Attachment 1 to Schedule 1

STATEMENT OF REQUIREMENT (RFO 2013-14/09)

Systematic reviews on the relationships between dietary fatty acid intake and blood cholesterol

1. Background

The Authority is seeking a Supplier with relevant expertise to prepare systematic reviews on relationships between dietary fatty acid intake and blood cholesterol levels.

Standard 1.2.7 Nutrition, health and related claims, of the Australia New Zealand Food Standards Code (the 'Code'), sets out the requirements for food businesses wishing to make claims on food labels or in advertising, about the nutritional or health properties of a food. Standard 1.2.7 was gazetted in January 2013.

Health claims are made voluntarily. They are claims that state, suggest or imply that a food or a property of a food has, or may have, a health effect. Health claims are either 'general' or 'high' level. High level claims are those health claims that refer to a serious disease or a biomarker of a serious disease and cannot be made unless the Standard specifically permits them. General level health claims are any health claims that are not high level.

Within Standard 1.2.7, Schedule 2 identifies the food health relationships on which high level health claims can be based and sets out the conditions for permitted high level health claims; Schedule 3 sets out the conditions for general level health claims. These Schedules do not specify the wording of any claims based on the included relationships.

All new food health relationships used to substantiate a health claim must be based on a systematic review. The required elements of a systematic review are set out in Schedule 6 of Standard 1.2.7 and allow substantiation based on a new systematic review or an update to an existing systematic review. The Authority also wishes to use this process to review and update existing approved high level health claims already included in Standard 1.2.7.

During the first three years of the operation of Standard 1.2.7, the Authority has agreed to update the evidence underpinning the existing permitted high level health claims in Schedule 2 of Standard 1.2.7, one of which relates to saturated fatty acids and blood cholesterol. We have also undertaken to review the evidence for a number of food health relationships that underpin health claims approved for use in the European Union. Some of these European claims relate to fatty acids and blood cholesterol.

The Supplies required under this Offer relate to the preparation of a series of systematic reviews of the evidence base for the relationships between dietary lipids and blood cholesterol. These reviews will be prepared to meet the requirements of Schedule 6 of Standard 1.2.7. The report/s of these reviews will be provided to an expert committee established by the Authority for the purpose of recommending whether or not a food health relationship can be substantiated to the requirements of Standard 1.2.7.

In the context of these reviews, 'blood cholesterol' includes low density lipoprotein cholesterol ('LDL'), high density lipoprotein cholesterol ('HDL') and total blood cholesterol. It does not include the ratio between LDL and HDL cholesterol.

Existing relationship - saturated fatty acids and blood cholesterol

In developing Standard 1.2.7, the Authority commissioned a series of expert reviews of a selection of food health relationships based on relationships that had been reviewed by food regulators in other countries. One of these reviews was on the relationship between saturated and *trans* unsaturated fatty acids and LDL-cholesterol and coronary heart disease. This review, which was based on a Canadian review, was undertaken in 2005 (see Booker and Mann (2005) at appendix 1).

Based on requirements identified by the Authority, Booker and Mann took the following approach:

- Appraisal of a (then) recent review on the topic by Health Canada, including re-assessment of selected pivotal studies cited in that review
- Updating of the review by searching and evaluating evidence that had emerged since the preparation of the Health Canada review
- Consideration of the findings of this update in the light of dietary and nutrient intake patterns in Australia and New Zealand.

The review concluded, among other matters:

> "A health claim relating to the association between saturated fatty acids and LDL cholesterol is undoubtedly justified though one claiming a direct link between saturated fatty acids and coronary heart disease is a little more difficult to justify, given some inconsistencies in the data."

