

Supplementary Material 1 – AMSTAR2 – Narrative and Table

The methodological quality of the reviews reporting either randomised or non-randomised studies of interventions was assessed using AMSTAR2. The sixteen questions included are discussed below:

1. Did the research questions include the components of PICO? Nine of the 15 reviews were not judged to have met this question, largely due to incomplete reporting of comparator interventions (as these were not applicable for a number of reviews) and a priori outcomes.
2. Did the report contain a statement that review methods were ‘a priori’ and deviations explained? There was limited evidence of protocols being registered (3/15 reviews) and risk of bias plans were not described in 4/15 reviews. There was no evidence of deviations from protocol (either reported or not reported).
3. Study design selection decisions? Due to the heterogeneous study designs included in the reviews there was limited reporting of study design decisions, apart from in the case of the four reviews which included some form of either attempted or successful meta-analysis.
4. Literature search strategy? All of the reviews were either partial yes or no – this was due to the lack of searching of trial registries (which is an appropriate methodological decision in this topic area) and the limited evidence of grey literature searching.
5. Did the review authors perform study selection in duplicate? Nine of the 18 reviews demonstrated that they had used this approach to study selection, although this was inconsistently reported.
6. Duplicate data extraction? There was evidence of duplicate data extraction, particularly in the reviews that contained meta-analysis or numerical data synthesis. However, there was limited evidence of agreement between reviewers and how consensus was reached.
7. Evidence of reasons for excluded studies – reporting of excluded studies was limited – this is however unsurprising in a research area which is not clearly bounded and where there is limited consensus around the description of populations and interventions.
8. Description of included studies - the majority of reviews were assessed as either partial yes or no. The incomplete descriptions within the reviews however are as likely to reflect the reporting in the primary studies as the conduct and reporting of the reviews.
9. Use of satisfactory technique for risk of bias assessment – three of the reviews did not undertake risk of bias/quality assessment/critical appraisal and therefore were assessed as ‘no’. A diverse selection of tools were used amongst the remaining reviews. These were chosen according to the study designs that were included in the reviews.
10. Reporting of source of funding – these were not reported and there was no evidence of authors looking for this information. This may be a reflection of the types of studies that are included in the reviews which are less likely to be at risk of bias from interference by funders.
- 11 and 12. Where meta-analysis was undertaken, this was generally not reported according to the standards required by AMSTAR2
- 13 and 14. Inclusion of studies at high risk of bias and discussion of heterogeneity – reviews tended to report that all studies were included – there was evidence from one review of high ROB studies being excluded and the use of meta-analysis in some studies determined the inclusion of RCTs only. Heterogeneity was not widely reported.

15 Reporting of publication bias – only three reviews included meta-analysis and of these three, only one (Conroy 2011) assessed the impact of publication bias on study findings.

16. Funding and conflicts of interest – these were inconsistently reported across the studies – this may have reflected journal submission requirements in addition to review methods and processes.

| | | Conroy (2011) | Fan (2015) | Fealy (2009) | Graf (2011) | Hastings (2005) | Hughes (2019) | Jay (2017) | Karam (2015) | Lowthian (2015) | Malik (2018) | McCuske (2006) | Parke (2011) | Pearce (2011) | Schnitker (2013) | Sinha (2011) |
|--|-------------------------------------|---------------|------------|--------------|-------------|-----------------|---------------|------------|--------------|-----------------|--------------|----------------|--------------|---------------|------------------|--------------|
| 1. Did the research questions and inclusion criteria for the review include the components of PICO? For Yes, all should be ticked. | Population | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| | Intervention | Yes | Yes | Yes | Yes | No | Yes | Yes | Yes | Yes | Yes | Yes | No | Yes | Yes | Yes |
| | Comparator | Yes | Yes | No | Yes | No | Yes | No | Yes | No | No | Yes | No | No | No | No |
| | Outcome | Yes | Yes | No | Yes | No | Yes | Yes | Yes | Yes | No | Yes | No | Yes | Yes | Yes |
| | Yes/No | Yes | Yes | No | Yes | No | Yes | No | Yes | No | No | Yes | No | No | No | No |
| 2. Did the report of the review contain an explicit statement that the review methods were established prior to the conduct of the review and did the report justify any significant deviations from the protocol? For partial yes, criteria 1-4, for yes, criteria 1-8. | Review Question | Yes | Yes | No | No | Yes | Yes | Yes | No | Yes | No | Yes | Yes | No | Yes | Yes |
| | Search Strategy | Yes | Yes | No | No | Yes | Yes | Yes | No | Yes | No | Yes | Yes | No | Yes | Yes |
| | Inclusion/exclusion criteria | Yes | Yes | No | No | Yes | Yes | Yes | No | Yes | No | Yes | Yes | No | Yes | Yes |
| | ROB assessment | Yes | Yes | Yes | No | Yes | Yes | Yes | No | Yes | Yes | No | Yes | Yes | No | Yes |
| | Protocol registered | No | No | No | No | No | Yes | Yes | No | Yes | No | No | No | No | No | No |
| | Meta-analysis plan (if appropriate) | Yes | n/a | No | No | n/a | Yes | n/a | No | Yes | No | N/A | N/a | No | N/A | N/A |
| | Causes of heterogeneity plan | Yes | n/a | No | No | n/a | Yes | n/a | No | Yes | No | N/A | n/a | No | N/A | N/A |

