



**AAG**

Australian  
Association of  
Gerontology



# OVERVIEW OF AAG RESEARCH EVIDENCE REVIEW APPROACHES

7 OCTOBER 2020

# BACKGROUND

## ACKNOWLEDGEMENTS

Written by AAG Policy and Research Manager, Dr Sandra South, with input from:

- ▶ Sue Gherdovich, AAG Senior Policy and Research Officer
- ▶ Tonye Segbedzi, AAG Senior Policy and Research Officer
- ▶ Tom Voigt, AAG Senior Policy and Research Officer
- ▶ Chloe Merritt-Shadbolt, AAG Policy Communications Officer
- ▶ James Beckford Saunders, AAG CEO

## ACKNOWLEDGEMENT OF COUNTRY

Australian Association of Gerontology acknowledges Traditional Owners of Country throughout Australia and recognises the continuing connection to lands, waters and communities. We pay our respect to Aboriginal and Torres Strait Islander cultures, to Elders past, present and emerging, and to all Aboriginal and Torres Strait Islander peoples including members of the Stolen Generations. For further information see AAG's Aboriginal and Torres Strait Islander Ageing Advisory Group (ATSIAAG).



## PREFERRED CITATION

Australian Association of Gerontology (AAG), 2020. Overview of AAG Research Evidence Review Approaches. AAG, Melbourne.

The Australian Association of Gerontology (AAG)'s purpose is to improve the experience of ageing through connecting research, policy and practice. The policy documents produced by AAG contribute to this purpose while ensuring that the AAG Principles are upheld:

- ▶ **Evidence-informed** - AAG's views are based on gerontological research, practice knowledge and the experiences of older people
- ▶ **Multi-disciplinary and holistic** - AAG puts older people's lives and environments at the centre of our work by bringing together those with interests in all aspects of ageing research, education, policy and practice
- ▶ **Independent** - while acknowledging the informed contributions of different groups, AAG is not beholden to the interests of any profession, institution, service sector or interest group
- ▶ **Collaborative** - AAG brings together its members and key stakeholders to progress improvements in the experience of ageing
- ▶ **Fair** - AAG is committed to promoting equity of access and outcomes for all older people in Australia and internationally

AAG achieves this collaborative policy development by considering the policy context, professional expertise, practice knowledge (including organisational knowledge), and research evidence where available (see Figure 1). Consideration of all of these components provides insight into the experiences of older people. AAG may also engage directly with older people, especially when older people's experiences, needs and preferences are not captured in through previous work (e.g. policy papers produced by consumer organisations, research informed by older people's experiences).

This document focusses solely on how we incorporate the research evidence component into AAG policy work.



**Figure 1.** Venn diagram depicting AAG's approach to policy development. See text for more details.

# OVERVIEW OF AAG RESEARCH EVIDENCE REVIEW APPROACHES

AAG undertakes a variety of research evidence review approaches to inform its policy work. This summary of the different approaches is based on other published definitions of different types of literature reviews (1–6). Table 1 provides an overview of key differences and similarities between the methods used for different types of AAG research reviews.

To avoid duplication of existing work and to achieve policy outcomes within resource constraints, AAG always begins by considering whether other systematic and non-systematic reviews have been published on a topic. Depending on the quality and scope of the reviews conducted by others, AAG then determines whether or not to proceed with a further review of our own.

## LITERATURE REVIEWS (NON-SYSTEMATIC)

**Aim:** AAG non-systematic Literature Reviews aim to provide an overview of research on a given topic. They are most often used by AAG to inform background papers or discussion papers that will provide a starting point for further AAG policy work on the topic.

**Research evidence included:** Depending on the aim and scope of the Literature Review, AAG often attempts to consider a range of research evidence from peer-reviewed opinion pieces, to frameworks, policies and guidelines, to evaluations of service models.

**Synthesis of information:** They can involve various types of methodological approaches to identifying and synthesising research, but most often only involve a narrative synthesis of research findings. Lists summarising key information from publications on a given topic (e.g. country, service models/interventions considered, publication type/study design) may be created as part of the Literature Review process to provide readers with an overview of the evidence considered.

**Methodology:** They often do not follow the same transparent and pre-determined set information collection, extraction and assessment methods as the other types of AAG research evidence review approaches.

## SCOPING REVIEWS

**Aim:** AAG Scoping Reviews aim to map the range of available research on a given topic and involve systematic and documented searches of the literature. In conducting Scoping Reviews, AAG aims to identify areas where there is sufficient research to consider a more in-depth research evidence assessment to inform policy are identified (e.g. a Rapid Evidence Assessment or Systematic Literature Review) and/or gaps where more research is needed.