Subsequent to consideration of the review report by a Scientific Advisory Group, the Authority included the following relationship in Schedule 2 of Standard 1.2.7:

Food or property of food	**Specific health effect**	**Context claim statements**
Saturated fatty acids	Reduces total blood cholesterol or blood LDL cholesterol	Diets low in saturated fatty acids

The 2005 review by Booker and Mann did not specifically address whether the observed relationship between reduction in saturated fat intake and reduction in blood cholesterol was a result of reduction in saturated fat intake alone (via a reduction in total fat intake and replacement of the dietary energy from this fat with that from carbohydrate or protein), or of replacement of saturated fat with monounsaturated or polyunsaturated fat, or a combination of these two approaches. However the review did touch on this issue in places, and noted (pages 75-76):

> "… the extent of LDL cholesterol reduction achieved by lowering intake of saturated fatty acids is dependent upon the source of replacement energy. Replacing saturated fatty acids with polyunsaturated fatty acids would result in appreciably greater reductions in LDL cholesterol than replacement with either carbohydrate or monounsaturated fatty acids. Not replacing a reduction in saturated fatty acids, partially or totally, and resultant weight loss would also result in additional reduction of LDL cholesterol."

As the review against which these relationships were substantiated is now more than 8 years old, the Authority wishes to update the review to ensure its accuracy and relevance.

European Union (EU) claims on unsaturated fats and blood cholesterol

In the EU, food health relationships were examined and, after acceptance, a specific claim wording was authorised. The following relationships (shown with their associated claim wordings) are relevant for the current Tender:

- Replacement of mixtures of saturated fatty acids (SFAs) as present in foods or diets with mixtures of polyunsaturated fatty acids (PUFAs) and maintenance of normal blood LDL-cholesterol concentrations. (The authorised claim based on this is "Replacing saturated fats with unsaturated fats in the diet contributes to the maintenance of normal blood cholesterol levels. [MUFA and PUFA are unsaturated fats]".)

- Oleic acid and maintenance of normal blood LDL-cholesterol concentrations (The authorised claim based on this is "Replacing saturated fats in the diet with unsaturated fats contributes to the maintenance of normal blood cholesterol levels. Oleic acid is an unsaturated fat".)

- Linoleic acid and maintenance of normal blood cholesterol concentrations (The authorised claim based on this relationship is "Linoleic acid contributes to the maintenance of normal blood cholesterol levels".)

- Alpha linolenic acid and maintenance of normal blood cholesterol concentrations (The authorised claim based on this relationship is: "ALA contributes to the maintenance of normal blood cholesterol levels".)

At the time these claims were approved for use in Europe, systematic reviews of the type described in Schedule 6 of Standard 1.2.7 were not conducted by the European Food Safety Authority (EFSA) for substantiation of relationships.

2. Supplies

The Authority requires the Supplier to:

- meet with Authority staff, in person or via video link, to discuss their approach to the reviews, including the identification of existing systematic review(s) that will be used, before beginning work on the reviews
- undertake a series of systematic reviews (or updates to existing systematic reviews) and sub-analyses
- prepare one or more review reports according to the requirements identified below.

Reviews to be undertaken

The Authority suggests that the Supplies are undertaken as separate reviews, as outlined below. However the Authority recognises the inter-dependence of these reviews, and that much of the evidence base will be common across reviews, and therefore is open to alternative ways of undertaking and presenting these systematic reviews, provided that all requirements set out below are met.

a) A review of the relationship between dietary saturated fat intake and blood cholesterol:

    - This review must include separate analyses of the effects of saturated fats (as a class) on LDL-cholesterol, HDL-cholesterol and total cholesterol.