| | | Conroy (2011) | Fan (2015) | Fealy (2009) | Graf (2011) | Hastings (2005) | Hughes (2019) | Jay (2017) | Karam (2015) | Lowthian (2015) | Malik (2018) | McCuske (2006) | Parke (2011) | Pearce (2011) | Schnitker (2013) | Sinha (2011) |
|--|---|--------------------|--------------------|--------------|-------------|--------------------|---------------|--------------------|--------------|-----------------|--------------|----------------|--------------------|---------------|------------------|--------------|
| | Justification for protocol deviations | No | n/a | No | No | n/a | No | Yes | No | N/A | No | N/A | No | No | No | No |
| | Yes/Partial Yes/No | Partial Yes | Partial yes | No | No | Partial yes | Yes | Partial yes | No | Yes | No | No | Partial yes | No | No | No |
| 3. Did the review authors explain their selection of the study designs for inclusion in the review? For yes, review should satisfy ONE of the following. | Explanation for including only RCTs | Yes | N/A | N/A | No | N/A | N/A | N/A | N/A | N/A | N/A | N/A | No | N/A | N/A | |
| | Explanation for including only NRSI | N/A | Yes | N/A | N/A | N/A | N/A | Yes | N/A | N/A | N/A | N/A | No | N/A | N/A | Yes |
| | Explanation for including both RCTs and NRSI | Not applicable | Not applicable | No | | ?? | Yes | n/a | No | Yes | No | Yes | No | No | N/A | |
| | Yes/No | Yes | Yes | No | No | ?? | Yes | Yes | No | Yes | No | Yes | No | No | No | Yes |
| 4. Did the review authors use a comprehensive literature search strategy? For partial | Searched at least 2 databases (relevant to research question) | Yes | Yes | Yes | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |

| | | Conroy (2011) | Fan (2015) | Fealy (2009) | Graf (2011) | Hastings (2005) | Hughes (2019) | Jay (2017) | Karam (2015) | Lowthian (2015) | Malik (2018) | McCuske (2006) | Parke (2011) | Pearce (2011) | Schnitker (2013) | Sinha (2011) |
|---|---|---------------|------------|--------------|-------------|-----------------|---------------|------------|--------------|-----------------|--------------|----------------|--------------|---------------|------------------|--------------|
| yes, criteria 1-3, for yes, criteria 1-8. | Provided key word and/or search strategy | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| | Justified publication restrictions (e.g. language) | Yes | Yes | No | N/A | Yes | Yes | Yes | N/A | N/A | Yes | Yes | Yes | No | No | No |
| | Searched the reference lists / bibliographies of included studies | No | Yes | Yes | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| | Searched trial/study registries | No | No | Yes | No | No | Yes | Yes | No | Yes | Yes | No | Yes | Yes | No | No |
| | Included/consulted content experts in the field | No | No | No | No | Yes | No | No | Yes | Yes | No | Yes | Yes | No | No | No |
| | Where relevant, searched for grey literature | No | No | No | No | No | No | Yes | N/A | No | No | No | No | Yes | Yes | No |
| | Conducted search within 24 months of | Yes | Yes | Yes | Yes | Yes | Not reported | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Not reported | Not reported |

