# ILCOR Task Force Scoping Reviews (TFScR): step by step guide

## Background

The International Liaison Committee on Resuscitation (ILCOR) has created a number of processes to assist in the evaluation of the published science for resuscitation and related first aid. The Task Force Based Scoping Review (TFScR) is a rigorous process which follows a strict methodology and is used to present a broad overview of the evidence pertaining to a topic, irrespective of study quality. Scoping reviews are useful to examine the extent, range and nature of research activity, for example when examining areas that are emerging, to clarify key concepts, to identify gaps or to identify topics for future systematic reviews. These reviews tend to start with a broad question, search widely, iteratively focus in on key issues and outcomes, and produce a narrative summary of the studies identified, but not an estimate of the magnitude of effect. Scoping reviews can result in a publishable manuscript, but they cannot by themselves support the construction of a Consensus on Science Statement and Treatment Recommendation (CoSTR) without an additional systematic review. The methodology for Scoping Reviews is based on the PRISMA Extension for Scoping Reviews (see <http://www.prisma-statement.org/Extensions/ScopingReviews> and *Tricco AC, Lillie E, Zarin W, O'Brien KK, Colquhoun H, Levac D, et al. PRISMA Extension for Scoping Reviews (PRISMA-ScR): Checklist and Explanation. Ann Intern Med. 2018;169:467–*473). The overall process is coordinated by the Scientific Advisory Committee (SAC) of ILCOR but guided by the task force SAC representatives.

The individual task forces have prioritised the topics that they wish to review. These topics have originated or evolved from (i) previously created Population Intervention Comparison Outcome (PICO) questions (eg. from the 2010 and 2015 processes), (ii) topics submitted for consideration by stakeholders (eg. national/international Councils or Guideline writing bodies), or (iii) topics generated by the task force.

### Access to previous worksheets

The 2010 and 2015 digital worksheets can be accessed using the instruction documents “Access to the 2010 Digital Worksheets” and “Access to the 2015 Digital Worksheets” at <https://www.ilcor.org/ilcor-documents/continuous-evidence-evaluation/#Docs>.

### Next steps

Each topic is allocated to a team of international experts to review. The following steps are listed to help these Task Force Scoping Review team members systematically work their way through this process.

## Confirmation of Task Force Scoping Review (TFScR) team

The task force chair with the assistance of the task force SAC representative confirms the membership of the TFScR team. The team is led by the Task Force ScR Team lead who is expected to be a task force member, a member of the SAC, and a number of other content experts. The other content experts can be members of the task force (or other task forces), Domain Leads, other SAC members, and other invited experts outside of the task force. All members will be required to complete an AHA/ILCOR general conflict of interest statement, as well as make specific declaration of conflicts (both financial and intellectual) that relate to the topic being reviewed.

The TF Chairs must check COI disclosures for the team members and resolve any potential conflicts according to the ILCOR COI policy, usually by replacing those members with potential conflicts. More difficult COI questions can be sent to the COI Co-Chairs.

## Complete the SAC TF review PICOST template

The TFScR team leader, under the guidance of the TFScR SAC representative, will be responsible for the completion of the PICOST template for TF reviews (“TFSRScR\_PICOST\_template” on <https://www.ilcor.org/ilcor-documents/continuous-evidence-evaluation/#Docs>), and its submission to SAC for documentation.

The topics to be evaluated need to be converted into the Patient/population, Intervention, Comparison and Outcome (PICO) format. These 4 individual components may be broad and not as specific as a systematic review PICOST.

Outcomes

Anticipated key outcomes should be documented, but Scoping Reviews do not require detailed documentation of outcomes at this stage. The list of outcomes remains open to modification and consideration of additional outcomes that are reported in the literature identified.

### Key studies

Existing key studies or scoping reviews that have been published should be recorded on the PICOST template, as these publications will assist in the development of initial search strategies (if needed) and the updating of the search strategies for the future process.

## Develop/Confirm Search Strategies

The complete ILCOR scoping review process (allowing peer reviewed publication of the TFScR) requires searching of Medline, Embase and Cochrane databases. Searching of the “gray” literature is not essential for a scoping review, but if done the strategy used should be documented. An initial search could be performed using a Medline search alone, but this would not be considered sufficient to support publication in the peer reviewed literature. The searches performed in 2010 and 2015 were based on topic specific PICO questions. Scoping reviews will require broader questions: the final search strategies could be a modification of the 2010 or 2015 strategies, or a new search strategy developed from scratch.

The SAC representative will be able to facilitate the development of these strategies utilising the skills of contracted Information Specialists (IS) or individual librarians as required. Please include suggested specific search terms in the submitted TFSRScR PICOST template.

## Inclusion and exclusion criteria

The inclusion and exclusion criteria that are planned to be used to screen the search results should be documented. They may need to be altered after initial review of the studies identified by the search, but the updated (final) inclusion and exclusion criteria need to be recorded.