- Only experimental studies are to be included; observational studies are not to be considered.
- The description of individual studies must identify how alterations in saturated fat intake were achieved.
- The analysis must separately consider a) the effect of reduction in intake of saturated fat through reduction in total fat intake and b) the effect of reduction in saturated fat by replacement with unsaturated (polyunsaturated and/or monounsaturated) fats.
- Consideration must be given as to how findings of earlier studies may have been influenced by the presence of trans isomers of unsaturated fats
- An assessment of whether the relationship between saturated fat and total blood cholesterol or blood LDL cholesterol in Standard 1.2.7 remains current and, if necessary, a conclusion as to how and why the existing relationship might be amended to ensure its consistency with the evidence currently available.
- The review should list the included studies that also measured serum triglyceride levels, although an analysis of this is not required.

b) A review of the relationship between dietary monounsaturated fat intake and blood cholesterol:

- This review must include separate analyses of the effects of monounsaturated fats (as a class) on LDL-cholesterol, HDL-cholesterol and total cholesterol.
- Only experimental studies are to be included; observational studies are not to be considered.
- The description of individual studies must identify how alterations in monounsaturated fat intake were achieved, including the type of monounsaturated fatty acids.
- The analysis must separately consider a) the effect of increasing monounsaturated fat through increasing total fat intake and b) the effect of increasing monounsaturated fat by replacement of saturated fat.
- Consideration must be given as to how findings of earlier studies may have been influenced by the presence of trans isomers of monounsaturated fats.
- A sub-analysis of the relationship of oleic acid to blood cholesterol should be completed if the identified studies used different types of monounsaturated fats. The sub-analysis should describe whether it relates to addition of oleic acid to the diet or replacement of saturated fat with oleic acid.

c) A review of the relationship between dietary polyunsaturated fat intake and blood cholesterol:

- This review must include separate analyses of the effects of polyunsaturated fats (as a class) on LDL-cholesterol, HDL-cholesterol and total cholesterol.
- Only experimental studies are to be included; observational studies are not to be considered.
- The description of individual studies must identify how alterations in polyunsaturated fat intake were achieved, including the type of polyunsaturated fatty acids.
- The analysis must separately consider a) the effect of increasing polyunsaturated fat through increasing total fat intake and b) the effect of increasing polyunsaturated fat by replacement of saturated fat.
- Consideration must be given as to how findings of earlier studies may have been influenced by the presence of trans isomers of polyunsaturated fats.

- Sub-analysis of the relationship of linoleic acid to blood cholesterol must be completed. The sub-analysis should describe whether it relates to addition of linoleic acid to the diet or replacement of saturated fat with the linoleic acid.
- Sub-analysis of the relationship of alpha linolenic acid to blood cholesterol must be completed. The sub-analysis should describe whether it relates to addition of alpha linolenic acid to the diet or replacement of saturated fat with the alpha linolenic acid.

These reviews can either be:

- Updates of existing systematic reviews, with evidence collected from the time at which the existing review completed its evidence search, provided the methodology used for the existing systematic review was directly relevant, or
- New systematic reviews.

The Authority recommends that, due to the extensive evidence available about these relationships, the Supplier identifies one or more suitable existing systematic reviews to use as the starting point for their work rather than undertaking reviews of all available relevant evidence. The guidance document for self-substantiation of general level health claims (FSANZ, 2013) may provide useful insights.

The review report/s must contain the following information:

- Sufficient material to satisfy the requirements of Schedule 6 of Standard 1.2.7 (appendix 2)
- A rating of each relationship assessed using the GRADE approach (Balshem et al, 2011)
- Identification of any major areas of uncertainty (such as the limited applicability of available evidence to certain population groups) that could influence the claim conditions associated with the food health relationship
- A comprehensive bibliography
- A declaration of interests relevant to the subject under consideration, such as research support, honoraria, commercial business interests, relevant patents etc.

The review reports should not contain the following information:

- Data extracted from studies solely conducted in diseased populations (e.g. studies of the effects of dietary fats on the people with HIV, kidney disease etc) or solely in people with familial hypercholesterolemia
- Data extracted from experimental studies where the test and control diets were administered for less than three weeks.
- Data extracted from studies where subsequent investigation has indicated scientific fraud may have occurred.

The following matters are outside the scope of these Supplies:

- Recommendations on the wording of any health claims based on the review recommendations
- Reviews of the health effects of specific saturated or unsaturated fatty acids, other than the three identified above (oleic, linoleic and alpha linolenic acids).
- Reviews of the health effects of long chain omega-3 polyunsaturates as a sub-class of polyunsaturates.
- Reviews of trans fats as a class, as this will be the subject of a separate contract.