| | | Conroy (2011) | Fan (2015) | Fealy (2009) | Graf (2011) | Hastings (2005) | Hughes (2019) | Jay (2017) | Karam (2015) | Lowthian (2015) | Malik (2018) | McCuske (2006) | Parke (2011) | Pearce (2011) | Schnitker (2013) | Sinha (2011) |
|---|---|--------------------|--------------------|--------------|-------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|------------------|--------------|
| | completion of the review | | | | | | | | | | | | | | | |
| | Yes/Partial Yes/No | Partial Yes | Partial yes | No | No | Partial yes | Partial yes | Partial yes | Partial yes | Partial yes | Partial yes | Partial yes | Partial yes | No | No | No |
| 5. Did the review authors perform study selection in duplicate? For yes, ONE of the following | At least two reviewers independently agreed on selection of eligible studies and achieved consensus on which studies to include | No | Not known | Yes | No | Yes | Yes | Yes | Yes | Yes | Yes | No | Yes | Yes | No | No |
| | Two reviewers selected a sample of eligible studies and achieved good agreement (at least 80 percent), with the remainder selected by one reviewer. | No | Not known | | | | Not reporter | No | | | No | No | | | No | No |

| | | Conroy (2011) | Fan (2015) | Fealy (2009) | Graf (2011) | Hastings (2005) | Hughes (2019) | Jay (2017) | Karam (2015) | Lowthian (2015) | Malik (2018) | McCuske (2006) | Parke (2011) | Pearce (2011) | Schnitker (2013) | Sinha (2011) |
|---|---|---------------|------------------|--------------|-------------|------------------|---------------|------------|--------------|-----------------|--------------|----------------|--------------|---------------|------------------|--------------|
| | Yes/No | No | Not known | Yes | No | Yes | Yes | Yes | Yes | Yes | Yes | No | Yes | Yes | No | No |
| 6. Did the review authors perform data extraction in duplicate? For yes, ONE of the following | At least two reviewers achieved consensus on which data to extract from included studies | No | Yes | Yes | No | | Yes | Yes | Yes | Yes | No | Yes | Yes | Yes | No | No |
| | Two reviewers extracted data from a sample of eligible studies and achieved good agreement (at least 80 percent), with the remainder extracted by one reviewer. | No | | | | | | No | | | No | No | | | No | |
| | Yes/No | No | Yes | Yes | No | Not known | Yes | Yes | Yes | Yes | No | Yes | Yes | Yes | No | No |

| | | Conroy (2011) | Fan (2015) | Fealy (2009) | Graf (2011) | Hastings (2005) | Hughes (2019) | Jay (2017) | Karam (2015) | Lowthian (2015) | Malik (2018) | McCuske (2006) | Parke (2011) | Pearce (2011) | Schnitker (2013) | Sinha (2011) |
|---|---|---------------|---------------------|--------------|-------------|-----------------|---------------|------------|--------------|-----------------|--------------|----------------|--------------|---------------|------------------|--------------|
| 7. Did the review authors provide a list of excluded studies and justify the exclusions? For partial yes, criteria 1, for yes, criteria 1 and 2 | Provided a list of all potentially relevant studies that were read in full-text form but excluded from the review | Yes | No | No | No | Yes | No | yes | No | No | No | No | Yes | No | No | No |
| | Justified the exclusion from the review of each potentially relevant study | Yes | Yes | No | No | Yes | No | yes | No | No | No | No | Yes | No | No | No |
| | Yes/Partial Yes/No | Yes | Part ial yes | No | No | Yes | No | yes | No | No | No | No | Yes | No | No | No |
| 8. Did the review authors describe the included studies in adequate detail? For partial yes, criteria 1-5, for yes, criteria 1-10. | Described populations | Yes | Yes | Yes | No | Yes | Yes | Yes | No | Yes | Yes | Yes | Yes | Yes | No | Yes |
| | Described interventions | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| | Described comparators | Yes | Yes | No | Yes | Yes | Yes | No | Yes | No | No | Yes | Yes | Yes | No | No |
| | Described outcomes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |

