Prioritisation Process Report

For the review of the evidence underpinning the Australian Dietary Guidelines

June 2023

Contents

Background

The *2013 Australian Dietary Guidelines* (2013 Guidelines) provide guidance on foods, food groups and dietary patterns that provide the nutrients required for optimal health and wellbeing. Along with the companion *Eat for Health* resources, the 2013 Guidelines support healthy food choices and eating behaviours for Australians. The 2013 Guidelines provide recommendations that underpin Australia's public health nutrition policies and practices.

In July 2020, the Australian Government announced a review of the 2013 Guidelines. This review will ensure that the Australian Dietary Guidelines and their recommendations remain a current, reliable and comprehensive resource for Australians and for public health nutrition policies and practices. The review of the 2013 Guidelines is focused on evidence of the food and dietary patterns of what people eat, rather than on individual foods or nutrients.

There is significant recent literature, as well as public interest and media commentary, on food based dietary guidelines, so this review of the evidence is timely.

Purpose

This document describes the process the Dietary Guidelines Expert Committee (the Expert Committee) used to shortlist topics and research questions. These shortlisted topics and questions will assist the Expert Committee in targeting the scope of the evidence review update within the available resources, to inform the overall revision to the Australian Dietary Guidelines.

- Section 1 – Scoping activities - describes activities which contributed to Expert Committee development of a broad list of topic areas relevant to nutrition and food-based advice.
- Section 2 – Topic prioritisation process - describes the Expert Committee process to reach a refined list of topic areas (informed by scoping activities).
- Section 3 – Research question development and prioritisation - describes the process to develop a broad list of in-scope research questions and identify their relative priority for review. These research questions form the basis for the public call for evidence for systematic reviews and will be used by the Expert Committee to further target the scope of the review.
- Section 4 – Next steps provides a guide to the next stage of the review process including the literature search for systematic reviews of priority topics and public call for systematic reviews.

1. Preliminary scoping activities undertaken 2020 – 2021

During 2020 and 2021, NHMRC carried out a number of scoping activities. Scoping activities were intentionally broad, involving web searches, literature database searches and media platform searches. Direct input was sought from stakeholders through surveys and targeted consultation on various aspects of the 2013 Guidelines and companion resources, such as the *Aboriginal and Torres Strait Islander Guide to Healthy Eating*.

Specific activities included:

- ***Review of international nutrition guidelines and country specific food-based dietary guidelines published since the 2013 Guidelines (Appendix A).*** For the 12 guidelines identified, evidence review processes were broadly consistent with NHMRC standards for developing guidelines. Recommendations provided advice on reducing sugar, alcohol, energy dense foods and increasing physical activity as well as a variety of other topics.
- ***Identification of nutrition & food-based advice by Australian Health Organisations (Appendix B).*** Nutrition and food-based recommendations from 29 Australian health organisations were analysed for alignment with the 2013 Guidelines. Recommendations were broadly consistent with one or more of the recommendations in the Australian Dietary Guidelines. Additional recommendations on plant sterols to reduce cholesterol, intense sweeteners, dairy fat and heart health and healthy eating in pregnancy were also identified.
- ***Diet related topics and themes in the Australian media (Appendix C).*** A snapshot of food and nutrition topics reported in Australian media from January to March 2021 identified 394 articles primarily focusing on: eating patterns, information for population subgroups (e.g. young adults), health star ratings (specifically for fruit juice) and chronic disease related to nutrition.
- ***Stakeholder survey on food and nutrition topics of interest (Appendix D).*** An open stakeholder survey was issued, to gain insights into how the 2013 Guidelines are currently used and to identify nutrition topics of broad public interest for the revision. A total of 2964 survey responses were received, with 50% of respondents reporting they used the 2013 Guidelines for work, and 50% for personal use. Stakeholders highlighted: meat, poultry and fish, fats and oils, grains and cereals and sugars as existing topics to update. Food processing, plant-based diets, sustainability[1] and cultural considerations were also highlighted by stakeholders as areas requiring expansion in revised guidelines.
- ***Targeted survey of organisations working with Aboriginal and Torres Strait Islander people (Appendix E).*** There were 39 responses received. Respondents reported using the Guidelines to promote nutrition to Aboriginal and Torres Strait Islander people through (in order of frequency) education, chronic disease prevention and management, patient care, and nutrition/public health policy and consumer advice.
- ***A snapshot of recently published systematic reviews relevant to the Guidelines (Appendix F).*** A literature search was undertaken to identify systematic reviews published in the 12 months up to December 2020 on topics relevant to the Guidelines. Thirty-nine published reviews were identified. Topics included intakes of specific foods and the risk of chronic disease, dietary patterns and associations with health outcomes, and nutrition in pregnancy.