- Data or analysis of biochemical parameters other than the three listed above (LDL-, HDL- and total blood cholesterol).

3. Outputs expected from the Supplier

The Supplier is required to prepare the following materials:

- A draft report of the findings of each systematic review, provided to the Authority electronically in Microsoft Word 2007 (or above)
- A final report of the findings of each systematic review, which addresses any comments raised, and changes requested, by the Authority and which is provided to the Authority electronically in two formats: Word 2007 (or above) and portable document format (pdf).

A template for the structure of the systematic review report is provided at appendix 3. The Authority would prefer the Supplier to use this format but recognises that some amendments to it may be needed. However it is a requirement that all required elements of a systematic review for health claim purposes, as identified in this template, are apparent within each report.

4. Time frame

The timeframe for key milestones are as follows:

Tender evaluation completed and tenderers notified	13 December 2013
Contract executed	17 January 2014
Draft report/s submitted	Friday 24 April 2014
Final report/s submitted	Friday 6 June 2014

5. Fees

The total fees will be paid in $A (GST incl) as follows:

Contract execution	30%
Receipt of draft report/s	40%
Acceptance by the Authority of the final report/s	30%
Total	100%

There will be an appropriate reduction in fees should the Supplier fail to meet the project deadlines or if their performance is considered unsatisfactory by the Authority. A term specifying the level of such a reduction will be negotiated between the Authority and the Supplier and included in the contract.

6. Standards

The Supplies delivered under this contract are to be of a standard consistent with current scientific best practice in this field. The final reviews will be made available on the FSANZ website and used as examples of high quality reviews, to guide food businesses and others who may wish to make future applications to add food health relationships to Schedules 2 and/or 3 of Standard 1.2.7.

The reviews produced must, at a minimum, contain the material identified in Schedule 6 of Standard 1.2.7.

Appendices

1. Booker, C & Mann, J. 2005. The relationship between saturated and *trans* unsaturated fatty acids and LDL-cholesterol and coronary heart disease. A review undertaken for Food Standards Australia New Zealand (unpublished)

2. Schedule 6 of Standard 1.2.7 of the Australia New Zealand Food Standards Code (as at 26 September 2013)

3. Template for report structure

References

Balshem H, Helfand M, Schünemann HJ, Oxman AD, Kunz R, Brozek J, Vist GE, Falck-Ytter Y, Meerpohl J, Norris S, Guyatt GH. (2011) GRADE guidelines: 3. Rating the quality of evidence. J Clin Epidemiol 64: 401-406. http://www.jclinepi.com/article/S0895-4356(10)00332-X/fulltext. Accessed 12 April 2013

FSANZ Guidance document for self-substantiation of general level health claims (see http://www.foodstandards.gov.au/publications/Pages/Guidance-on-establishing-food-health-relationships-for-general-level-health-claims.aspx)

Review by Booker and Mann (2005)

This large review is able to be downloaded from: http://www.foodstandards.gov.au/consumer/labelling/nutrition/Pages/reviewsforhighlevelc3090.aspx. Please scroll to the bottom of the screen to find the link to the full review.

The public summary from this review is provided below.

