Australian Primary Health Care guidelines for childhood growth, health, and development in the early years: A scoping review

Dimity Dutch,[1]* Lucinda Bell,[1] Sarah C. Hunter,[1] Brittany J. Johnson,[1] Elizabeth Denney-Wilson,[2] Rebecca K. Golley[1]

[1]Flinders University, College of Nursing and Health Sciences, Caring Futures Institute, Adelaide, SA, Australia
[2]The University of Sydney, Susan Wakil School of Nursing and Midwifery, Faculty of Medicine and Health, Sydney, NSW, Australia

Submitted: 18 August 2024; Revision requested: 13 February 2025; Accepted: 9 April 2025

Abstract

Objective: The aim of this study was to identify and synthesise recommendations for growth monitoring, health behaviour screening, and health promotion advice within current Australian documents that guide Primary Health Care practitioners to support childhood growth, health, and development in the early years.

Methods: Documents were identified using Google Advanced Search and targeted website searching. An iterative inductive and deductive content analysis was conducted and contextualised using the *5W (who, what, when, where, why) + 1H (how) framework*.

Results: All included documents (n = 18) recommended growth monitoring. Recommendations to screen and promote child health behaviours (diet, physical activity, sedentary behaviour, or sleep) were fragmented and provided limited guidance on *how* to screen and promote child health behaviours in practice.

Conclusions: Documents recognised the importance of screening and promoting child health behaviours in Primary Health Care; however, comprehensive recommendations were limited. Practical tools and resources are needed to enable Primary Health Care practitioners to conduct effective and appropriate screening and health promotion and across all four health behaviour domains.

Implications for Public Health: There is opportunity for guidelines to recommend and integrate health behaviour screening tools into routine PHC practice to better support children's growth, health, and development in the early years.

Key words: screening, monitoring, growth monitoring, health behaviours, health promotion, primary health care

Introduction

The early years (from birth to 5 years) are a critical stage of development, rapid growth, and laying foundations for behaviours that influence health including dietary intake, physical activity, sedentary behaviour, and sleep.[1–3] International guidelines[4] recognise the importance of establishing positive health behaviours in the early years to support optimal child and lifelong health given health behaviours track into adolescence and adulthood.[5,6] In Australia, there are several key national policy documents that support a focus on health promotion in the early years.[7–11] Briefly, key themes include improving the quality and access of integrated and universal health care and prioritising preventive health. The Australian Dietary Guidelines[12] and Australian 24-Hour Movement Guidelines for the Early Years (birth to 5 years)[13] provide national recommendations for a child's dietary intake, physical activity, sedentary behaviour, and sleep to support optimal growth, health, and development. Therefore, supporting children to establish positive health behaviours is a key preventive health strategy to enable children to have the best start to life and have long-term health impact.

Primary Health Care (PHC) is an umbrella term for the settings that children and caregivers access for preventive health care, including general practice, maternal and child health nurse clinics, community health services, and allied health settings. PHC in Australia is a familiar and valued setting for caregivers of young children due to the

*Correspondence to: Dimity Dutch, GPO Box 2100, Adelaide 5001, South Australia, Australia;
e-mail: dimity.dutch@flinders.edu.au.
@DimityDutch (Dimity Dutch).
@LucyBell6 (Lucinda Bell), @DrSarahCHunter (Sarah C. Hunter), @Brittanyjayne8 (Brittany J. Johnson), @Denneywilson (Elizabeth Denney-Wilson), @ProfGolley (Rebecca K. Golley).

Aust NZ J Public Health. 2025; Online; https://doi.org/10.1016/j.anzjph.2025.100248

longitudinal and trusting relationships developed from regular encounters, particularly in the early years.[14] Regular encounters may include routine health checks, immunisation, and multi-disciplinary appointments, facilitated in general practice, allied health, and children and family health services, and enabled by standardised, evidence-based, screening and assessment tools.[15] Core elements of universal health services for children and families include growth, health, and developmental screening and monitoring, health promotion, early identification of family need and risk, and responding to identified need through education and intervention.[16] PHC is therefore an ideal and opportunistic setting for preventive practice and is essential for achieving a multi-disciplinary, holistic, and universal approach to support optimal growth, health, and development in the early years.

In Australia, maternal, child and family health services delivered by State and Territory Governments are a key provider of universal preventive health care to children and their families in the early years. However, 2023 data suggest that approximately 1.5 million Australian children aged 0–4 years visited a general practitioner, with an average of 5.7 consultations per child.[17] General practice and maternal, child and family health services are recognised as important for the provision of anticipatory guidance and health surveillance in young children.[18] However, given each Australian State and Territory deliver their own unique PHC services to children and families, the content and context of the tools and recommendations across different Australian jurisdictions may differ. Therefore, this review aimed to identify and synthesise current recommendations within Australian documents that guide PHC practitioners to screen and promote child health behaviours and growth in the early years (from birth to 5 years).

Methods

Study design

This qualitative study is an online desk-based scoping review and content analysis of Australian guidelines, frameworks, and documents that guide PHC practitioners when working with children and their caregivers in the early years (from birth to 5 years).

Reporting follows the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews[19] checklist (Supplementary Table 1).

Eligibility criteria

Population

Documents that included guidance for PHC practitioners (i.e. general practitioners, allied health practitioners, and maternal and child health nurses) on screening, monitoring, and health promotion advice related to children in the early years provided in Australian PHC settings were eligible for inclusion. Documents that included guidance for specialist or tertiary healthcare practitioners were not eligible for inclusion.

Outcomes of interest

Advice related to screening, monitoring, or surveillance of multiple health behaviour domains including dietary intake, physical activity, sedentary behaviour, and sleep was included. Advice related to growth monitoring was also included if other health behaviours were also described.

Document type

Australian national and state-/territory-level documents that provide guidance for PHC practitioners (e.g. child health records which are used to guide Australian PHC consultations in the early years) were eligible for inclusion.

Other

The searches were limited to documents published in English within the last 15 years (from 2007) to capture current (i.e. active) guideline and policy documents and a filter for region (Australia only) was applied. Only the latest and current version of documents were eligible for inclusion. Rescinded documents were not eligible for inclusion.