The scoping activities resulted in identification of a broad list of research topic areas, some of which are not included in the 2013 Guidelines. The broad list was considered by the Expert Committee and formed the basis for developing a list of topic areas for prioritisation. The process of topic prioritisation is described in Section 2 (*Topic prioritisation process*) below.

A summary of the process and findings from each scoping activity are provided at **Appendices A - F**.

[1] Sustainability was included in Appendix G *Food, nutrition and sustainability* of the 2013 Australian Dietary Guidelines. However, it was not included in the key recommendations.

2. Topic prioritisation process conducted in 2022

Expert Committee members participated in a series of surveys and discussions to agree on a shortlist of topic areas. The list of potential topic areas included in the surveys was developed using results from the scoping activities (see Section 1). These topic areas were then prioritised. Topics that are critical for national dietary guideline recommendations are not necessarily the highest priority for review. Where the evidence base is unlikely to have changed, existing evidence will be compared with the evidence base from recognised international groups.

The prioritised list of topic areas then informed the development of the research questions (see Section 3. Research question prioritisation) for the next stage of the Guideline review process.

Principles for topic prioritisation

The following principles were applied by the Expert Committee when prioritising topics:

1. Relevance
2. Importance
3. Type of impact
4. Degree of impact.

The principles were modelled on the prioritisation pathways used for development of the Dietary Guidelines for Americans 2021-2025, the Nordic Nutrition Recommendations 2022, and Canada's Dietary Guidelines. The principles also took into consideration prioritisation criteria commonly used in the development of health practice guidelines[2].

The principles were applied qualitatively through a survey and discussion process that iteratively cycled through the topics to reach consensus.

1. Relevance

The Expert Committee considered the 2013 Guidelines, which includes:

- foods, food groups and dietary patterns that protect against chronic disease and provide the nutrients required for optimal health and wellbeing
- guidance aimed at people of all ages and backgrounds in the general population, including people with common diet-related risk factors such as being overweight.

In deciding if a topic was relevant, the Expert Committee considered whether the topic:

- related to the Australian context
- applied to the general Australian population
- related to whole foods, food groups or dietary patterns
- related to the promotion of health or prevention (rather than treatment or management) of a nutrition-related chronic disease or nutrition-related risk factors.

Topics that were not considered relevant were deemed to be outside the scope of this review.

[2] El-Harakeh, A., Morsi, R.Z., Fadlallah, R., Bou-Karroum, L., Lotfi, T., Akl, E.A., 2019. 'Prioritization approaches in the development of health practice guidelines: a systematic review', BMC Health Services Research, 19: 692.

2. Importance

The Expert Committee considered whether a topic was important to current public health priorities and to what degree (i.e. low, medium, high). Stakeholder insights were also considered as part of this step.

In deciding if a topic was important, the Expert Committee considered whether the topic:

- was of significant public health importance
- aligned with, or addressed Australian Government health priorities
- was a long-standing issue or had the potential to change existing recommendations
- was likely to change a recommendation and if so, whether it would result in significant public health improvement
- addressed an area of rapidly changing evidence
- had significant public interest, including in media
- was an area of potential misinformation
- could inform (and to what extent) national food and health policies and programs.

Sources such as the Australian Government's Australia's Long Term National Health Plan and National Preventative Health Strategy 2021-2030 were used to inform this step.

Topics considered a priority by stakeholders (see scoping activities in Section 1) were provided to the Expert Committee for consideration in this step (see specifically **Appendix C**: *Media Scan* and **Appendix D**: *Stakeholder survey*).

Topics that were of high importance were considered a higher priority for this review.

3. Type of impact

The Expert Committee considered the type of impact topics had on public health including broader societal, economic or environmental impacts.