Coronary heart disease (CHD) mortality rates have fallen during the last several decades, but it remains a major cause of serious illness and death in adults in Australia and New Zealand. The underlying pathology in most cases is atherosclerosis which involves an accumulation of lipoproteins, platelets, monocytes, endothelial cells, and smooth muscle cells in the walls of arteries, following damage to the layer of cells lining the artery. Atherosclerosis results in narrowing of the arteries and consequently reduction in the blood supply to heart muscle. A clot or thrombus may be superimposed on the atherosclerotic lesions, leading to a total obstruction to the blood supply and consequently death of the section of heart muscle supplied by the artery. This process leads to coronary thrombosis or myocardial infarction, whereas reduction of the blood supply leads to angina. The pathology is believed to result from an interaction between genetic and environmental factors. However it is noteworthy that cholesterol derived principally from low density lipoproteins is an important constituent of the atherosclerotic plaque, and total and LDL cholesterol are the most clearly established of the many potentially modifiable risk factors for CHD. LDL cholesterol is the major contributor to total blood cholesterol, hence total cholesterol is often used as a surrogate for LDL cholesterol since it is more easily measured. A clear dose response effect is apparent for total cholesterol in prospective epidemiological studies examining determinants of CHD, and CHD is extremely uncommon in populations with low mean cholesterol levels. Randomised controlled clinical trials have shown a benefit in terms of CHD risk reduction that is proportional to the reduction in cholesterol levels, regardless of whether this is achieved by drug therapy or dietary modification. Thus, LDL cholesterol is the most convincing of the biomarkers for CHD and it is generally accepted that measures able to reduce LDL cholesterol will reduce CHD risk.

The starting point for the present review was a similar process undertaken in Canada in 2000 by Ratnayake and McDonald. The report updated a 1993 United States report and reaffirmed the observation, first made in the 1950's, that saturated fatty acids were important determinants of total and LDL cholesterol. The association can unquestionably be described as 'convincing', with much evidence derived from randomised controlled trials and a clear dose response effect apparent with increasing amounts of SFA. The report indicated the differential effect of the different dietary saturated fatty acids on lipoproteins, with stearic acid having a negligible effect on LDL compared with the cholesterol raising effect of lauric, myristic and palmitic acids. However given the fact that stearic acid often co-exists with the other saturated fatty acids, and that stearic acid may promote thrombogenesis and so enhance atherosclerotic risks, this does not detract from the overall association and certainly not from the benefits in terms of LDL cholesterol of lowering total intake of saturated fatty acids. The Canadian review did not consider in detail the appreciable variation in individual response to a reduction in saturated fatty acids, though the population risk reduction which would be expected to accrue from reduction in saturated fatty acid intake should not be underestimated. Finally, it should be noted that the extent of LDL cholesterol reduction achieved by lowering intake of saturated fatty acids is dependent upon the source of replacement energy.

Replacing saturated fatty acids with polyunsaturated fatty acids would result in appreciably greater reductions in LDL cholesterol than replacement with either carbohydrate or monounsaturated fatty acids. Not replacing a reduction in saturated fatty acids, partially or totally, and resultant weight loss would also result in additional reduction of LDL cholesterol. There is rather less direct evidence for the association between saturated fatty acids and CHD. While the studies generally suggest a relationship between saturated fatty acids and coronary heart disease and while there are certainly several plausible hypotheses, there are some inconsistencies in the data which cannot all be easily explained. Thus while we believe a reduction in saturated fatty acids is highly likely to reduce not only LDL cholesterol and other coronary heart disease risk factors but also cardiovascular disease, the current evidence for the direct association between saturated fatty acids and coronary heart disease is arguably more appropriately described as “probable” rather than “convincing”.

Far fewer data exist for *trans* fatty acids. However a series of well conducted studies including randomised controlled trials show an association between *trans* fatty acids and LDL cholesterol. There are however two major limitations regarding the studies covered by the Canadian review and more recent data. Many of the studies do not distinguish between animal (largely occurring naturally) sources of *trans* fatty acids and vegetable sources, largely produced by the hydrogenation of vegetable derived oils. Furthermore it is not clear whether the effect of *trans* fatty acids on LDL cholesterol is biologically meaningful at low levels of intakes, such as that likely to be found in Australia and New Zealand. These limitations do not preclude the conclusion that the association between *trans* fatty acids and LDL cholesterol is a “convincing” one.