Search strategy and information sources

The search strategy for this review incorporated three strategies:

1. Google search engine (July–August 2022)
2. Target website searches (August–September 2022)
3. Consultation with experts (October 2022–December 2023)

The search was re-run in December 2024, and an updated version of two included guidelines were identified.

Google search terms

Search strategies were formulated considering sensitivity and specificity, to identify as many relevant records as possible to contribute to the review (sensitivity), while also balancing specificity and precision of the search terms so that screening was feasible.

Search terms were entered using Google Advanced Search. Search terms included:

- Health behaviours (i.e. diet, physical activity, sleep, and sedentary behaviour)
- Guidelines (i.e. practice guidelines, position statements, policy, advice recommendations, and frameworks)
- Children (i.e. infant, children, and toddler)
- Screening and monitoring

Details of the first 50 webpages of results were retrieved and checked against the eligibility criteria.

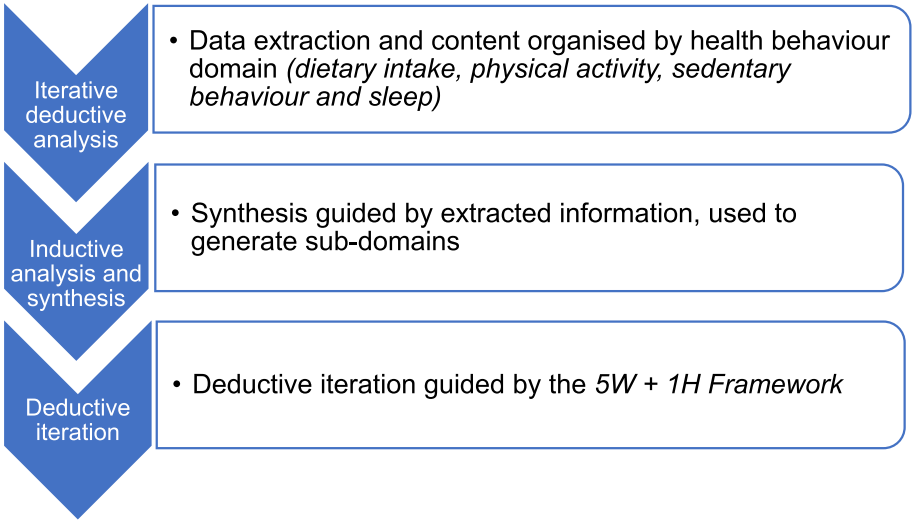
Targeted website searching

Based on previous PHC stakeholder mapping conducted by the research team in 2022 (Supplementary Table 2), the following stakeholder group websites were searched:

- Health practitioner associations/networks
- Australia state and federal government departments
- Non-government organisations
- Research organisations
- Community groups

Targeted website searching included searching the maternal, child and family health services of all Australian jurisdictions.

Figure 1: Three-stage approach for data analysis and synthesis. *5W + 1H = (who, what, when, where, why) + (how).*



Expert consultation

After collating the results from the Google Advanced Search and targeted website searching, researchers from the Centre for Research Excellence in Translating Early Promotion of Optimal Child Growth (https://earlychildhoodobesity.com/) were consulted to identify any additional documents for inclusion in the review. The Centre for Research Excellence in Translating Early Promotion of Optimal Child Growth is a multi-disciplinary network of leading researchers, practitioners, and policymakers across Australia and internationally with a mission to identify and implement effective approaches to promote child health behaviours in the early years.

Selection process

Document selection was undertaken by one researcher (Dimity Dutch) with expertise as a dietitian and experience conducting systematic reviews. Documents were screened against the a priori defined eligibility criteria in two stages: 1) webpage title and summary screening and 2) full webpage screening.

Data extraction

Data were extracted by one researcher (Dimity Dutch) with expertise as a dietitian and experience conducting systematic reviews. Data were extracted using Microsoft Excel (Version 2304). Data extraction tools were pilot tested and confirmed by the wider research team prior to use. Data extracted included descriptive information about the documents and recommendations provided within documents related to growth and child health behaviours. Descriptive document information included document name, author, URL, date of publication, target audience, and aim/s. Recommendations for health behaviour screening, health promotion advice, and recommendations for growth monitoring were extracted verbatim for comparison between documents. Data extraction was reviewed and confirmed by the entire research team.

Data analysis and synthesis

This review employed a content analysis and synthesis of text taken from online information sources; information sources being Australian documents that guide PHC practitioners to support child growth and health in the early years. This approach involved systematically analysing information in documents, with the aim of condensing and coding the documents to generate a list of themes, sub-themes, and synthesis of content.[20] A three-stage analysis approach (**Figure 1**) was required as knowledge of the health behaviour and growth monitoring screening and promotion recommendations in Australian practice guidelines is poor. Firstly, recommendations from the documents were extracted and organised by health behaviour domain (i.e. dietary intake, physical activity, sedentary behaviour, and sleep). Second, an inductive analysis and synthesis of extracted information generated sub-domains (i.e. milk feeding, amount of physical activity). Finally, data were synthesised using the *5W (who, what, when, where, why) + 1H (how) framework* to support a comprehensive understanding of the content and context of the included documents[21] (Supplementary Table 3). Data are presented as a narrative synthesis with a summary table of included practice guidelines, summary table of health behaviour screening recommendations, and summary table of health promotion advice. This approach supported understanding of what guiding information already exists and allowed for identification of gaps in information. This can subsequently enable the development of recommendations to improve guideline documents and thus ultimately improve practice within PHC.

Analysis and synthesis were conducted by one person (Dimity Dutch), with regular team analysis meetings occurring (Dimity Dutch, Rebecca K Golley, Sarah C Hunter, Brittany J Johnson, Elizabeth Denney-Wilson and Lucinda Bell) to clarify, refine, and achieve consensus on sub-themes and key findings. Dimity Dutch maintained a reflexive journal and in-depth record-keeping across all stages of data analysis.