AAG Scoping Reviews do not attempt to summarise or assess the findings or recommendations arising from the publications included.

**Research evidence included:** AAG Scoping Reviews often attempt to include a range of research evidence from peer-reviewed opinion pieces, to frameworks, policies and guidelines, to evaluations of service models. Wherever in line with the aim of the Scoping Review, an attempt to identify evidence in both peer-reviewed academic journals and grey literature published outside the usual academic and commercial channels is made.

**Synthesis of information:** AAG Scoping Reviews include publication of a detailed table with information on each publication included (e.g. country, topics considered, publication type/study design, population included). Tables summarising this information are created to support a narrative summary mapping the literature. AAG Scoping Reviews are reported in line with the Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) Checklist (7).

**Methodology:** Data extraction is often limited and may be based on titles and abstracts only wherever possible to enable a large number of publications to be included. AAG Scoping Reviews do not include an assessment of the quality of evidence for each included study.

## RAPID EVIDENCE ASSESSMENTS

**Aim:** AAG Rapid Evidence Assessments aim to systematically review the breadth and quality of research evidence on a given topic based on set methodology with limited resources (e.g. staff or time constraints).

**Research evidence included:** The types of research evidence included in Rapid Evidence Assessments depends on the aim and scope of the review. For example, some AAG Rapid Evidence Assessments may aim to gather professional expertise and/or gain insight into the experiences, needs and preferences of older people and therefore include a range of evidence types from peer-reviewed opinion pieces, to frameworks, policies and guidelines, to evaluations of service models. On the other hand, some AAG Rapid Evidence Assessments may aim to explore the effectiveness of a given service delivery model or intervention and therefore only include evaluations.

**Synthesis of information:** The key findings from the included studies are summarised in narrative form, which may include conceptual and thematic analyses. Tables including information extracted for each publication is provided. Summary tables may also be created to summarise key information for the body of evidence included. AAG Rapid Evidence Assessments are reported in line with the Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) Checklist (7).

**Methodology:** Often, only one reviewer performs assessment and extraction of information for each publication to minimise resource requirements. The full text of all included publications is assessed and there is a focus on collating evidence by study rather than by publication, as one study may be reported in multiple publications or a single publication may report on more than one study.

The quality of the evidence is assessed but may only include a subset of the quality criteria included in an AAG Systematic Literature Review depending on the aim of the review and types of included studies (see Table 2 and "Systematic Literature Reviews" section). The study design/research approach used and/or quality of the evidence may be used to include or exclude studies from the review or synthesis of results, depending on the aim and scope of the review.

For example, in an AAG Rapid Evidence Assessment that includes a broad range of study types and research approaches, a full assessment of all potential contributors to risk of bias for evaluations is not relevant for publications such as peer-reviewed opinion pieces, frameworks, policies and guidelines (see Table 2).

AAG considers that even research evidence given a very low base quality rating due to the inherent bias in the study design may provide valuable professional expertise and insights into the experiences, needs and preferences of older people (see Table 2).

In line with the GRADE approach to going from evidence to recommendations, AAG also considers the balance of potential benefits and risks, resource considerations and the preferences and values of older people and their significant others (10-24).

## SYSTEMATIC LITERATURE REVIEWS

**Aim:** AAG Systematic Literature Reviews aim to provide a comprehensive assessment of the quality of evidence on a given topic and in-depth syntheses of the results of studies for selected outcomes. They are most suitable when attempting to identify the strength of evidence for the effectiveness of a particular service delivery model or intervention.

**Research evidence included:** As AAG Systematic Literature Reviews are most suited to identifying the effectiveness of particular service delivery models or interventions, they most often only include evaluations. An attempt to contact authors of included studies to confirm or request further details of studies, publications of studies in grey literature (i.e. literature outside the usual academic and commercial channels) and any unpublished data is made.

**Synthesis of information:** Both a narrative synthesis of results and statistical meta-analyses (wherever feasible/appropriate depending on the quality of the evidence identified) are used. There is a focus on collating evidence by study rather than by publication, as one study may be reported in multiple publications or a single publication may report on more than one study. AAG Systematic Literature Reviews are reported in line with The Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) Statement (8)

**Methodology:** AAG Systematic Literature Reviews are resource-intensive, requiring extensive data extraction from the full text of publications by at least two independent reviewers. This means they are rarely conducted by AAG due to resource constraints (including funding, staffing and timeframe).