| | Conroy (2011) | Fan (2015) | Fealy (2009) | Graf (2011) | Hastings (2005) | Hughes (2019) | Jay (2017) | Karam (2015) | Lowthian (2015) | Malik (2018) | McCuske (2006) | Parke (2011) | Pearce (2011) | Schnitker (2013) | Sinha (2011) |
|---|---------------|------------|--------------|-------------|--------------------|---------------|------------|--------------|-----------------|--------------|----------------|--------------------|---------------|------------------|--------------|
| Described research designs | Yes | Yes | Yes | Yes | Yes | Yes | Yes | No | Yes | Yes | Yes | yes | Yes | No | Yes |
| Described population in detail | Yes | ?? | No | No | No | Yes | yes | No | No | No | Yes | Yes | No | No | Yes |
| Described intervention in detail (including doses where relevant) | Yes | ?? | No | Yes | No | Yes | Yes | Yes | No | Yes | Yes | Yes | Yes | No | Yes |
| Described comparator in detail (including doses where relevant) | Yes | ?? | No | No | No | Yes | No | No | No | No | Yes | Yes | Yes | No | Yes |
| Described study's setting | Yes | ?? | Yes | No | Yes | Yes | Yes | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Timeframe for follow up | Yes | ?? | Yes | Yes | Sometimes | Yes | No | Yes | Yes | No | Yes | No | Yes | No | Yes |
| Yes/Partial Yes/No | Yes | ?? | No | No | Partial yes | Yes | No | No | No | No | Yes | Partial yes | Yes | No | Yes |

| | | Conroy (2011) | Fan (2015) | Fealy (2009) | Graf (2011) | Hastings (2005) | Hughes (2019) | Jay (2017) | Karam (2015) | Lowthian (2015) | Malik (2018) | McCuske (2006) | Parke (2011) | Pearce (2011) | Schritker (2013) | Sinha (2011) |
|---|---|---------------|------------|--------------------|-------------|-----------------|---------------|------------|--------------|--|-----------------------------|----------------|--------------|---------------|---------------------------|-------------------------------|
| 9. Did the review authors use a satisfactory technique for assessing the risk of bias (RoB) in individual studies that were included in the review? | Name | Van Tulder | EPHPP | Grimshaw checklist | None | Bespoke tool | Cochrane ROB | RoBANS | None | Cochrane Risk of Bias & Newcastle-Ottawa | Cochrane Risk of Bias & EBL | None | CASP | JBI | NHMRCL Levels of evidence | Cochrane Risk of Bias & MOOSE |
| RCTs, For partial yes, criteria 1 and 2, for yes, criteria 1-4. | Unconcealed allocation | No | N/A | Yes | No | N/A | Yes | n/a | No | Yes | Yes | No | ?? | No | n/a | n/a |
| | lack of blinding of patients and assessors when assessing outcomes (unnecessary for objective outcomes such as all cause mortality) | No | N/A | Yes | No | N/A | Yes | n/a | No | Yes | Yes | No | ?? | No | n/a | n/a |
| | allocation sequence that was not truly random, | No | N/A | Yes | No | N/A | Yes | n/a | No | Yes | Yes | No | ?? | No | n/a | n/a |

| | | Conroy (2011) | Fan (2015) | Fealy (2009) | Graf (2011) | Hastings (2005) | Hughes (2019) | Jay (2017) | Karam (2015) | Lowthian (2015) | Malik (2018) | McCuske (2006) | Parke (2011) | Pearce (2011) | Schnitker (2013) | Sinha (2011) |
|--|--|----------------|------------------------------|--------------------|-------------|-----------------|---------------|------------|--------------|-----------------|--------------|----------------|--------------|---------------|------------------|--------------|
| | selection of the reported result from among multiple measurements or analyses of a specified outcome | No | N/A | No | No | N/A | Yes | n/a | No | Yes | Yes | No | ?? | No | n/a | n/a |
| | Yes/Partial Yes/No/Includes only NRSI | No | No includes only NRSI | Partial yes | No | N/A | Yes | n/a | No | Yes | Yes | No | No | No | No | No |
| NRSI For partial yes, criteria 1 and 2, for yes, criteria 1-4. | from confounding | Not applicable | No | N/A | N/A | ?? | ?? | Yes | N/A | N/A | N/A | N/A | N/A | N/A | n/a | n/a |
| | from selection bias | Not applicable | No | N/A | N/A | ?? | ?? | Yes | N/A | N/A | N/A | N/A | N/A | N/A | n/a | n/a |
| | methods used to ascertain exposures and outcomes | Not applicable | No | N/A | N/A | N/A | | Yes | N/A | N/A | N/A | N/A | N/A | N/A | n/a | n/a |