Researcher positionality

The research team brings together expertise in public health (Rebecca K Golley, Lucinda Bell, BJ, Sarah C Hunter, Elizabeth Denney-Wilson and Dimity Dutch), dietetics (Rebecca K Golley, Lucinda Bell, Dimity Dutch and Brittany J Johnson), nursing (Elizabeth Denney-Wilson), and psychology (Sarah C Hunter). Data collection was conducted by

Dimity Dutch who is a white female and approached this research from a background in dietetics. Dimity Dutch is completing a PhD which is investigating embedding child health behaviour screening within routine PHC as a strategy to support optimal child growth, health, and development. The analysis team (Rebecca K Golley, Lucinda Bell, Sarah C Hunter, Brittany J Johnson and Elizabeth Denney-Wilson) comprised white females experienced in researching health behaviour measurement, public health interventions, implementation science, and research in PHC.

Results

Overall summary of documents

Figure 2 describes the Preferred Reporting Items for Systematic Reviews and Meta-Analyses flow chart of the identification, screening, and number of included documents. See Supplementary Table 4 for individual search term combinations and google advanced searching results. Following screening, 18 documents were included in the review.

Table 1 describes the characteristics of national-[16,22–24] (n = 4), state-/territory-[25–30] (n = 6) and practice-level[31–38] (n = 8) documents included in the review that guide PHC practitioners to support optimal growth, health and development in the early years (from birth to 5 years). Three documents[22–24] were published by a non-government organisation, the Royal Australian College of General Practitioners, including one document specifically for Aboriginal and Torres Strait Islander people.[22] All other documents (n = 15) were published by Federal or State Health departments. Intended target audiences for documents included child, maternal and family health nurses, general practitioners, and other practitioners in PHC settings. For practice-level documents (n = 8), caregivers were an additional target audience. Intended PHC settings included both clinical practice and community health settings across metropolitan, rural, and remote Australia.

Health behaviour screening and growth monitoring recommendations

Eleven of the included documents provided recommendations for health behaviour screening across at least one domain—dietary intake, physical activity, sedentary behaviour, or sleep. Only two documents provided recommendations to screen across all four health behaviour domains, a Community Health Clinical Nursing Manual published by the Government of Western Australia[27] and the National guide to preventive healthcare for Aboriginal and Torres Strait Islander people (4th Edition).[22] Recommendations to screen for dietary behaviours was most common (n = 11), followed by sleep (n = 6), physical activity (n = 3) and sedentary behaviour (n = 3). All included documents provided recommendations for growth monitoring (n = 18). Recommendations are summarised using the *5W + 1H framework* (Supplementary Table 5).

Who

Recommendations for screening for dietary intake was targeted for both caregivers (n = 5) and practitioners (n = 6). Only three documents recommended screening for physical activity and/or sedentary behaviour and both were recommendations targeted for practitioners to conduct screening.[22,27,28] In contrast, within the

Figure 2: PRISMA flow chart of desk-based review search and included documents. PRISMA = Preferred Reporting Items for Systematic Reviews and Meta-Analyses.

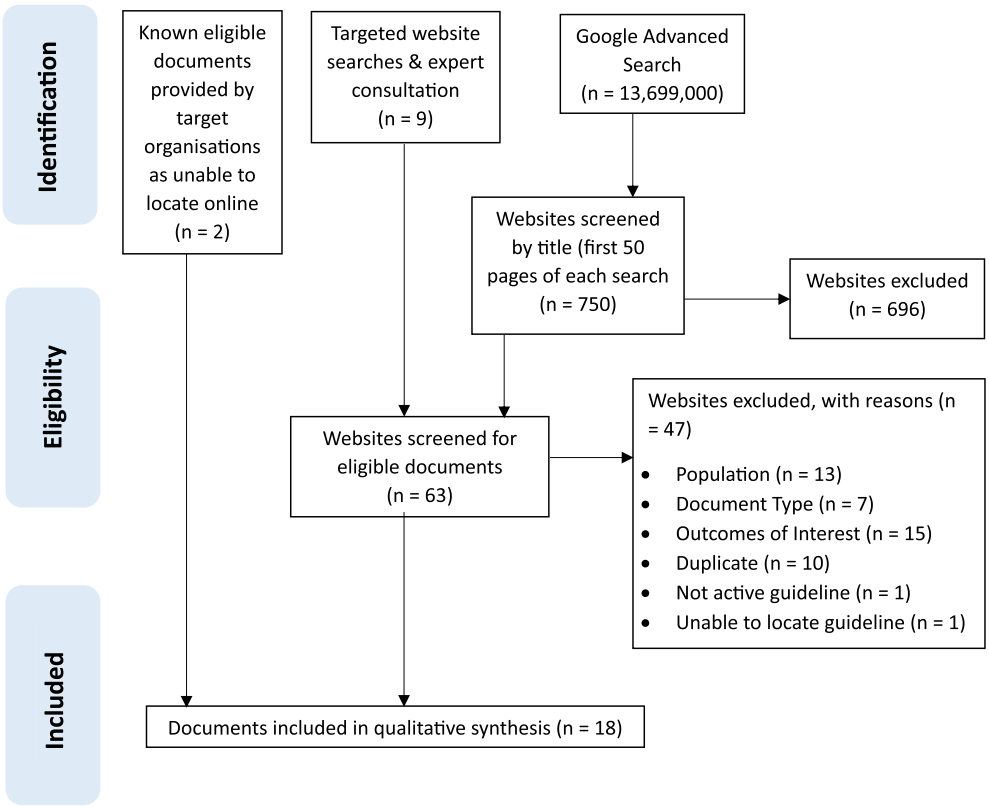


Table 1: Characteristics of documents that guide Primary Health Care (PHC) practitioners to support optimal growth, health, and development in the early years.