Fewer data exist relating *trans* fatty acids directly to coronary heart disease than is the case for saturated fatty acids. However, there are also fewer inconsistencies than is the case with studies linking saturated fatty acids and coronary heart disease. While one case control study found a lack of association between *trans* fatty acids and sudden cardiac death, three recent case control studies are confirmatory of an association, and another suggestive of a trend towards a positive association. Despite the apparent strength of evidence some inconsistencies remain, and we therefore believe it may be more appropriate to describe the association between *trans* fatty acids and coronary heart disease as “probable” rather than “convincing”.

Schedule 6 of Standard 1.2.7 of the Australia New Zealand Food Standards Code (as at 26 September 2013)

Required elements of a systematic review

A systematic review must include the following elements –

1 A description of the food or property of food, the health effect and the proposed relationship between the food or property of food and the health effect.

2 A description of the search strategy used to capture the scientific evidence relevant to the proposed relationship between the food or property of food and the health effect, including the inclusion and exclusion criteria.

3 A final list of studies based on the inclusion and exclusion criteria. Studies in humans are essential. A relationship between a food or property of food and the health effect cannot be established from animal and *in vitro* studies alone.

4 A table with key information from each included study. This must include information on:

- (a) the study reference
- (b) the study design
- (c) the objectives
- (d) the sample size in the study groups and loss to follow-up or non-response
- (e) the participant characteristics
- (f) the method used to measure the food or property of food including amount consumed
- (g) confounders measured
- (h) the method used to measure the health effect
- (i) the study results, including effect size and statistical significance
- (j) any adverse effects.

5 An assessment of the quality of each included study based on consideration of, as a minimum:

- (a) a clearly stated hypothesis
- (b) minimisation of bias
- (c) adequate control for confounding
- (d) the study participants' background diets and other relevant lifestyle factors
- (e) study duration and follow-up adequate to demonstrate the health effect
- (f) the statistical power to test the hypothesis.

6 An assessment of the results of the studies as a group by considering whether:

- (a) there is a consistent association between the food or property of food and the health effect across all high quality studies
- (b) there is a causal association between the consumption of the food or property of food and the health effect that is independent of other factors (with most weight given to well-designed experimental studies in humans)
- (c) the proposed relationship between the food or property of food and the health effect is biologically plausible
- (d) the amount of the food or property of food to achieve the health effect can be consumed as part of a normal diet of the Australian and New Zealand populations.

7 A conclusion based on the results of the studies that includes:

- (a) whether a causal relationship has been established between the food or property of food and the health effect based on the totality and weight of evidence; and

(b) where there is a causal relationship between the food or property of food and the health effect:
    (i) the amount of the food or property of food required to achieve the health effect
    (ii) whether the amount of the food or property of food to achieve the health effect is likely to be consumed in the diet of the Australian and New Zealand populations or by the target population group, where relevant.

8 An existing systematic review may be used if it is updated to include –

(a) the required elements 1 to 6 above for any relevant scientific data not included in the existing systematic review
(b) the required element 7 above incorporating the new relevant scientific data with the conclusions of the existing systematic review.

Template for reports of systematic reviews

Systematic Review of the Evidence for a Relationship between [food/food component/property of food] and [health effect]

Prepared by: [insert authors]

On behalf of Food Standards Australia New Zealand

Date:

Contents

Executive Summary

Eg. Does potassium intake affect blood pressure?	
Food health relationship	
Proposed GRADE rating	
Component	**Notes**
Body of evidence	
Consistency	
Causality	
Plausibility	
Generalisability	

brief text summary here

1. Introduction

Include:

- Brief rationale for assessing the food-health relationship and its relevance to Australia and New Zealand.
- Brief section on current opinion(s) of authoritative source(s) (e.g. EFSA) that is relevant to the food-health relationship, where applicable and available.
- Where an existing systematic review of the food-health relationship by an authoritative source is to be used as the starting point for this review (see section 2), acknowledge its source. N.B. If more than one systematic review by authoritative sources exists compare the conclusions of each and identify any points of difference, then select the most recent of the reviews to discuss in more detail under part 2.

