating behavioural lifestyle interventions (BLIs), and (2) reviews describing barriers and enablers to implementing lifestyle medicine models.

Among empirical studies, none addressed all six pillars of lifestyle medicine. Nutrition, physical activity, smoking cessation, and alcohol reduction predominated, consistent with current clinical guidelines (World Health Organization 2003; The Royal Australian College of General Practitioners 2015; National Heart Foundation of Australia 2016; Diabetes Australia 2017). Sleep, stress reduction, and social connection were rarely included. Although patient-centred approaches and coaching strategies were frequently referenced, they were inconsistently applied, and few studies comprehensively addressed social and emotional wellbeing. Many programs operated outside routine primary care, required additional resources, and demonstrated limited integration with existing care pathways.

Table 6. Characteristics of lifestyle medicine models – barriers and enablers.

Barriers	Enablers
Fee for service funding models (n = 3)	Definition of Lifestyle medicine (n = 4)
Time limitations and increased complexity and volume of work (n = 4)	Comprised of 3 key components:
Siloed work practises and competing priorities (n = 7)	1. Understand social and cultural context
Limited knowledge and skills amongst practitioners (health coaching and all lifestyle pillars) (n = 7)	2. Address six pillars of lifestyle medicine
Practitioners report they do not engage with community partners and health advocacy groups (n = 1)	3. Application of behaviour change strategies
Limited engagement with community-based allied health and fitness program providers (n = 1)	Integration of care (n = 6)
	Mechanisms suggested:
	Peer support groups and shared medical appointments (n = 4)
	Role clarity (n = 3)
	Processes and systems to support communication across multidisciplinary teams (n = 3)
	Engagement with community-based providers (n = 3)
	Use of health technology (n = 3)
	New roles such as health coaches and social prescribers (n = 1)
	Advocacy, policy and funding
	Advocacy at community and policy level for prioritisation of funding, especially for preventive care (n = 3)
	Education
	Inclusion of lifestyle medicine in medical curriculum (n = 3)

Reviews examining implementation factors similarly varied in their inclusion of SEWB, behavioural change strategies, and all six pillars. Of reports that comprehensively addressed lifestyle medicine, none were intervention-effectiveness trials, and most discussed communicable disease in general only.

This heterogeneity reflects the relative nascency of the field. Since the emergence of the field in the late 1990s (Clarke and Hauser 2016), definitions have continued to evolve. Fallows (2023) described core principles as integrating socioeconomic determinants, behavioural change strategies, and the six lifestyle pillars. More recent work also incorporates macro- and microeconomic considerations, health equity, policy, planetary health, and implementation science, including scaling and sustainability (Pinder *et al.* 2025).

Although lifestyle medicine has frequently been evaluated as a collection of individual behavioural interventions, this review supports its conceptualisation as a systems-level framework capable of guiding care design, implementation, funding, and evaluation within primary care. In this respect, lifestyle medicine aligns conceptually with established models such as Wagner's Chronic Care Model (Wagner 1998), although empirical evaluation of lifestyle medicine as a system redesign remains limited.

Implementation barriers

Across both study types, clinicians consistently reported time constraints as a major barrier, driven by fee-for-service funding, competing priorities, siloed workflows, and increasing care complexity. The current fee-for-service model incentivises 'volume over value' (Brennan *et al.* 2024) and limits multidisciplinary activity (Breadon *et al.* 2022). Although funding arrangements support care coordination for established disease, limited reimbursement for primary prevention remains a significant barrier. Clinicians also reported limited skills in health coaching and certain lifestyle pillars, despite recognising their importance. Engagement with community-based providers was uncommon, despite being widely perceived as essential (Volker *et al.* 2016).

Participant engagement and retention were challenges across BLIs, particularly among younger populations and those with early disease. Contributing factors included limited program flexibility, lack of ongoing relationships, insufficient behaviour change support, and minimal attention to SEWB (Laws *et al.* 2013).