| | | Conroy (2011) | Fan (2015) | Fealy (2009) | Graf (2011) | Hastings (2005) | Hughes (2019) | Jay (2017) | Karam (2015) | Lowthian (2015) | Malik (2018) | McCuske (2006) | Parke (2011) | Pearce (2011) | Schritker (2013) | Sinha (2011) |
|---|--|----------------|------------|--------------|-------------|-----------------|---------------|--------------------|--------------|-----------------|--------------|----------------|--------------|---------------|------------------|--------------|
| | selection of the reported result from among multiple measurements or analyses of a specified outcome | Not applicable | No | N/A | N/A | N/A | ?? | No | N/A | N/A | N/A | N/A | N/A | N/A | n/a | n/a |
| | Yes/Partial Yes/No/Includes only RCT | No | No | No | No | No | No | Partial yes | No | No | No | No | No | No | No | No |
| 10. Did the review authors report on the sources of funding for the studies included in the review? | Must have reported on the sources of funding for individual studies included in the review. Note: Reporting that the reviewers looked for this information but it was not reported by study authors also qualifies | No | No | No | No | No | No | No | No | No | No | No | No | No | No | No |
| | Yes/No | No | No | No | No | No | No | No | No | No | No | No | No | No | No | No |

| | | Conroy (2011) | Fan (2015) | Fealy (2009) | Graf (2011) | Hastings (2005) | Hughes (2019) | Jay (2017) | Karam (2015) | Lowthian (2015) | Malik (2018) | McCuske (2006) | Parke (2011) | Pearce (2011) | Schmitker (2013) | Sinha (2011) |
|---|---|---------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|---------------|-----------------------------|-----------------------------|-----------------|--------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| 11. If meta-analysis was performed did the review authors use appropriate methods for statistical combination of results? | | | | | | | | | | | | | | | | |
| RCTs, for yes, criteria 1-3 | The authors justified combining the data in a meta-analysis | Yes | N/A | N/A | N/A | n/a | Yes | n/a | N/A | Yes | Yes | N/A | N/A | N/A | N/A | N/A |
| | AND they used an appropriate weighted technique to combine study results and adjusted for heterogeneity if present. | Yes | N/A | N/A | N/A | n/a | | n/a | N/A | Yes | Yes | N/A | N/A | N/A | N/A | N/A |
| | AND investigated the causes of any heterogeneity | Yes | N/A | N/A | N/A | n/a | Yes | n/a | N/A | Yes | No | N/A | N/A | N/A | N/A | N/A |
| | Yes/No/No meta-analysis conducted | Yes | No meta analysis con | No meta analysis con | No meta analysis con | No meta analysis con | Yes | No meta analysis con | No meta analysis con | Yes | No | No meta analysis con | No meta analysis con | No meta analysis con | No meta analysis con | No meta analysis con |

| | | Conroy (2011) | Fan (2015) | Fealy (2009) | Graf (2011) | Hastings (2005) | Hughes (2019) | Jay (2017) | Karam (2015) | Lowthian (2015) | Malik (2018) | McCuske (2006) | Parke (2011) | Pearce (2011) | Schnitker (2013) | Sinha (2011) |
|-----------------------------|---|---------------|------------|--------------|-------------|-----------------|---------------|------------|--------------|-----------------|--------------|----------------|--------------|---------------|------------------|--------------|
| | | | duct ed | duct ed | duct ed | duct ed | | duct ed | duct ed | | | duct ed | duct ed | duct ed | duct ed | duct ed |
| NRSI, for yes, criteria 1-4 | The authors justified combining the data in a meta-analysis | N/A | N/A | N/A | N/A | N/A | Yes | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| | AND they used an appropriate weighted technique to combine study results and adjusted for heterogeneity if present. | N/A | N/A | N/A | N/A | N/A | Yes | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| | AND they statistically combined effect estimates from NRSI that were adjusted for confounding, rather than combining raw data, or justified combining raw | N/A | N/A | N/A | N/A | N/A | Yes | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