AAG Systematic Literature Reviews are conducted according to the Cochrane Handbook for Systematic Reviews of Interventions (6), with adaptations where appropriate to include the desired breadth of evaluation methodologies. AAG Systematic Literature Reviews include a comprehensive assessment of the quality of the research evidence against pre-determined criteria. This includes assessment of the evidence quality based on the Cochrane Collaboration's risk of bias tool (Table 8.5c, pp.198-202 (6)), the EPPI-Centre Keywording Strategy for Classifying Education Research (9), the GRADE approach (10-24), and the Centre for Evidence-Based Management (CEBMa) Guideline for Rapid Evidence Assessments in Management and Organisations (5). Table 2 provides an overview of the evidence base quality rating as well as other relevant quality criteria used in assessing the quality of the evidence.

The research methodology used and/or quality of the evidence may be used to include or exclude studies from the review or synthesis of results.

In line with the GRADE approach to going from evidence to recommendations, AAG also considers the balance of potential benefits and risks, resource considerations and the preferences and values of older people and their significant others (10-24).

**Table 1.** Overview of key differences and similarities between the methods used for different types of AAG research reviews.

Methodology	Literature Review (non-systematic)	Scoping Review	Rapid Evidence Assessment	Systematic Literature Review
Aim is to provide an overview of research on a given topic	✓	✓	✓	✓
The search strategy is systematic and reproducible with documented search terms and databases	✓/ X	✓	✓	✓
An attempt to search all relevant databases and other publication sources is made	X	✓	✓	✓
An attempt to locate grey literature (i.e. literature outside the usual academic and commercial channels) is made	✓/ X	✓/ X	✓/ X	✓
An attempt to locate unpublished research is made	X	✓/ X	✓/ X	✓
Publications/studies are selected based on explicit inclusion and exclusion criteria	X	✓		✓
The publication/study selection and data extraction are conducted by two reviewers, independently of each other	X	✓/ X	✓/ X	✓
Data extraction is based on reading the full text of each included publication	✓	✓/ X may be based on title/abstract only		✓
A flow chart documents study selection process based on PRISMA Statement flow-chart (8), including showing how many publications were excluded and why	X	✓	✓ may be published in a preceding Scoping Review	✓
A quality assessment of each study design is undertaken including an assessment of risk of bias	X	X	✓ may include limited criteria (see Table 2)	✓ comprehensive (see Table 2)
The data extracted from each publication/study is defined according to a set methodology, reported against and published in tables	X	✓	✓	✓
There is a narrative synthesis of the key review findings	✓	✓	✓	✓
Statistical meta-analyses are used to synthesise quantitative data across multiple studies	X	X	X	✓ comprehensive



**Table 2.** Overview of classification system used by AAG to assess the quality of evidence. This table has been developed by AAG based on the EPPI-Centre Keywording Strategy for Classifying Education Research (9), the GRADE approach (10)-(24) and the Centre for Evidence-Based Management (CEBMA) Guideline for Rapid Evidence Assessments in Management and Organisations (5).

Study design/research approach	Evidence quality base grading*	Relevant evidence quality criteria**
<b>Prospective evaluations of researcher-manipulated policy or practice</b>		
Literature Review with systematic approaches to locating, analysing and reporting evidence	High	Based on the PRISMA Statement criteria (8) as well as the quality of the research evidence included in the review
Randomised controlled trials	High	<ul style="list-style-type: none"> <li>▶ Sequence generation</li> <li>▶ Allocation concealment</li> <li>▶ Blinding of participants, personnel and outcome assessors</li> <li>▶ Incomplete outcome data</li> <li>▶ Selective outcome reporting</li> <li>▶ Other limitations</li> </ul>
Trials with quasi-random allocation by researcher to policy or practice experience/intervention or control group	Medium-high	
<b>Prospective evaluations of naturally occurring policy or practice</b>		
Before-after/interrupted time series/cohort studies comparing policy or practice experience/intervention to control group	Medium-high	<ul style="list-style-type: none"> <li>▶ Blinding of participants, personnel and outcome assessors</li> <li>▶ Incomplete outcome data</li> <li>▶ Selective outcome reporting</li> <li>▶ Other limitations</li> </ul>
Before-after/interrupted time series/cohort studies with no control group	Medium	
<b>Retrospective evaluations of naturally occurring policy or practice</b>		
Case-controlled studies with no repeated measurements	Medium	<ul style="list-style-type: none"> <li>▶ Blinding of participants, personnel and outcome assessors</li> <li>▶ Incomplete outcome data</li> <li>▶ Selective outcome reporting</li> <li>▶ Other limitations</li> </ul>
<b>Other research approaches</b>		
Exploration of relationships- studies examining statistical associations between different variables in order to develop hypotheses	Low	<ul style="list-style-type: none"> <li>▶ Incomplete outcome data</li> <li>▶ Selective outcome reporting</li> <li>▶ Other limitations</li> </ul>
Description- studies which aim to describe a state of affairs or phenomenon and/or document characteristics (e.g. a single point in time survey)	Low	
Frameworks, policies or guidelines- documents such as handbooks, procedures and/or policy documents	Very low	<p>N/A - type of study design/research approach means that there is an inherently high risk of bias in any evidence/opinion presented. However, these study designs may still provide valuable professional expertise and insights into the experiences, needs and preferences of older people.</p>
Opinion pieces- publications that reflect the opinion of an author or organisation that may reference other publications but do not provide a comprehensive or systematic review of evidence.	Very low	
Literature review with non-systematic approaches to locating, analysing and reporting evidence	Very low	