Document name	Author	Stakeholder sector and department	Year	Target PHC practitioners and intended child age	Recommendations for screening					Health Promotion advice				
					Diet n=10	PA n=3	SB n=3	Sleep n=5	Growth n=18	Diet n=18	PA n=15	SB n=10	Sleep n=15	Growth n=10
National documents (n = 4)														
1. National Framework for Universal Child and Family Health Services[16]	Australian Government, Department of Health and Ageing	Government, Health	2011	Child and family Health Nurses, General Practitioners and Allied Health Children aged 0–8 years	-	-	-	-	✓	✓	✓	-	-	-
2. Smoking, nutrition, alcohol and physical activity (SNAP): A population guide to the behavioural risk factors in general practice (2nd Edition)[a, 23]	Royal Australian College of General Practitioners (RACGP)	Non-government organisation	2015	General Practitioners and practice staff All ages, children aged 0–5 years included	-	-	-	-	✓	✓	✓	✓	-	✓
3. Guidelines for Preventive Activities in general practice (10th Edition) *(Red Book)*[a, 24]	GPRACGP	Non-government organisation	2024	General Practitioners All ages, children aged 0–5 years included	-	-	-	-	✓	✓	✓	✓	✓	-
4. National guide to preventive healthcare for Aboriginal and Torres Strait Islander people (4th Edition) [22]	National Aboriginal Community Controlled Health Organisation and GPRACGP	Non-government organisation	2024	Primary health care practitioners All ages, children aged 0–5 years included	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
State/territory documents (n = 6)														
1. Maternal and child health service practice guidelines [30]	Victorian Government, Department of Health and Human Services	Government, Health	2009[b]	Maternal and child Nurses Children aged 0–5 years	✓	-	-	✓	✓	✓	-	-	✓	✓
2. Community Health Clinical Nursing Manual [27]	Government of Western Australia; Child and Adolescent Health Service	Government, Health	2017[c]	Child and adolescent Community Health Professionals Children aged 0–18 years	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3. Canberra Hospital and Health Services Clinical Procedure; Maternal and Child Health Procedures in the ACT [25]	ACT Government	Government, Health	2018	Maternal and child Nurses + midwives Children aged 0–6 years	-	-	-	-	✓	✓	-	-	✓	✓
4. Chronic Conditions Manual: Prevention and Management of Chronic Conditions in Rural and Remote Australia (2nd Edition) [28]	Queensland Health, Royal Flying Doctor Service (Queensland Section) and Apunipima Cape York Health Council	Government, Health	2020	Rural and remote healthcare practitioners All ages, children aged 0–5 years included	✓	✓	✓	-	✓	✓	✓	✓	✓	-

(continued)

Table 1. Continued

Document name	Author	Stakeholder sector and department	Year	Target PHC practitioners and intended child age	Recommendations for screening					Health Promotion advice				
					Diet n=10	PA n=3	SB n=3	Sleep n=5	Growth n=18	Diet n=18	PA n=15	SB n=10	Sleep n=15	Growth n=10
5. Child and Youth Health Practice Manual [26]	Queensland Child and Youth Clinics Network (Child Health sub-network), Queensland Health Queensland Hospital and Health Service	Government, Health	2020	General Practice, midwives, child health nurses, Aboriginal and Torres Strait Islander health practitioners, psychologists and social workers Children aged 0–18 years	-	-	-	-	✓	✓	✓	✓	✓	✓
6. Guideline: Assessing infant/child nutrition, growth and development, within the primary health care setting [29]	Queensland Government	Government, Health	2022	Primary health care practitioners Children aged 0–5 years	✓	-	-	-	✓	✓	✓	✓	✓	-
Practice level documents (n = 8)														
1. Purple Book [33]	Government of Western Australia, Child and Adolescent Health Service	Government, Health	2018	Caregiver and Practitioner Children aged 0–5 years	✓	-	-	-	✓	✓	✓	-	✓	-
2. My Child Health Record (Yellow Book) [35]	Northern Territory Government, Department of Health	Government, Health	2018	Caregiver and Practitioner Children aged 0–5 years	✓	-	-	✓	✓	✓	✓	✓	✓	-
3. My Health and Development Record (Blue Book) [32]	Government of South Australia, Child and Family Health Service	Government, Health	2021	Caregiver and Practitioner Children aged 0–5 years	✓	-	-	✓	✓	✓	-	-	✓	-
4. My personal health record (Blue Book) [34]	New South Wales Government, NSW Ministry of Health	Government, Health	2022	Caregiver and Practitioner Children aged 0–5 years	✓	-	-	-	✓	✓	✓	✓	✓	✓
5. Personal Health Record (Red Book)[d] [36]	Queensland Government, Queensland Health	Government, Health	2022	Caregiver and Practitioner Children aged 0–5 years	-	-	-	-	✓	✓	✓	✓	✓	✓
6. My Personal Health Record Book (Blue Book) [31]	Australian Capital Territory Government, ACT Health	Government, Health	2022	Caregiver and Practitioner Children aged 0–5 years	✓	-	-	✓	✓	✓	✓	-	✓	✓
7. My Health, Learning and Development Record (Green Book) [38]	Victorian Government, Department of Health	Government, Health	2022	Caregiver and Practitioner Children aged 0–5 years	-	-	-	-	✓	✓	✓	-	✓	-
8. Personal Health Record (Blue Book) [37]	Tasmanian Government, Tasmanian Health Service, Child Health and Parenting Service	Government, Health	2023	Caregiver Practitioner Children aged 0–5 years	✓	-	-	-	✓	✓	✓	-	✓	✓

Abbreviations: ACT = Australian Capital Territory; PA = physical activity; PHC = Primary Health Care; SB = sedentary behaviour.
[a]Supported by an implementation guide.[59]
[b]Reissued 2019 (without revision).
[c]First issued in 2017, then 2020/2022 (amendments).
[d]Supported by a parent information booklet.[60]

documents that recommended screening for sleep behaviours (n = 6), recommendations were predominantly targeted for caregivers.[30–32,35] Two documents provided recommendations for screening sleep behaviours targeted for the practitioner.[22,27]

Growth monitoring recommendations were predominantly targeted to practitioners (n = 16), except for two documents which encouraged caregivers to measure growth.[32,35]

What

For each health behaviour domain, documents included various sub-domains to review. For dietary intake, this included milk feeding (n = 10), solid food intake (n = 8), beverage intake (n = 5), elimination (n = 3), and caregiver concerns about child eating (n = 2). For physical activity, this included amount of physical activity (n = 3) and the type of physical activity (n = 1). For sedentary behaviour, this included amount of sedentary behaviour (n = 2) and reviewing screen time (n = 1). For sleep, this included sleep safety (n = 5), sleep routine and patterns (n = 2), caregiver concerns about child sleep (n = 2), and sleep settling (n = 1).