| | | Conroy (2011) | Fan (2015) | Fealy (2009) | Graf (2011) | Hastings (2005) | Hughes (2019) | Jay (2017) | Karam (2015) | Lowthian (2015) | Malik (2018) | McCuske (2006) | Parke (2011) | Pearce (2011) | Schmitker (2013) | Sinha (2011) |
|---|---|---------------|------------|--------------|-------------|-----------------|---------------|------------|--------------|-----------------|--------------|----------------|--------------|---------------|------------------|--------------|
| | data when adjusted effect estimates were not available | | | | | | | | | | | | | | | |
| | AND they reported separate summary estimates for RCTs and NRSI separately when both were included in the review | N/A | N/A | N/A | N/A | N/A | Yes | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| | Yes/No/No meta-analysis conducted | No | No | No | No | No | Yes | No | No | No | No | No | No | No | No | No |
| 12. If meta-analysis was performed, did the review authors assess | Included only low risk of bias RCTs | Yes | N/A | N/A | N/A | N/A | No | N/A | N/A | Yes | No | N/A | N/A | N/A | N/A | N/A |

| | | Conroy (2011) | Fan (2015) | Fealy (2009) | Graf (2011) | Hastings (2005) | Hughes (2019) | Jay (2017) | Karam (2015) | Lowthian (2015) | Malik (2018) | McCuske (2006) | Parke (2011) | Pearce (2011) | Schnitker (2013) | Sinha (2011) |
|---|--|---------------|------------------|------------------|------------------|------------------|---------------|------------|--------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| the potential impact of RoB in individual studies on the results of the meta-analysis or other evidence synthesis? For yes, criteria 1 OR 2 | OR, if the pooled estimate was based on RCTs and/or NRSI at variable RoB, the authors performed analyses to investigate possible impact of RoB on summary estimates of effect. | N/A | N/A | N/A | N/A | N/A | No | N/A | N/A | N/A | No | n/a | N/A | N/A | N/A | N/A |
| | | Yes | No meta analysis | No meta analysis | No meta analysis | No meta analysis | No | Yes | No | No meta analysis | No meta analysis | No meta analysis | No meta analysis | No meta analysis | No meta analysis | No meta analysis |
| 13. Did the review authors account for RoB in individual studies when interpreting/discussing the results of the review? For yes, criteria 1 OR 2 | included only low risk of bias RCTs | Yes | No | No | No | No | Yes | N/A | N/A | Yes | No | No | N/A | No | N/A | N/A |
| | OR, if RCTs with moderate or high RoB, or NRSI were included the | N/A | No | No | N/A | No | Yes | Yes | N/A | N/A | No | No | N/A | No | N/A | N/A |

| | | Conroy (2011) | Fan (2015) | Fealy (2009) | Graf (2011) | Hastings (2005) | Hughes (2019) | Jay (2017) | Karam (2015) | Lowthian (2015) | Malik (2018) | McCuske (2006) | Parke (2011) | Pearce (2011) | Schmitker (2013) | Sinha (2011) |
|---|---|---------------|------------|--------------|-------------|-----------------|---------------|------------|--------------|-----------------|--------------|----------------|--------------|---------------|------------------|--------------|
| | review provided a discussion of the likely impact of RoB on the results | | | | | | | | | | | | | | | |
| | Yes/No | Yes | No | No | No | No | Yes | Yes | No | Yes | No | No | No | No | | |
| 14. Did the review authors provide a satisfactory explanation for, and discussion of, any heterogeneity observed in the results of the review? For yes, criteria 1 or 2 | There was no significant heterogeneity in the results | No | No | | | No | Yes | No | | | Yes | No | No | | No | N/A |
| | OR if heterogeneity was present the authors performed an investigation of sources of any heterogeneity in the results and discussed the impact of this on the results of the review | No | No | | | No | | No | Yes | Yes | | No | No | No | | N/A |
| | Yes/No | No | No | No | No | No | Yes | No | Yes | Yes | Yes | No | No | No | No | |