# REFERENCES

## Table 2 endnotes

- \* Base evidence quality grading before other quality considerations regarding risk of bias and other limitations (including imprecision, inconsistency, indirectness, and publication bias) are taken into account. Note: risk of bias assessment may result in an upgrading or downgrading of the base quality rating.
- \*\* Quality criteria regarding risk of bias and other limitations (including imprecision, inconsistency, indirectness, and publication bias) are taken into account based on Cochrane Collaboration's 'risk of bias' tool (6) and GRADE guidelines (10-24), unless a review where The PRISMA Statement criteria (8) are used as a basis for quality appraisal.

## Publications referenced

1. Grant MJ, Booth A. A typology of reviews: analysis of 14 review types and associated methodologies. *Health Information and Libraries Journal*. 2009;26(2):91–108.
2. The Joanna Briggs Institute. Methodology for JBI Scoping Reviews [Internet]. 2015 [cited 2017 Aug 24]. (Joanna Briggs Institute Reviewers' Manual 2015). Available from: [https://joannabriggs.org/assets/docs/sumari/Reviewers-Manual\\_Methodology-for-JBI-Scoping-Reviews\\_2015\\_v2.pdf](https://joannabriggs.org/assets/docs/sumari/Reviewers-Manual_Methodology-for-JBI-Scoping-Reviews_2015_v2.pdf)
3. Anderson S, Allen P, Peckham S, Goodwin N. Asking the right questions: scoping studies in the commissioning of research on the organisation and delivery of health services. *Health Research Policy and Systems*. 2008;6(7):12.
4. Arksey H, O'Malley L. Scoping studies: towards a methodological framework. *International Journal of Social Research Methodology*. 2005;8(1):19–32.
5. Barends E, Rousseau DM, Briner RB. CEBMa Guideline for Rapid Evidence Assessments in Management and Organizations [Internet]. Amsterdam: Center for Evidence Based Management; 2017 [cited 2020 Sep 15]. Report No.: Version 1.0. Available from: <https://cebma.org/wp-content/uploads/CEBMa-REA-Guideline.pdf>
6. Higgins JPT, Green S, editors. *Cochrane Handbook for Systematic Reviews of Interventions*. Chichester: Wiley/Blackwell; 2008. (Cochrane Book Series).
7. 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. *Annals of Internal Medicine*. 2018 Sep 4;169(7):467–73.
8. Moher D, Liberati A, Tetzlaff J, Altman DG. Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. *PLoS Med*. 2009;6(7):e1000097.
9. Evidence for Policy and Practice Information and Co-ordinating (EPPI) Centre. Keywording Strategy for Classifying Education Research [Internet]. University of London; 2003 [cited 2020 Aug 7]. Report No.: Version 0.9.7. Available from: [https://eppi.ioe.ac.uk/EPPIWebContent/downloads/EPPI\\_Keyword\\_strategy\\_0.9.7.pdf](https://eppi.ioe.ac.uk/EPPIWebContent/downloads/EPPI_Keyword_strategy_0.9.7.pdf)
10. Guyatt G, Oxman AD, Akl EA, Kunz R, Vist G, Brozek J, et al. GRADE guidelines: 1. Introduction—GRADE evidence profiles and summary of findings tables. *Journal of Clinical Epidemiology*. 2011 Apr 1;64(4):383–94.
11. Guyatt GH, Oxman AD, Kunz R, Atkins D, Brozek J, Vist G, et al. GRADE guidelines: 2. Framing the question and deciding on important outcomes. *Journal of Clinical Epidemiology*. 2011 Apr 1;64(4):395–400.