Growth monitoring was recommended in all documents through anthropometric measures including child weight, length, head circumference, waist circumference, and/or body mass index (BMI) from 2 years of age. Two documents recommended measurement of waist circumference[23,28] and fourteen documents recommended recording anthropometric measures in medical records,[23,26] electronic records,[26,27] or child health record.[25–27,29,31–38]

When

Screening for dietary intake behaviours was primarily recommended during child health checks (n = 9). Two documents recommended to screen dietary intake opportunistically,[22,29] while one document recommended screening for dietary intake annually.[28] Of the three documents that recommended screening for physical activity and sedentary behaviour, one included recommendations for screening opportunistically and annually,[22] one recommended screening during child health checks[27] and the other document did not specify when to screen.[28] Of the six documents that recommended screening for sleep behaviours, five recommended screening to occur as part of routine child health checks[27,30,31,34,35] and one recommended screening opportunistically.[22]

Monitoring growth, through child anthropometric measures, was most recommended during child health checks (n = 15). One document recommended growth monitoring opportunistically, annually and in line with immunisations,[22] one document described measuring growth every two years,[23] whilst two documents did not specify when to monitor growth.[16,38]

How

Screening recommendations typically described *"reviewing"* or *"assessing"* health behaviours in general, rather than screening using a specific tool. Only two documents referred to a health behaviour screening tool, including a safe sleeping checklist[30] and a sleep screening tool.[22] All other documents included either open-ended statements or questions (n = 4), tick-box yes/no response options (n = 4), or a combination of both (n = 3).

In contrast, growth monitoring had more specific recommendations on how to conduct screening, with 17 of the included 18 documents describing the use of age- and sex-specific growth charts as a strategy to monitor children's growth. Sixteen documents included the different versions of the growth charts, with (n = 12) or without (n = 4) information on how to plot, interpret, and assess outcomes.

Health behaviour and growth promotion advice

All documents included health promotion advice for dietary intake and at least one other health behaviour domain. Nine documents included health promotion advice for all four health domains, including two national documents,[22,24] four documents from Queensland[26,28,29,36] and one document each from Western Australia,[27] Northern Territory[35] and New South Wales.[34] Recommendations to provide health promotion advice for dietary intake was most common (n = 18), followed by sleep (n = 16), physical activity (n = 15), and sedentary behaviour (n = 10). Only 10 documents included recommendations to discuss growth promotion advice with caregivers.[22,23,25–27,30,31,34,36,37] Recommendations are summarised using the *5W + 1H framework* (Supplementary Table 6).

Who

Within national and state/territory documents, all health behaviour and growth promotion advice recommendations were targeted to practitioners. In contrast, health behaviour and growth promotion advice within practice-level child health records were targeted to caregivers.

What

Health promotion advice for dietary intake included promoting and supporting milk feeding (n = 17), introduction of solids (n = 16), promoting nutrition (n = 15), parenting practices (n = 5), and discussing allergy prevention (n = 5). Health promotion advice for physical activity included promoting physical activity and active play as per national guidelines (n = 11). For sedentary behaviour, health promotion advice included discussing screentime and quality of sedentary behaviour activities (n = 2), whilst for sleep, health promotion advice included discussing safe sleeping (n = 13), sleep settling (n = 8), and sleep routine (n = 7).

Growth promotion advice included discussing weight-based monitoring (n = 9) by discussing growth patterns and findings, as well as promoting a healthy BMI.

When

Documents recommended providing health promotion advice during child health checks (n = 12), opportunistically (n = 3), in line with immunisations (n = 2), or did not specify when to provide advice (n = 9).

Two documents recommended providing health promotion advice about dietary intake opportunistically,[22,29] whilst one document recommended providing health promotion advice about physical activity in line with immunisations in addition to during child health checks.[24] Six documents provided health promotion advice with no indication of when to provide it.[16,22,23,26,28,34]

Discussing growth was commonly recommended to occur during child health checks (n = 7),[22] opportunistically, in line with immunisations, or not specified (n = 3).

How

Most documents that included health promotion recommendations provided context or specific strategies on how to improve child health behaviours. For dietary intake, this included promoting healthy foods and beverages and limiting discretionary choices. For two documents, dietary advice was provided in the context of supporting oral health.[22,37] For physical activity, sedentary behaviour, and sleep, documents commonly included age-specific daily recommendations in line with national guidelines. Documents also included specific strategies to improve the quality of a child's physical activity and sedentary behaviours including encouraging supervised floor-based play,[22–24,28,29,31,33,34,36–38] active games[31,33,35,37,38] and non–screen-based activities such as reading and puzzles.[26–28,34] Health promotion strategies to improve child sleep included discussing[22] sleep routines[25–27,30–32,37] and settling strategies.[25,30,36,37]

Strategies on how to discuss growth with caregivers was included in seven documents[22,23,25–27,36,37] and included discussing growth and BMI in the context of factors influencing growth including child health behaviours, genetics, and environmental factors. Two documents also highlighted the importance of using non-stigmatising language and avoiding terms such as *"obese"* when discussing weight-based outcomes.[23,27]

Discussion

The purpose of this review was to identify and synthesise recommendations within current Australian documents that guide PHC practice for growth monitoring, health behaviour screening, and health promotion advice in the early years (from birth to 5 years). Growth monitoring was identified as a key responsibility for PHC and was recommended in all 18 documents.[16,22–38] Recommendations to screen and promote child health behaviours were also identified in all 18 documents; however, few documents included recommendations across all four health behaviour domains. Utilising the *5W + 1H framework* to synthesise and contextualise guideline recommendations, our results demonstrate that compared to measuring growth, recommendations to screen and promote child health behaviours are fragmented and incomplete. Although guidelines recognise health promotion advice and screening as important responsibilities of PHC, comprehensive recommendations to support all four health behaviour domains are lacking and vary across Australian jurisdictions.