The Expert Committee considered whether the topic:

- has an associated health burden
- has the potential to impact health outcomes
- has associated health consequences
- impacts mortality, survival, longevity and life expectancy
- impacts morbidity and disability
- impacts disease burden or has the potential to reduce severity of disease
- relates to health biomarkers
- relates to food and dietary patterns
- addresses socioeconomic, demographic and cultural issues/needs
- relates to ethical sensitivities
- considers equity or human rights
- has societal impacts or impacts on non-health outcomes
- has environmental impacts
- has economic or financial impacts.

Higher priority was given to topics that were considered to be of higher, or more wide-ranging, impact.

4. Degree of impact

The Expert Committee considered the degree of impact a topic may have, including assessing the magnitude of the issue and the size of the affected populations likely to be impacted.

In assessing the degree of impact, the Expert Committee considered:

- the magnitude of the health burden associated with the topic
- the magnitude of the potential impact on health outcomes
- the degree to which a topic would impact financial, economic, environmental or societal areas.

Sources such as the Australian Burden of Disease Study were used to inform this step.

Topics with high impact were considered a higher priority for this review.

Evidence base

In later stages of topic prioritisation, the Expert Committee also considered whether the evidence underpinning recommendations for a topic was likely to have changed significantly since the 2013 guidelines.

Topics for which the evidence base was considered likely to have changed significantly were regarded as higher priority for review (see principle 2: *Importance* above*).*

Survey results

Three consensus-based prioritisation surveys were undertaken (using a modified Delphi approach) to shortlist topic areas for further research question development. During this process, the Expert Committee also refined topic areas and working definitions, and identified topics with overlapping or similar issues, to form topic groups.

The broad list of topic areas (outlined below) formed the basis of further scoping work to support initial research question development, and further prioritisation as outlined in Section 3: *Research Question Prioritisation*.

Summary of shortlisted topics

The following broad topics were shortlisted to inform development of the research questions and scope of the evidence review update[3]:

- Dietary patterns
- Sustainable diets
- Nutritional needs across the life course (including nutrition in pregnancy & breastfeeding)
- Meats and poultry, fish, eggs, tofu, nuts and seeds and legumes/beans
- Level of processing of foods
- Barriers and enablers to diets consistent with the guidelines
- Discretionary foods
- Eating behaviour
- Food-based dietary guidelines translation tools
- Beverages (including sugar-sweetened beverages, tea & coffee, juices)
- Milk, yoghurt, cheese and/or alternatives
- Fats and oils

[3] The list was ranked using prioritisation principles and considering whether the evidence for a topic was likely to have changed significantly since the 2013 guidelines.

- Cultural considerations
- Sugars
- Grains & cereals
- Fruits
- Vegetables.

3. Research question development and prioritisation conducted in 2022 – 2023

Prioritisation process and principles

Research questions were developed and prioritised using the same principles applied in Section 2 (*Topic prioritisation process*). Pragmatic considerations also informed decisions about priority. This included considering whether a topic could be partially or indirectly addressed by an alternative research question of higher priority, or where issues could be addressed by improved translation of existing evidence, rather than by reviewing the underlying evidence.

The following information was collated, summarised and mapped to the shortlisted topics, to support research question development and prioritisation:

- the evidence underpinning the 2013 recommendations
- systematic reviews undertaken by key international guideline groups since 2015
- relevant Expert Committee member comments from three prioritisation surveys
- national data on dietary choices, consumption patterns, burden of disease and related information.

There was considerable overlap across several of the priority topic areas, with some research questions addressing multiple topic areas.

Based on this information, the Expert Committee refined the scope for each broad research question and assigned a level of priority based on the descriptors below.

Priority level	Description
Very high priority	*To be comprehensively addressed via existing or commissioned systematic reviews, within limits of review resources*
High priority	*Aim to address comprehensively via existing or commissioned systematic reviews, within limits of review resources*
Moderate priority	*Aim to at least partially address, via existing systematic reviews, within limits of review resources*
Low priority	*May be addressed via existing systematic reviews, within limits of review resources*
Questions to be addressed via alternative avenues or separate processes	*Priority topics to be addressed via a separate process, or using existing evidence sources (including from other NHMRC Guidelines, or National Guidelines and Reports)*

Outcomes of research question prioritisation

The following lists the broad research questions identified as a priority for review and their respective level of priority using the process outlined in sections 1, 2 and 3. A detailed table listing the specific PI/ECO (populations, interventions/exposures, comparisons, and outcomes) for high and very high priority questions is at **Appendix G**.