Defining lifestyle medicine

In response to these gaps, the American College of Lifestyle Medicine (ACLM) defined lifestyle medicine as an 'essential component of primary care in patients of all ages' (Grega *et al.* 2024), emphasising its implementation as a 'whole system' incorporating SEWB, behavioural change strategies, and all six pillars (Egger 2019; Fallows 2023; Grega *et al.* 2024).

A clear definition can enable robust evaluation of comprehensive lifestyle medicine interventions and inform

implementation in primary care, particularly by distinguishing individual behavioural components from lifestyle medicine conceptualised as an integrated model of care.

At a systems level, lifestyle medicine may therefore be understood not simply as a set of clinical interventions, but as a quality framework capable of informing implementation, funding, evaluation, and scaling within primary care rather than being assessed solely through stand-alone behavioural programs.

Integrated care and implementation

Policy makers and lifestyle medicine leaders consistently emphasise integration as a prerequisite for success (Egger 2019; Australian Government Department of Health and Aged Care 2022; Fallows 2023; Grega *et al.* 2024). Findings from this review suggest that stand-alone programs external to routine care are limited in their ability to provide sustained engagement or continuity and may contribute to further system fragmentation. Fallows states that 'lifestyle medicine teaches clinicians the skills needed to support patients to voice their own priorities around which their care should be integrated' (Fallows 2023).

ACLM consensus statements recommend multidisciplinary team-based care, flexible delivery models, sufficient consultation time, workforce training, expanded evidence generation, and funding models that support prevention and equity (Grega *et al.* 2024). Additional enablers include health coaching roles, improved multi-disciplinary team communication, and digital health tools.

Research agenda

There remains limited evidence evaluating implementation of lifestyle medicine within real-world private general practice. Lifestyle medicine is inherently continuous, spanning prevention and disease management throughout a lifespan. Although BLIs demonstrate demand for behaviour support, they show limited sustained outcomes when delivered outside continuous models of care.

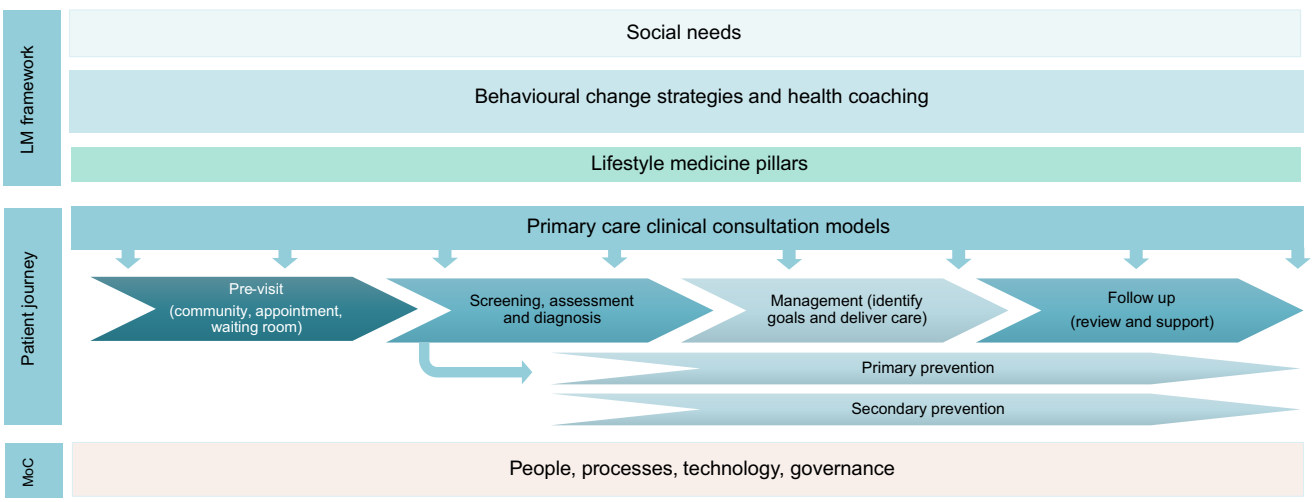
We propose that lifestyle medicine be operationalised as a quality framework guiding research across stages of the patient journey and disease prevention continuum (Fig. 3). Evaluation frameworks such as RE-AIM (Reach, Effectiveness, Adoption, Implementation, and Maintenance) are well suited to assessing implementation effectiveness, scalability, and sustainability within this context (Glasgow *et al.* 2019).