12. Balshem H, Helfand M, Schünemann HJ, Oxman AD, Kunz R, Brozek J, et al. GRADE guidelines: 3. Rating the quality of evidence. *Journal of Clinical Epidemiology*. 2011 Apr 1;64(4):401–6.
13. Guyatt GH, Oxman AD, Vist G, Kunz R, Brozek J, Alonso-Coello P, et al. GRADE guidelines: 4. Rating the quality of evidence—study limitations (risk of bias). *Journal of Clinical Epidemiology*. 2011 Apr 1;64(4):407–15.
14. Guyatt GH, Oxman AD, Montori V, Vist G, Kunz R, Brozek J, et al. GRADE guidelines: 5. Rating the quality of evidence—publication bias. *Journal of Clinical Epidemiology*. 2011 Dec 1;64(12):1277–82.
15. Guyatt GH, Oxman AD, Kunz R, Brozek J, Alonso-Coello P, Rind D, et al. GRADE guidelines 6. Rating the quality of evidence—imprecision. *Journal of Clinical Epidemiology*. 2011 Dec 1;64(12):1283–93.
16. Guyatt GH, Oxman AD, Kunz R, Woodcock J, Brozek J, Helfand M, et al. GRADE guidelines: 7. Rating the quality of evidence—inconsistency. *Journal of Clinical Epidemiology*. 2011 Dec 1;64(12):1294–302.
17. Guyatt GH, Oxman AD, Kunz R, Woodcock J, Brozek J, Helfand M, et al. GRADE guidelines: 8. Rating the quality of evidence—indirectness. *Journal of Clinical Epidemiology*. 2011 Dec 1;64(12):1303–10.
18. Guyatt GH, Oxman AD, Sultan S, Glasziou P, Akl EA, Alonso-Coello P, et al. GRADE guidelines: 9. Rating up the quality of evidence. *Journal of Clinical Epidemiology*. 2011 Dec 1;64(12):1311–6.
19. Brunetti M, Shemilt I, Pregno S, Vale L, Oxman AD, Lord J, et al. GRADE guidelines: 10. Considering resource use and rating the quality of economic evidence. *Journal of Clinical Epidemiology*. 2013 Feb 1;66(2):140–50.
20. Guyatt G, Oxman AD, Sultan S, Brozek J, Glasziou P, Alonso-Coello P, et al. GRADE guidelines: 11. Making an overall rating of confidence in effect estimates for a single outcome and for all outcomes. *Journal of Clinical Epidemiology*. 2013 Feb 1;66(2):151–7.
21. Guyatt GH, Oxman AD, Santesso N, Helfand M, Vist G, Kunz R, et al. GRADE guidelines: 12. Preparing Summary of Findings tables—binary outcomes. *Journal of Clinical Epidemiology*. 2013 Feb 1;66(2):158–72.
22. Guyatt GH, Thorlund K, Oxman AD, Walter SD, Patrick D, Furukawa TA, et al. GRADE guidelines: 13. Preparing Summary of Findings tables and evidence profiles—continuous outcomes. *Journal of Clinical Epidemiology*. 2013 Feb 1;66(2):173–83.
23. Andrews J, Guyatt G, Oxman AD, Alderson P, Dahm P, Falck-Ytter Y, et al. GRADE guidelines: 14. Going from evidence to recommendations: the significance and presentation of recommendations. *Journal of Clinical Epidemiology*. 2013 Jul 1;66(7):719–25.
24. Andrews JC, Schünemann HJ, Oxman AD, Pottie K, Meerpohl JJ, Coello PA, et al. GRADE guidelines: 15. Going from evidence to recommendation—determinants of a recommendation’s direction and strength. *Journal of Clinical Epidemiology*. 2013 Jul 1;66(7):726–35.



To improve the experience  
of ageing through  
**CONNECTING**  
**RESEARCH, POLICY**  
and **PRACTICE**

**Australian Association of Gerontology**

Suite 8, 322 St Kilda Road  
St Kilda VIC 3182  
Australia

Telephone: **+61 3 8506 0525**

Email: **enquiries@aag.asn.au**

Web: **www.aag.asn.au**



/gerontologyau



/gerontologyau



**AAG**  
Australian  
Association of  
Gerontology