Very high priority	High priority	Moderate priority	Low priority
Intake/exposure and health outcomes for: • dietary patterns relevant at a population level • animal vs plant sources of protein • high vs low/no intake of ultra-processed foods *Relationship between dietary patterns and/or food intakes and sustainability outcomes was identified as a very high priority and is intended, to be addressed via a separate process*	Intake/exposure and health outcomes for: • meal patterns (frequency of eating) • red vs white meat intake • high vs low/no intake of legumes/pulses Contextual factors and consumption aligned with guidelines, including: • eating environment/context (e.g. family meals, use of technology during meal times, school/workplace/community factors) • food literacy/skills • food security • *interventions/strategies to improve dietary patterns and eating behaviours aligned with the guidelines across the life course. Identified as a high priority, however may be addressed separately as relates to implementation.*	High vs low/no intake and health outcomes for: • beverages (including sugar-sweetened, artificially-sweetened, fruit juice, water, tea/coffee) • dairy • dairy alternatives • added sugar	Intake/exposure and health outcomes for: • aspects of macronutrient source/quality • food source and type of fat in the diet • meal patterns (other than frequency of eating) • food processing, preparation and cooking (excluding ultra-processed foods) High vs low intakes and health outcomes for: • red meat • poultry • fish and/or seafood • egg • nut and/or seeds • fats and oils • total sugars intake • grains and cereals • fruit • vegetables Contextual factors and consumption aligned with guidelines, including:

			• key barriers and enablers (excluding eating environment, food literacy/skills and food security) • cultural factors

Potentially relevant outcomes

The following lists potentially relevant health outcomes. This represents the overall list and not all outcomes have been prioritised for all interventions/exposures. A detailed table listing the specific PI/ECO for high and very high priority questions is at **Appendix G.**

Population Group	Outcome description
All populations • include older adults • include adults with risk factors for chronic disease, e.g. high blood pressure, overweight /obesity, impaired glucose tolerance, dyslipidaemia • exclude populations exclusively selected on the basis of disease, e.g. diabetes, CVD	• All-cause mortality • All-cause morbidity <u>Chronic condition risk factors</u> • Cancer risk factors • Cardiovascular disease risk or related factors • Type 2 diabetes risk or related factors • Overweight/obesity or related size measures • Mental health (depression and anxiety) • Reproductive health • Gastrointestinal health • Iron deficiency anaemia in women of childbearing age <u>Healthy Aging</u> • Quality of life • Neurocognitive health including dementia • Sarcopenia • Bone health
Pregnancy & breastfeeding only	<u>Maternal health outcomes:</u> • Gestational diabetes risk • Pregnancy-related hypertensive disorders risk • Pregnancy-related weight gain/postpartum loss • Pre/post-natal depression • Iron deficiency anaemia <u>Breastfeeding specific outcomes</u> • Human milk production <u>Birth outcomes</u> • Birth metrics (weight/gestational age at birth/preterm) • Stillbirth/miscarriage <u>Outcomes in the infant/child:</u> • Asthma, allergies or allergic syndromes • Child growth (including overweight/obesity) • Child development (including neurocognitive development)
Children and adolescents	• Child growth (including overweight/obesity) • Child development (including neurocognitive development) • Asthma, allergies allergic syndrome • Mental health • Iron deficiency anaemia
Other outcomes - All populations (where relevant)	• Appropriate life-course food consumption/dietary patterns in line with dietary guidelines • Sustainability *(to be addressed separately)*

Research questions to be addressed by alternative avenues

The following lists the broad research questions that have been identified to be addressed by alternative avenues or separate processes. More detail can be found in **Appendix G**.