1.1 Property of food / food

Describe the food, food component, or property of food.

1.2 Health effect

Describe the health effect:

- Be specific (e.g. if the health effect is a particular type of cancer and not all cancer) and identify any health outcomes/measures to be excluded from the defined health effect.
- Identify any applicable diagnostic criteria (e.g. blood glucose levels above or below a certain fasting level).

1.3 Proposed relationship

Include direction of effect and target population(s) if relevant. Briefly describe (using illustrations where appropriate) the biological mechanism that explains the effect, if such a mechanism has been identified.

2 Summary and critical appraisal of an existing systematic review (when available)

Provide a brief description and summary of the existing review. What was the research question used to assess the food-health relationship in question? Show that the research question and methods used to conduct the existing review are applicable to this review.

2.1 Review methods

Describe the author's search methods: data bases and inclusion / exclusion criteria.
Detail PICO(T) basis for search (search terms in an appendix)

2.2 Summary of results

Include a brief overview of included studies. Briefly discuss any studies that were identified as pivotal to the review's findings.

2.3 Critical appraisal

Include a re-evaluation of key studies where appropriate.

Study identification and selection

- Whether the search strategy and inclusion and/or exclusion criteria were appropriate to the research question?

Assessment of bias

- Consider selection, performance, detection, attrition, reporting, publication and other biases (including conflict of interest)

Data extraction and analysis

Data interpretation

- How the conclusions were or were not supported by the evidence? Provide a brief summary of the review's findings and comment on the appropriateness of the author's conclusions.
- If there were threats to validity that were overlooked by the author(s)?

2.4 Considerations of validity and strength of evidence

Was the systematic review able to substantiate the food-health relationship(s)? If so, how had the reviewer(s) characterised their degree of certainty in the evidence? If not, what evidence was missing that might have altered the conclusion?

3 Evaluation of new evidence (or Evaluation of evidence if new review)

State the research question(s).

3.1 Methods

Search strategy

Search strategy (if repeating strategy can refer to section 2.1)

- List databases searched and date of search
- List search terms (search items in an appendix)
- Inclusion and exclusion criteria (use PICO(T) to describe)
- Unpublished material
- Describe any hand-searching, conference abstracts, trial registries

3.1.2 Investigators

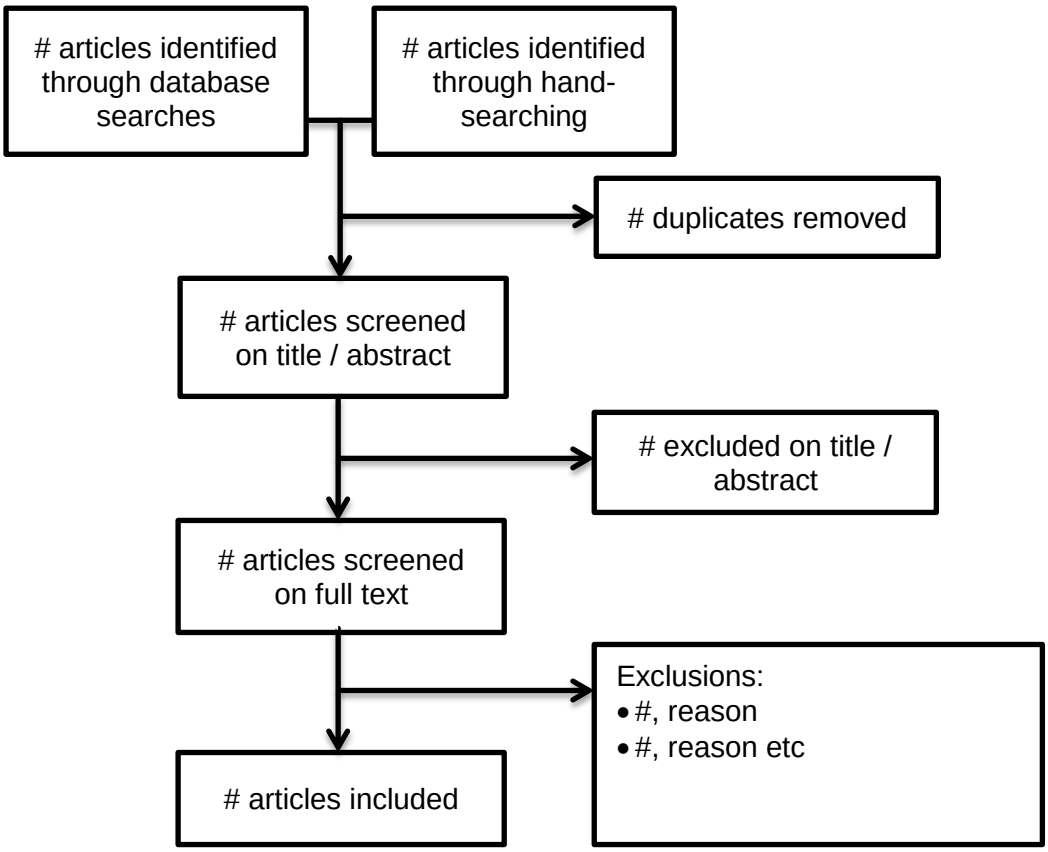
Confirm if two investigators used to independently conduct the search and extract the data.