Limitations

Consistent with rapid scoping review guidance, searches were limited to two major databases (MEDLINE (Ovid) and CINAHL), as recommended for timely mapping of evidence in emergent fields (Tricco *et al.* 2017). Consequently, some literature indexed exclusively in other databases may not have been captured.

This review prioritised studies conducted in health systems broadly comparable to Australia's, including New Zealand, Canada, and the United Kingdom. Select studies from other jurisdictions were included where lifestyle medicine was addressed 'comprehensively', and findings were considered transferable (e.g. ACLM consensus literature). Given the substantial volume of BLI literature and evidence saturation in this area, studies partially addressing lifestyle medicine were excluded in some jurisdictions, which may have resulted in the omission of additional nuances or emerging themes.

Large-scale, vertically integrated or publicly funded primary care systems incorporating lifestyle medicine were also excluded, as this review focused on implementation within small, private fee-for-service general practices typical of the Australian context. Evaluation of lifestyle medicine as a whole-of-system redesign and its application within large healthcare organisations represents an important area of future research.



LM, lifestyle medicine; MoC, model of care

Fig. 3. Lifestyle medicine as a quality framework.

Paediatric studies were excluded to focus on adult care, though primary prevention in children is recognised as a key aspect of reducing chronic disease burden. Some studies addressing SEWB, but not all lifestyle medicine pillars, were also excluded; these may nonetheless offer valuable qualitative insights into patient engagement and chronic disease management, warranting further review in future research.

Conclusion

The rise in NCDs globally has placed greater pressure on our healthcare systems, prompting calls for effective behavioural interventions that can prevent and treat the root causes of lifestyle diseases. In Australia, recent policy directions have emphasised integrated, patient-centred models of care. Lifestyle medicine, which has been increasingly referenced in this setting, typically adopts an approach that incorporates behavioural change strategies across six lifestyle pillars and considers broader social and environmental influences on health. However, this review found that the existing literature largely evaluates individual behavioural lifestyle interventions rather than the delivery of lifestyle medicine as a comprehensive, integrated mode of care within routine general practice.

Across the included studies, consistent barriers to implementation were identified, including limited consultation time, variable clinician training and confidence in behavioural change strategies, workflow constraints, and funding arrangements within the fee-for-service model that are not optimally aligned with preventive or multidisciplinary care. Although studies of behavioural lifestyle interventions indicate patient interest and potential benefit, evidence relating to sustained outcomes, integration into usual care, and applicability to small, private general practices remains limited.

Overall, the findings suggest that lifestyle medicine remains an evolving field, with a developing conceptual base and a relatively small body of empirical research examining lifestyle medicine models of care that encompass its key components. Further research is needed to define lifestyle medicine at the individual and systems level to guide its implementation. The application of established implementation frameworks, such as RE-AIM, may support more systematic evaluation of reach, adoption, and sustainability and guide scalability of a replicable approach to patient-centred prevention and chronic disease management across the life course.

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Author affiliations

[A]College of Medicine and Dentistry, James Cook University, Townsville Bebegu Yumba, Qld 4810, Australia.

[B]Faculty of Information Technology, Monash University, Clayton, Vic 3800, Australia.

[C]Victorian Heart Institute, Monash University, Melbourne, Vic, Australia.