These criteria would normally refer to the PICO components (eg. “animal studies and manikin studies will be excluded”) but need to also refer to study characteristics (eg. “Unpublished studies (eg. conference abstracts, trial protocols), and case series will be excluded”).

An example of inclusion/exclusion criteria is:

*Included all studies which addressed the PICOST question. Excluded animal studies, and studies that did not specifically answer the question. Excluded unpublished studies, and studies only published in abstract form, unless accepted for publication.*

### Task force review

The list of inclusion and exclusion criteria should be presented to the taskforce for feedback.

## PROSPERO registration is not required

Unfortunately, Scoping reviews are currently not eligible for inclusion in PROSPERO (Guidance notes for registering a systematic review protocol with PROSPERO: https://www.crd.york.ac.uk/prospero/documents/Registering%20a%20review%20on%20PROSPERO.pdf).

## Initial search results

The list of articles from the initial searches of Medline, Embase and the Cochrane Central Register of Controlled Trials (Central) should be collated and stored. Exclusion of duplicate publications can be performed manually (eg. using word or Excel files) or using programs such as Endnote or Covidence. The search results should be collated (ideally in Word and Endnote files), and the list of articles need to be forwarded to the TFScR team as an EndNote file and a word file. The number of studies included for initial review will be larger than those for a more narrow PICO question, but will obviously depend on the breadth of the search and the years being searched.

## Review of titles and abstracts

This initial screening should be performed by two content experts, these roles will be allocated by the TFScR team lead.

## Review of full text of studies

The next step is for two of the TFScR team content experts to review the full text of the studies identified for further review by the initial “Review of titles and abstracts”.

Disagreements about decisions should be resolved by the TFScR team lead (or SAC representative if the TFScR team lead is one of the two allocated to review the studies).

The articles identified for further review need to be retrieved for data extraction. If the content experts are unable to access any articles, they should contact the SAC representative who will assist with this process or escalate to SAC.

The literature relevant to the PICO question is then evaluated, and a re-evaluation of the inclusion/exclusion criteria and the outcomes listed for data extraction can be done at this stage.

### Task force review

At the point that the list of included studies is complete, the list should be provided to the task force to ensure there are no obvious omissions.

### Diverting to a Task Force Systematic Review

If on initial inspection of the included studies, there appears to be **sufficient published data to support a more detailed review**, then this should be flagged to the SAC representative, as **a systematic review should be initiated**: this could be allocated as a Task Force based, or an ESR or KSU review (SAC representative will be able to advise). The steps up to data extraction can be reviewed but they may well be adequate for the subsequent Systematic Review. Data extraction should be delayed until **after** PROSPERO registration (otherwise the review will not be eligible for registration).

## Evaluation of included studies

The next step involves extracting the data from the studies. No bias assessment or Evidence Profile tables are required for a Scoping Review.

### Extracting data

A member of the TFSR team needs to be delegated to extract the study data. Extracted data from each study needs to be entered into a separate row of a standardised spreadsheet (eg. Excel file) or table (eg. Word file). The data elements extracted should be comprehensive enough to describe the literature identified. Two potential formats are listed below.

1). Firstly, from the BLS Scoping review:

* Reference: Author, year
* Design: Study design, country
* Population
* Intervention/Comparator
* Main findings

The end result may look like this (in either Word or Excel):



2). The second format could be the same as that used for Systematic Reviews:

* **Reference:** eg. Aufderheide 2005, 734
* **Methods:** eg. Randomised Controlled Trial
* **Participants:** eg. 230 OOHCA (presumed ≥ 21 years), presumed cardiac, ventilatable with facemask, then intubateable with ETT. Milwaukee, WI, USA
* **Interventions:** eg. Impedance threshold device (facemask then ETT) plus standard CPR
* **Comparisons:** eg. Sham ITD (facemask then ETT) plus standard CPR
* **Outcomes:** eg. Primary: survival to ICU admission I 29/114 (25.4%) vs C 20/116 (17.2%) NS. Secondary: 24 hr survival I 19/114 (16.7%) vs C 14/116 (12.1%) NS; 1-year survival I 4/114 vs C 2/116. No hospital discharge data.
* **Notes:** eg. Enrolled over 8 months. 15:2 (2000 guidelines). Similar adverse effects. Discontinued early. Concern about ventilation rates. Subgroup analysis: better ICU admission with PEA

The end result may look like this (in either Word or Excel):

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Reference | Methods | Participants | Interventions | Comparisons | Outcomes | Notes |
| Aufderheide 2005, 734 | Randomised Controlled Trial | 230 OOHCA (presumed ≥ 21 years), presumed cardiac, ventilatable with facemask, then intubate with ETT. Milwaukee, WI, USA | Impedance threshold device (facemask then ETT) plus standard CPR | Sham ITD (facemask then ETT) plus standard CPR | Primary: survival to ICU admission I 29/114 (25.4%) vs C 20/116 (17.2%) NSSecondary: 24 hr survival I 19/114 (16.7%) vs C 14/116 (12.1%) NS; 1 year survival I 4/114 vs C 2/116. No hospital discharge data. | Enrolled over 8 months. 15:2 (2000 guidelines). Similar adverse effects. Discontinued early. Concern about ventilation rates. Subgroup analysis: better ICU admission with PEA |

### Further data analysis

At the point of data extraction, this is the time that the extracted data could be also grouped (eg. in tables or text) into identified sub-groups. It is not appropriate to perform meta-analyses during a Scoping Review, as only a narrative description of the results is required.