Growth monitoring was identified as a key responsibility in PHC and was recommended in all 18 documents in this review. In Australia, national guidelines for general practice and universal child and family health services recommend using growth charts published by the World Health Organisation or Centers for Disease Control.[16,24] Growth charts are a traditional approach to monitoring child growth, health, and development, with anthropometry, including child weight, being a well-recognised objective and clinical measure. It is therefore no surprise that growth monitoring was recommended within all guideline documents in this review, consistent with findings from Gooey et al. who explored international clinical practice guidelines.[39] Despite this, there is a lack of high-level evidence supporting the effectiveness of routine growth monitoring due to the considerable complexity in accurately measuring, plotting, and interpreting child growth and communicating these findings sensitively and appropriately to caregivers.[39–45] Growth charts do not consider ethnic or genetic characteristics and are a proxy measure of a child's health and their health behaviours. There is also the risk of anxiety, stigma, and reluctance from both practitioners and caregivers to have weight-focussed conversations.[42,45–50] Only two documents within the review highlighted the importance of avoiding weight-focussed conversations; however, these documents lacked practical recommendations on how to have non-stigmatising conversations in practice.[23,27] The sensitive nature of these conversations can impact rapport and engagement, and without appropriate guidance for practitioners on how to communicate growth monitoring observations in practice, caregivers may not understand what the measurements mean in the context of their child's overall health.[51]

In addition to growth monitoring, documents identified in this review recommended screening child health behaviours; however, the recommendations were fragmented and incomplete, with only two documents providing recommendations across all four health behaviour domains.[22,27] Screening for a child's dietary intake, physical activity, sedentary behaviour, and sleep provides an opportunity to comprehensively understand child health behaviours and provide individualised advice. This approach also has potential to address known barriers and limitations of growth monitoring, including impact on stigma and rapport, and be an acceptable and feasible approach in PHC.[52,53] Interestingly, specific tools to support practitioners to comprehensively screen for child health behaviours were not included or recommended in guidelines. Two screening tools were identified in this review; however, they only captured one health behaviour domain, sleep.[22,30] This highlights the need for the development or integration of a suitable screening tool that measures all child health behaviour domains in Australian PHC.

Providing health promotion advice was identified as another key responsibility of PHC in addition to growth monitoring and screening for child health behaviours. Health promotion advice included within documents reflects opportunities for PHC practitioners to support families to improve child health behaviours to meet evidence-based and age-specific guidelines. Similar to child health behaviour screening recommendations, documents in this review also lacked consistent and comprehensive health promotion advice across all four health behaviour domains. Furthermore, the recommendations were typically generic statements to promote or discuss a particular health behaviour rather than strategies to provide tailored and individualised advice to caregivers. The *5A (ask, assess, advise, assist/agree and arrange) framework* is an internationally accepted framework for organising the assessment and management of modifiable risk factors and facilitating health behaviour change in PHC.[24] In line with this framework, practitioners should first engage in asking about or assessing a health behaviour prior to providing advice. Tailored health promotion advice that considers the families social and cultural context is also more likely to be acceptable and practical for caregivers than generic health promotion information.[54] Due to their interrelated and collective importance, revised guidelines need to recognise the importance of health promotion across all four health behaviour domains and include practical advice and strategies for practitioners to suggest in practice.[30]

The context in which health behaviour screening and promotion occurs is important. This includes who is responsible and where and when these preventive activities occur. Recommendations within the included documents in this review were either targeted at the caregiver as a preconsult screening question or targeted at the PHC

practitioner to discuss during the consult. Recommendations on when to screen or promote child health behaviours also varied across documents, including opportunistically, annually, at the practitioner's discretion (i.e. not specified), or during routine child health checks. Child health checks are conducted at regular touch points within the first five years of life and were the most recommended time to screen and promote child health behaviours. This demonstrates a prime opportunity to incorporate child health behaviour screening into routine practice at these well-established touchpoints. However, to support uptake, implementation, effectiveness, and sustainability in practice, accompanying resources are required.[52,53] This includes practitioner and caregiver resources, practitioner education, additional consultation time, referral pathways, and practitioner incentives.[39,55,56] Understanding the context is important for informing screening tool design as well as the resources and supports required to implement, embed, and sustain health behaviour screening in practice. Meaningful stakeholder engagement and partnerships with a range of PHC practitioners are required to develop and integrate fit-for-purpose screening tools and accompanying resources into routine PHC practice.[39,52,53]

Strengths and considerations

Strengths of this review include a rigorous and comprehensive search strategy to capture documents relevant for child health behaviours in the early years. This provided a thorough understanding of the Australian national and state/territory context for PHC practice in the early years. The inclusion of child health records from every Australian jurisdiction also provides a unique insight into the documents that guide consults between caregivers and maternal, child and family health nurses in practice. Utilising a content analysis supported by the *5W + 1H framework* to describe and synthesise recommendations is another key strength of this review as it aligns with the context in which information is communicated to PHC practitioners. Due to the scope of this review and the variety of included documents, the quality of documents was not examined using a critical appraisal checklist. Lastly, most of the screening and extraction was done by one reviewer; however, the synthesis and interpretation of results was confirmed with the wider review team.

Implications for future research, policy, and practice

Findings from this review provide tangible implications to improve current recommended practice for preventive care in the early years. Child health behaviour screening aligns with national policy priorities and with recommendations within current guidelines. Guidelines are a key implementation mechanism to translate policy priorities and recommendations into practice.[57,58] Our findings signal an opportunity to revise PHC guidelines to include child health behaviour screening and promotion advice across all four health behaviour domains to better support practitioners to provide consistent preventive care across all Australian jurisdictions. Practical screening tools for measuring child health behaviours would enable practitioners and caregivers to initiate and engage in individualised and culturally appropriate health behaviour–focussed conversations and monitor children's health behaviours overtime at both an individual and population level. Child health behaviour screening tools exist internationally[52,53]; however, there is limited literature exploring the effectiveness of screening, and currently available screening tools have not been tested in Australian PHC settings. Future research is required to explore Australian PHC practitioner and caregiver perspectives on child health behaviour screening including the feasibility and acceptability of this approach. Furthermore, the perspectives of culturally and linguistically diverse families should be explored. The effectiveness of child health behaviour screening should also be examined, including impact on short- and longer-term child health outcomes, as well as the implementation strategies and resources required to embed screening into PHC practice. Child health behaviour screening also has potential as a screening approach in other early-years settings and sectors including early education and care, and community services.