| | | Conroy (2011) | Fan (2015) | Fealy (2009) | Graf (2011) | Hastings (2005) | Hughes (2019) | Jay (2017) | Karam (2015) | Lowthian (2015) | Malik (2018) | McCuske (2006) | Parke (2011) | Pearce (2011) | Schmitker (2013) | Sinha (2011) |
|--|--|---------------|-------------------------|-------------------------|-------------|-------------------------|---------------|-------------------------|-------------------------|-----------------|--------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| | | | | analysis | | | | | | | | | | | | |
| 15. If they performed quantitative synthesis did the review authors carry out an adequate investigation of publication bias (small study bias) and discuss its likely impact on the results of the review? | Performed graphical or statistical tests for publication bias and discussed the likelihood and magnitude of impact of publication bias | Yes | | | No | No | No | No | No | No | No | No | | No | No | No |
| | Yes/No/No meta-analysis conducted | Yes | No meta-analysis | No meta-analysis | No | No meta-analysis | No | No meta-analysis | No meta-analysis | No | No | No meta-analysis | No meta-analysis | No meta-analysis | No meta-analysis | No meta-analysis |
| 16. Did the review authors report any potential sources of conflict of interest, including any funding they received for conducting the review? For yes, criteria 1 OR 2 | The authors reported no competing interests OR | No | Yes | Yes | No | | No | Yes | Yes | Yes | Yes | No | Yes | Yes | Yes | Yes |
| | The authors described their funding sources and how they managed potential | Yes | | Yes | No | | No | No | Yes | Yes | Yes | Yes | | Yes | | |

| | Yes/No | conflicts of interest | |
|-------------|--------|-----------------------|------------------|
| | | | |
| | Yes | | Conroy (2011) |
| | Yes | | Fan (2015) |
| | Yes | | Fealy (2009) |
| | No | | Graf (2011) |
| information | No | | Hastings (2005) |
| | No | | Hughes (2019) |
| | Yes | | Jay (2017) |
| | Yes | | Karam (2015) |
| | Yes | | Lowthian (2015) |
| | Yes | | Malik (2018) |
| | Yes | | McCuske (2006) |
| | Yes | | Parke (2011) |
| | Yes | | Pearce (2011) |
| | Yes | | Schnitker (2013) |
| | Yes | | Sinha (2011) |

Preston L, et al. *Emerg Med J* (2011). doi: 10.1136/emered-2020-209514

Supplementary Material 2 – Medline Search Strategy

- 1 *Emergency Service, Hospital/
- 2 *Emergency Medical Services/
- 3 *Emergency Medicine/
- 4 (emergency adj2 service\$.ti,ab.
- 5 emergency care.ti,ab.
- 6 urgent care.ti,ab.
- 7 emergency department*.ti,ab.
- 8 (accident adj2 emergency).ti,ab.
- 9 casualty.ti,ab.
- 10 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9
- 11 *"Aged, 80 and over"/ or *Health Services for the Aged/
- 12 *Frail Elderly/
- 13 *Aged/ or *Aging/)
- 14 (ageing or elderly or geriatric or frail or aged or old or older).ti.
- 15 11 or 12 or 13 or 14
- 16 10 and 15
- 17 meta analysis.mp,pt. or review.pt. or search:.tw.
- 18 16 and 17
- 19 limit 18 to (english language and yr="2000 -Current")

Supplementary Material 3 – Inclusion and reporting standards criteria

- Publication details - Published 2000 onwards. At least 50% of primary studies published 2000 onwards. Peer reviewed journal articles. Published in English.
- Population - People aged 65 or older and/or people with frailty as defined by a published frailty scale or clinical judgement.
- Interventions - Any care, model of care or management strategy. Interventions focused on patient care or changes to the wider ED, targeted at older people or to a wider ED attending population. Interventions either initiated or completed within the ED. Reviews focusing solely on methods for identification of frail or high risk older people were excluded. Where studies focusing on identification were included as part of a larger review, the review was included but data relating to these identification studies was excluded.
- Outcomes - Any patient, health service or staff outcome.
- Study type - Evidence reviews, systematic reviews and meta-analyses including RCTs, observational studies, case-controlled or other quasi-experimental studies. Qualitative reviews and mixed method reviews.
- Other – comparators could be usual care, no intervention or other interventions. We did not include or exclude studies based on length of follow up.
- Reporting standards
 - Inclusion and exclusion criteria developed a priori and included studies screened against these criteria.
 - Systematic search, described in sufficient detail to identify studies that would have met the inclusion criteria.
 - Quality assessment of individual studies included in the review, using a named tool – to assess risk of bias or reporting standards.
 - List of included studies, linked to findings of the review and/or summary statements produced.