Topics to be addressed via alternative avenues/separate processes	
Nutrition across the life-course	*Not addressed as a discrete topic, but embedded within questions via:* *- outcome assessment (life course consumption aligned with guidelines; child outcomes relative to maternal diet; long term outcomes in children/adolescents into adulthood) or* *- populations (children and adolescents, pregnancy and breastfeeding, adults, older adults)*
Cultural factors	*Culturally and linguistically diverse groups embedded as a population subgroup within questions about barriers/enablers.*
Sustainable diets	*Identified as a very high priority.* *To be addressed via a separate (concurrent) process due to breadth of specialist expertise required.*
Implementation	*Identified as a high priority.* *Requirements to inform implementation/development of resources to be considered separately in due course*
Sodium or salt	*Sodium/salt intake and health outcomes to be addressed based on existing NHMRC evidence reviews/recommendations (Nutrient Reference Values 2017 and current update)*
Alcohol	*Alcohol intake and health outcomes to be addressed based on existing NHMRC evidence reviews/recommendations (NHMRC Alcohol Guidelines 2020)*
Food safety	*Food safety aspects to be addressed based on existing National food safety advice, e.g. Food Safety Information Council*
Contextual factors, barriers and enablers - physical activity	*Physical activity aspects to be addressed based on National Physical Activity Guidelines*
Infant feeding	*Infant feeding addressed within specific NHMRC Infant Feeding Guidelines. Not included in current scope of review*

4. Next steps

To make efficient use of the limited review resources, recent, high quality published systematic reviews will be used where available. A limited number of *de novo* reviews will be commissioned, to target key gaps in the evidence base. To facilitate this approach, the next phase of the review will comprise:

- Additional scoping to identify suitable systematic reviews in the published literature
- Evidence mapping to identify which priority research questions may be answered using existing systematic reviews and to identify gaps in the systematic review literature
- Selection of existing systematic reviews and research questions for de novo review.

Potentially relevant systematic reviews will be identified and sourced via:

i. Literature searches, including database searching and searches of systematic reviews commissioned or conducted by key international groups[4]

ii. A public call for systematic reviews.

This process aims to identify suitable (current[5], comprehensive and methodologically robust) systematic reviews for each research question, with the aim of achieving good coverage across the 'very high' and 'high' priority areas. It does not aim, or purport, to comprehensively search for and identify every relevant systematic review for the broad priority research questions identified.

Searches will focus on addressing the highest priority research questions, with database searches and the public call limited to 'very high' or 'high' priority research questions. Where resources permit, research questions identified as 'moderate' or 'low' priority may be addressed using systematic reviews published by key international groups. Additional supplementary searches will not be undertaken for these lower priority research questions.

Systematic reviews identified through the literature searches and public call will be collated and screened against eligibility criteria (including minimum methodological criteria). The risk of bias of potentially eligible reviews will then be assessed.

Eligible systematic reviews will be mapped against the research questions to allow the Expert Committee to consider options for addressing each priority research question and identify gaps in the underlying evidence base, that may be targeted by a de novo reviews.

Resource constraints are likely to limit the number of existing reviews that can be used[6]. Consequently, the Expert Committee will advise which of the reviews (identified and mapped) to use to update the body of evidence underpinning the Guidelines.

The Expert Committee will consider the results of evidence mapping and apply the principles outlined in this framework to select:

- the systematic reviews that will be used to update the evidence underpinning the guidelines

[4] 'Key international groups' with robust methodological processes similar to NHMRC standards (https://www.nhmrc.gov.au/guidelinesforguidelines/standards) identified based on the process adopted by the 2022 Nordic Nutrition Recommendations Group

[5] The Expert Committee noted a five-year cut off is common when searching for systematic reviews, the reviews themselves may include primary studies published prior to this. In addition, the revised Guidelines are anticipated for release in 2025 and any systematic review completed prior to 2018 would not consider subsequent recent studies.

[6] The use of existing systematic reviews will require additional work to be conducted to summarise data and findings in a suitable format. This primarily entails developing evidence summaries and applying GRADE to the body of evidence to support development of guideline recommendations.