Conclusion

Screening and promoting children's health behaviours and growth are key preventive responsibilities for PHC and are recommended within national-, state-/territory-, and practice-level guiding documents. Current practice in Australia for monitoring and promoting children's health behaviours is reliant on PHC practitioners initiating health behaviour conversations informed by growth monitoring charts. There is a need to develop and incorporate evidence-based, practical screening tools into PHC guidelines, policy, and practice resources to support PHC practitioners to monitor and promote child health behaviours in the early years consistently and appropriately. Screening for child health behaviours could inform tailored advice and reduce weight-focussed conversations, which are known to be stigmatising and impacting rapport between caregivers and PHC practitioners. By embedding child health behaviour screening tools into routine child health and development checks, PHC practitioners can better support childhood growth, health, and development in the early years.

Conflicts of interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Funding

DD is supported by an Australian Government Research Training Program Scholarship. BJJ is supported by an Early-Mid Career Fellowship from The Hospital Research Foundation Group.

Author ORCIDs

Dimity Dutch https://orcid.org/0000-0002-8139-0068
Lucinda Bell https://orcid.org/0000-0001-7251-9176
Sarah C. Hunter https://orcid.org/0000-0002-3407-0774
Brittany J. Johnson https://orcid.org/0000-0001-5492-9219
Elizabeth Denney-Wilson https://orcid.org/0000-0001-9879-4969
Rebecca K. Golley https://orcid.org/0000-0001-5197-7987

References

1. Birch L, Savage JS, Ventura A. Influences on the development of children's eating behaviours: from infancy to adolescence. *Can J Diet Pract Res* 2007; **68**(1):s1–56.
2. Kuzik N, Poitras VJ, Tremblay MS, Lee EY, Hunter S, Carson V. Systematic review of the relationships between combinations of movement behaviours and health indicators in the early years (0-4 years). *BMC Public Health* 2017;**17**(Suppl 5):849.