3.2 Results

Search results

PRISMA diagram preferable to identify: the number of studies screened out by adding search filters, removing duplicates; the number of studies screened out by title or abstract reading; the number of studies screened out after full report had been read; final list of studies retained

For example:



Included studies

List included studies in a table with information in section 4 of schedule 6 of Standard 1.2.7

Reference	
Study design	
Objectives	
Sample size	Include loss to follow-up or non-response, identify intention to treat and whether followed or not
Participants	
Interventions	Include methods for measuring food / food component / property of food intakes
Methods	Include other method used, e.g. statistical methods, analytical methods
Confounders	

Results	Note: may need to be expanded. E.g. the review may be of observational studies and not interventions: format for reporting results could need to differ depending on type of data
Notes	Include any adverse effects

Extracted data

Did authors of papers have to be contacted for any reason? If so, what additional information about studies was obtained?

Note: meta-analysis is not a requirements, if no meta-analysis could be combined with previous section.

Quality assessment (individual studies)

Consider and discuss:

Adequate hypothesis (if not, could lead to judgement of low quality)
Minimisation of bias
Control for confounding
Participants' background diets and relevant lifestyle factors
Duration and follow-up adequate to demonstrate the health effect
Statistical power
Did authors discuss the limitations of their study?

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)		
Allocation concealment (selection bias)		
Blinding of participants and personnel (performance bias)		
Blinding of outcome assessment (detection bias)		
Incomplete outcome data (attrition bias)		
Selective reporting (reporting bias)		

Outcome data

3.3 Summary of new evidence

4 Weight of evidence

Synthesis of evidence from different studies
Effect of new evidence on SR being updated where an existing review was the starting point
Overlay / update meta-analysis if possible / necessary
Apply GRADE here, and discuss:

- If the available evidence is not sufficient to substantiate the food-health relationship, what data is missing that might alter that conclusion?

4.1 Assessment of body of evidence

Consistency of relationship

May be able to be combined with causality (eg meta-analyses of multiple RCTs)

Causality

Plausibility

4.2 Applicability to Australia and New Zealand

Intake required for effect

amount of food / property of food required, and is this likely to be achieved in Aust and NZ populations?

Target population

Are the studies relevant / able to be extrapolated to the target population, or does the evidence suggest a target population (eg, adults over 65, women, children etc)

Extrapolation from supplements

If evidence base consists of supplement studies can these be extrapolated to other matrices, eg diet

5 Conclusion

Is FHR substantiated?

6 References

FSANZ Referencing Styles to be used (available on request)

Appendices

Included GRADE summary of findings table (for new review)
Include original systematic review if updating