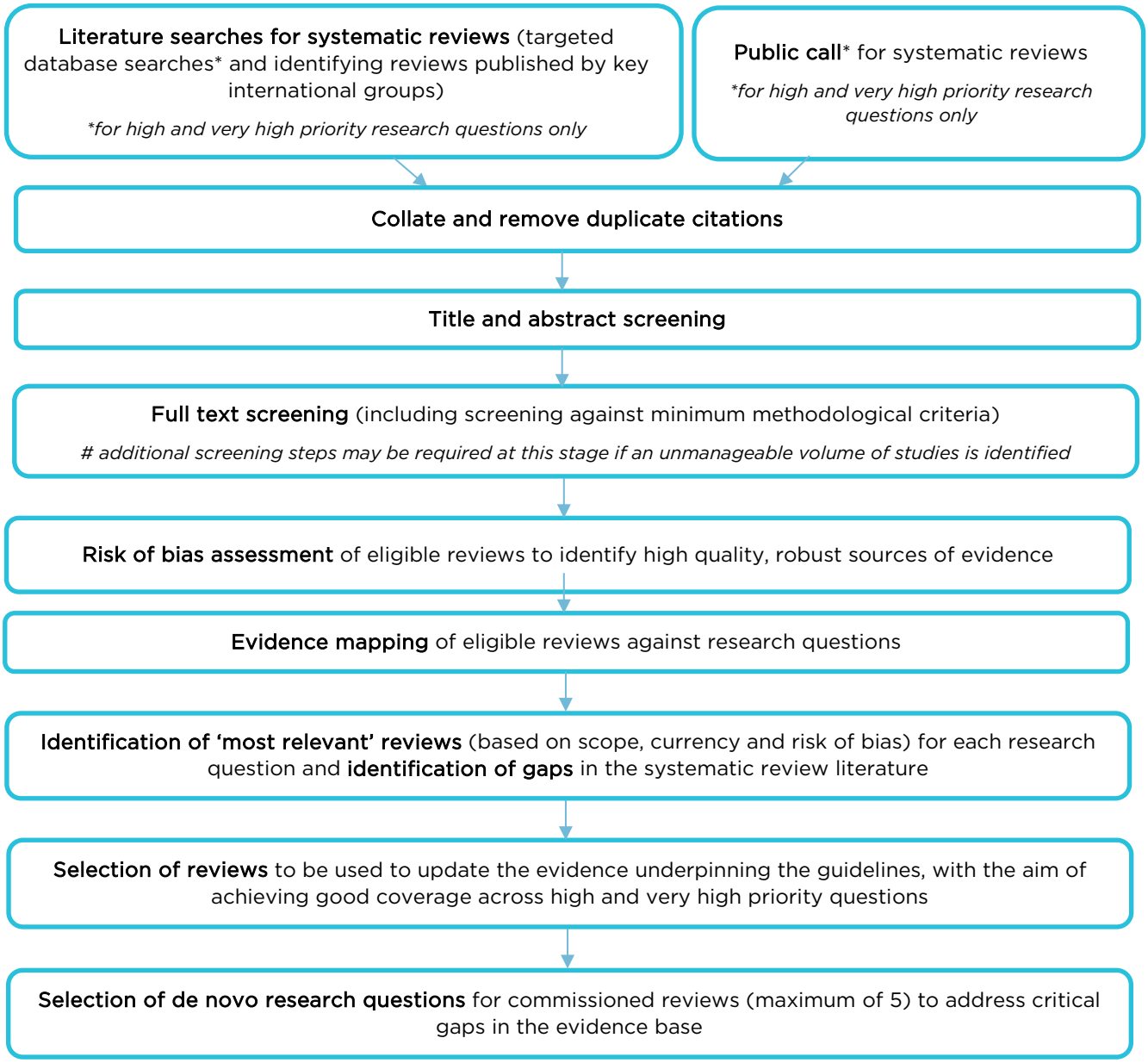
- research questions for de-novo review.

Very high or high priority research questions that are unable to be addressed within the available resources[7] will be noted as evidence gaps to inform future reviews.

Figure 1 provides an overview of the next steps for how information from the literature search and public call will be considered.

Identified literature will be collated and duplicated citations removed. The screening process will identify relevant reviews, in addition to recognising gaps in the evidence. Selected literature will be used to update guidelines evidence and prioritise critical gaps where new evidence reviews may be required.

FIGURE 1: OVERVIEW OF SCOPING AND EVIDENCE MAPPING PROCESS



[7] Funding for the review allows the commissioning of up to 5 de novo reviews, depending on cost and scope.