3. Wang L, Jansen W, van Grieken A, Vlasblom E, Boere-Boonekamp MM, L'Hoir MP, et al. Identifying patterns of lifestyle behaviours among children of 3 years old. *Eur J Publ Health* 2020;**30**(6):1115–21.
4. World Health Organisation. Guidelines on physical activity, sedentary behaviour and sleep for children under 5 years of age. *Geneva* 2019.
5. Craigie AM, Lake AA, Kelly SA, Adamson AJ, Mathers JC. Tracking of obesity-related behaviours from childhood to adulthood: a systematic review. *Maturitas* 2011;**70**(3):266–84.
6. Wang Y, Bentley ME, Zhai F, Popkin BM. Tracking of dietary intake patterns of Chinese from childhood to adolescence over a six-year follow-up period. *J Nutr* 2002;**132**(3):430–8.
7. Commonwealth of Australia. Australia's Long Term National Health Plan - to build the world's best health system. In: *Department of health*. DoH; 2019.
8. Commonwealth of Australia. National action plan for the health of children and young people 2020-2030. In: *Department of health*. Canberra: DoH; 2019.
9. Commonwealth of Australia. National preventive health strategy 2021-2030. In: *Department of health (DoH)*; 2021.
10. Commonwealth of Australia. Future focused primary health care: Australia's Primary Health Care 10 Year Plan 2022-2032. In: *Department of health (DoH)*; 2022.
11. Australian Government. Early years strategy 2024-2034. In: *Services DoS*; 2024.
12. National Health and Medical Research Council. *Australian dietary guidelines*. Canberra: NHMRC; 2013.
13. Department of Health. *Australian 24 Hour movement guidelines for the early years (birth to 5 years)*. 2017.
14. Australian Institute of Health and Welfare. *Primary health care in Australia*. AIHW; 2016 [Available from: https://www.aihw.gov.au/reports/primary-health-care/primary-health-care-in-australia/contents/about-primary-health-care.
15. Mayne SL, Hannan C, Faerber J, Anand R, Labrusciano-Carris E, DiFiore G, et al. Parent and primary care provider priorities for wellness in early childhood: a discrete choice experiment. *J Child Fam Stud* 2021;**30**(9):2238–49.
16. Australian Health Ministers Advisory Council. The national framework for universal child and family health services. In: *Australian government department of health and ageing*; 2011. Canberra.
17. Australian Government. *General practice workforce providing primary care services in Australia*. 2024 [3]. Available from: https://hwd.health.gov.au/resources/data/gp-primarycare.html.
18. Grant J, Mitchell C, Cuthbertson L. *National standards of practice for maternal, child and family health nursing practice in Australia*. 2017. Adelaide.
19. Tricco AC, Lillie E, Zarin W, O'Brien KK, Colquhoun H, Levac D, et al. PRISMA extension for scoping reviews (PRISMA-ScR): checklist and explanation. *Ann Intern Med* 2018;**169**(7):467–73.
20. Green JT,N. *Qualitative methods for health research*. 4th ed. 2018.
21. Jia C, Cai Y, Yu YT, Tse T. 5W+ 1H pattern: a perspective of systematic mapping studies and a case study on cloud software testing. *J Syst Software* 2016;**116**:206–19.
22. National Aboriginal Community Controlled Health Organisation and The Royal Australian College of General Practitioners. National guide to preventive healthcare for Aboriginal and Torres Strait Islander people. In: *RACGP*. 4th ed. 2024. East Melbourne, Victoria.
23. The Royal Australian College of General Practitioners. Smoking, nutrition, alcohol, physical activity (SNAP): a population guide to behavioural risk factors in general practice. In: *Racgp*. 2nd ed. ed 2015. Melbourne.
24. The Royal Australian College of General Practitioners. Guidelines for preventive activities in general practice. In: *Racgp*. 10th ed. 2024. East Melbourne, Victoria.
25. ACT Government. Canberra hospital and health services clinical procedure; maternal and child health procedures in the ACT. In: *ACT health*; 2018. Canberra.
26. Childrens Health Queensland Hospital and Health Service. Child and youth health practice manual. In: *Queensland child and youth clinical network - child health sub-network*; 2020. Queensland.
27. Government of Western Australia. Community health clinical nursing manual. In: *Child and adolescent health service*; 2017. Western Australia.
28. Queensland Health, Royal Flying Doctor Service (Queensland Section), Apunipima Cape York Health Council. Chronic conditions manual: prevention and management of chronic conditions in rural and remote Australia. In: *The rural and remote clinical support unit; torres and cape hospital and health service*. 2nd ed. Cairns; 2020.
29. State of Queensland. Guideline: assessing infant/child nutrition, growth, and development within the primary health care setting. In: *Queensland health*; 2022. Brisbane.
30. Victorian Government. *Maternal and child health services practice guidelines 2009*. Melbourne: Department of Health and Human Services; 2009.
31. ACT Government. My personal health record Book (Blue book). In: *ACT health*; 2022. Canberra.
32. Government of South Australia. My health and development record (Blue book). In: *Child and family health service*; 2021. South Australia.
33. Government of Western Australia. Purple book. In: *Child and adolescent health service*; 2018. Western Australia.
34. New South Wales Government. My personal health record (Blue Book). In: *NSW ministry of health*; 2022. New South Wales.
35. Northern Territory Government. My child health record (Yellow Book). In: *Department of health*; 2018. Northern Territory.
36. Queensland Government. Personal health record (red book). In: *Queensland health*; 2022. Queensland.
37. Tasmanian Government. Personal health record (Blue book). In: *Tasmanian health service: child health and parenting service*. Tasmania; 2023.
38. Victorian Government. *My health, learning and development record (Green Book)*. Victoria: Department of Health; 2022.
39. Gooey M, Skouteris H, Betts J, Hatzikiriakidis K, Sturgiss E, Bergmeier H, et al. Clinical practice guidelines for the prevention of childhood obesity: a systematic review of quality and content. *Obes Rev* 2022;**23**(10):e13492.
40. Ashworth A, Shrimpton R, Jamil K. Growth monitoring and promotion: review of evidence of impact. *Maternal & Child Nutrition* 2008;**4**(Suppl 1):86–117. Suppl 1.
41. Garner P, Panpanich R, Logan S. Is routine growth monitoring effective? A systematic review of trials. *Arch Dis Child* 2000;**82**(3):197–201.
42. Hale I, Jackson E. Evaluating routine pediatric growth measurement as a screening tool for overweight and obese status. *Can Fam Physician* 2021;**67**(3):161–5.
43. Hendrickson MA, Pitt MB. Three Areas where our growth chart conversations fall short-room to grow. *JAMA Pediatr* 2022;**176**(2):123–4.
44. de Onis M, Wijnhoven TM, Onyango AW. Worldwide practices in child growth monitoring. *J Pediatr* 2004;**144**(4):461–5.
45. McMeniman E, Moore R, Yelland M, McClure R. Childhood obesity: how do Australian general practitioners feel about managing this growing health problem? *Aust J Prim Health* 2011;**17**(1):60–5.
46. Robinson A, Denney-Wilson E, Laws R, Harris M. Child obesity prevention in primary health care: investigating practice nurse roles, attitudes and current practices. *J Paediatr Child Health* 2013;**49**(4):E294–9.
47. Laws R, Campbell KJ, van der Pligt P, Ball K, Lynch J, Russell G, et al. Obesity prevention in early life: an opportunity to better support the role of Maternal and Child Health Nurses in Australia. *BMC Nurs* 2015;**14**:26.
48. Mansoor Y, Hale I. Parent perceptions of routine growth monitoring: a scoping review. *Paediatr Child Health* 2021;**26**(3):154–8.
49. Turer CB, Upperman C, Merchant Z, Montaño S, Flores G. Primary-care weight-management strategies: parental priorities and preferences. *Acad Pediatr* 2016;**16**(3):260–6.
50. Denney-Wilson E, Cheng H, Eames-Brown R. *Exploring the infant feeding advice provided by child family health nurses in SLHD and SWSLHD: final report*. 2018.
51. Ben-Joseph EP, Dowshen SA, Izenberg N. Do parents understand growth charts? A national, internet-based survey. *Pediatrics* 2009;**124**(4):1100–9.
52. Dutch D, Bell L, Zarnowiecki D, Johnson BJ, Denney-Wilson E, Byrne R, et al. Screening tools used in primary health care settings to identify health behaviours in children (birth–16 years); A systematic review of their effectiveness, feasibility and acceptability. *Obes Rev* 2024;**25**(4):e13694.
53. Krijger A, ter Borg S, Elstgeest L, van Rossum C, Verkaik-Kloosterman J, Steenbergen E, et al. Lifestyle screening tools for children in the community setting: a systematic review. *Nutrients* 2022;**14**(14):2899.
54. Hennessy M, Byrne M, Laws R, Heary C. "They just need to come down a little bit to your level": a qualitative study of parents' views and experiences of early life interventions to promote healthy growth and associated behaviours. *Int J Environ Res Publ Health* 2020;**17**(10):3605.
55. Rossiter C, Cheng H, Denney-Wilson E. Primary healthcare professionals' role in monitoring infant growth: a scoping review. *J Child Health Care* 2023:13674935231165897.
56. Jeyendra A, Rajadurai J, Chanmugam J, Trieu A, Nair S, Baskaran R, et al. Australian general practitioners' perspectives on their role in well-child health care. *BMC Fam Pract* 2013;**14**:1–7.
57. Australian Government. NHMRC research translation strategy 2022-2025. In: *National health and medical research council*; 2022.
58. Mthethwa RM. *Critical dimensions for policy implementation*. 2012.
59. The Royal Australian College of General Practitioners. Putting prevention into practice: guidelines for the implementation of prevention in the general practice setting. In: *Racgp*. Victoria: Third edition ed. East Melbourne; 2018.
60. Queensland Government. Child health information: your guide to the first 12 months. In: *Childrens health Queensland hospital and health service*; 2022. Queensland.

Appendix A Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.anzjph.2025.100248.