## Preparation of the summary of the review

The summary outcome of the TFScR cannot be a new CoSTR, but it could be:

* a “Task force Insight”
* a confirmation of a previously existing CoSTR, as well as a “Task force Insight”.

In all cases, a draft summary is provided by the TFScR team, but the final summary product is a result of taskforce discussions. The categories of the GRADE Evidence To Decision table do not apply to a Scoping Review.

### Confirmation of an existing CoSTR

In the situation where a CoSTR exists from the 2010 or 2015 processes, the result of the task force discussions could be to recommend restating the CoSTR. A specific statement should be included such as the following:

* *“This scoping review was unable to identify any studies that needed to be added to the previous systematic review. In light of this we believe that the existing CoSTR does not need to be modified.”*

This statement needs to be accompanied by a “Task force insights” section.

### Task Force Insights

Task force Insights should be provided in all circumstances.

The format for the “Task force Insights” is designed to represent the key components of the deliberations of the taskforce.

The suggested format includes 3 components:

#### 1. Statement about why this topic was reviewed.

Examples of these statements are:

* *“This topic was chosen for review by the ALS Task Force because of ongoing controversies in the published literature.”*
* *“This topic was re-evaluated by the BLS taskforce because it had not been reviewed by ILCOR since 2010.”*

#### 2. Narrative summary of evidence identified

Examples of these statements are:

* *“There were insufficient studies identified to support a more specific systematic review.”*
* *“Three observational studies were identified that were published since 2009. They compare the use of “intervention X” with “comparator Y” in “population Z” in “1234 patients”.”*
* *“The identified studies were from diverse geographical areas, and there were large differences in the interventions used.”*
* *“No published studies reported survival with good neurological outcome . . .“*
* *“The only outcomes that were reported were surrogate outcomes or short-term outcomes of limited importance.”*
* *“The published literature identified by this scoping review fell into three main themes/subgroups . . .”*
* *“In one specific area, XYZ in ABC, a number of relevant studies were identified, so this specific topic was referred for consideration of a systematic review.”*

#### 3. Narrative Reporting of the task force discussions

The task force should document the key issues that were considered in their deliberations, including gaps and deficiencies in the literature, to provide more transparency about the complexity of the discussions.

Examples of these statements are:

* *“We identified many gaps in the published literature. These included . . .”*
* *“The majority of the studies identified in this review were focused on out-of-hospital cardiac arrest highlighting a major gap in research in the in-hospital context.”*
* *“The task force identified that no studies addressed . . .”*
* *“No Randomised Controlled Trials were identified that met our inclusion criteria.”*
* *“No study addressed the interaction between X and Y . . .”*
* *“This scoping review demonstrated that the majority of studies focused on a single CC component, whereas a number of studies suggest the presence of confounding interactions that prompt caution when evaluating any CC component in isolation.”*

###  Consider re-running the search

If the time since last running of the search was more than 6 months, or if the task force is aware of new publications, the search should be rerun, and the Task force insights be updated if necessary. The SAC representative can advise.

### Prepare manuscript for peer reviewed publication

If the TFScR team consider that the work completed should be submitted for peer reviewed publication, the finalised document should be completed according to the Scoping Review checklist and may be submitted with a Scoping Review cover letter. Both documents will be posted on <https://www.ilcor.org/ilcor-documents/continuous-evidence-evaluation/#Docs> .

## Posting of the “draft” task force summary for public comment

The summary documents, as outlined in the previous section, are then posted (eg. on ILCOR.org) for public comment.

## Final document prepared for publication

The task force will incorporate the information obtained from public comments into their final summary documentation for the PICOST. This information will then be able to be incorporated into the relevant ILCOR publication.

Good luck!

Peter Morley

Chair, ILCOR Scientific Advisory Committee

27th September 2019

## References

Tricco AC, Lillie E, Zarin W, O'Brien KK, Colquhoun H, Levac D, et al. PRISMA Extension for Scoping Reviews (PRISMA-ScR): Checklist and Explanation. Ann Intern Med. 2018;169:467–473

## Key websites

http://www.prisma-statement.org/Extensions/ScopingReviews

<https://www.ilcor.org/ilcor-documents/continuous-evidence-evaluation/#Docs>