**This document was created to outline the complete process for every ILCOR systematic review conducted by the Knowledge Synthesis Unit (KSU) or Expert Systematic Reviewer (ESR). This documents the process and procedures, guidance and scope of work as well as timeline for the systematic review, the manuscript, and the preparation of the draft consensus on science and treatment recommendation statement.**

**Knowledge Synthesis Unit or Expert Systematic Reviewer Process-Roles, Deliverables, Time Frames, Responsibilities and Interaction with Task Force**

1. Task Force (TF) and ILCOR Science Advisory Committee (SAC)- confirm priority questions written as Population, Intervention, Comparator, Outcome, Study Methodology and Timeline (PICOST) to be done by Knowledge Synthesis Unit (KSU) or Expert Systematic Reviewer (ESR)
2. Task force appoints 2 Content Experts and one TF SAC representative for each PICOST. When a PICOST crosses nodes involving other task forces, one of the Task Forces will be labeled the primary Task Force and will provide 2 Content Experts. In addition, a single content expert from any interested non-primary Task Force(s) will be appointed by those Task Force(s). It is advisable to consider the timeline to ensure the content experts have sufficient time to commit to the process. It is advisable to appoint back up content experts should availability of the initially appointed content experts change.
3. ‘ILCOR priority team’ consists of ESR, content experts, ILCOR systematic review mentee (SR mentee only with ESR NOT KSU), SAC representative and information specialist (ESR may use dedicated information specialist on contract to ILCOR; KSU have a dedicated search team) who conducted the search.
4. ’local KSU or ESR team’ consists of the KSU lead or ESR and his or her local team who work under the direction of the KSU lead or ESR. They may be paid or unpaid participants on the local team. Participants on the local team should not be guaranteed authorship.
5. All members of the ILCOR priority team, the KSU lead or ESR and the local team need to complete the ILCOR conflict of interest policy prior to launch of the team.
6. The up to date list of available ESRs, SR mentees and the SAC reps are available from Veronica Zamora (veronica.zamora@heart.org)
7. Content Experts will provide the following role:
   1. Contribute high quality work to the SR as requested and this may include but is not limited to: selection of articles, quality review, data abstraction, GRADE evidence profile tables built within the GRADE Pro Guideline Development Tool (GDT) online resource ([www.gradepro.org](http://www.gradepro.org)) so as to allow seamless integration into the Evidence to Decision Table(s) that the TF chairs or their delegate will generate for formulating recommendations and interpretation of the meta-analysis when applicable.
   2. Iteratively seek Task Force(s) input as required during the systematic review (SR) at each step of the workflow process adhering to the timelines as pre-specified in the KSU or ESR contract. The Task Force chair(s) may wish to suggest when they and the Task Force want to be involved with their core content experts and this involvement will be unique to that Task Force. It is important to note that the SR or KSU do not have the capacity to go back and repeat work so the involvement of the Task Force(s) iteratively is highly recommended such that all members are informed and in full agreement with the process and the decisions being made throughout the SR.
   3. Will establish drop dead dates for deliverables to enable TF input for each step. The content experts will ensure the TF chair(s) and members are aware of every conference call with the KSU or ESR and the local team such that the TF chair(s) and members can listen in as they wish to stay informed on the progress.
8. Task Force Chair(s) and members will fulfill the following requirements:
   1. Ensure they are aligning the work of the TF to support the content expert at every step of the SR. A timelines document is available from Veronica Zamora ([veronica.zamora@heart.org](mailto:veronica.zamora@heart.org)), which provides a template for planning. It is important to recognize that the TF must be informed so they can assist the content experts in advance of the deadline for the KSU or ESR.
   2. Providing input in a timely way when asked by the content expert.
   3. TF chair(s) will ensure the content experts representing the TF are fulfilling their role and provide a backup expert if the primary content expert(s) do not fulfill their role.
   4. The TF chair(s) are encouraged to listen in on any of the KSU or ESR conference calls to ensure that all are comfortable with the decisions that are being made by the content expert(s) representing the TF.
   5. The TF chair(s) will document participation and level of participation of each TF member such that they can justify level of contribution for acknowledgment of the SR publication and contribution to the COSTR when posted on the ILCOR website.
   6. Once the GRADE evidence profile tables have been completed by the KSU / ESR, the TF chair or delegate should generate the Evidence to Decision Tables (EtD) using the GRADE Pro GTD online resource ([www.gradepro.org](http://www.gradepro.org))
9. The TF should meet by webinar to review the EtD framework as a method for arriving at and explicitly tracing the path from evidence to recommendations.
10. The TF should also review the draft Consensus on Science generated by the ESR or the KSU lead. The EtD tables should contribute to the TF finalizing the Consensus on Science and writing the treatment recommendations.
11. The SAC rep on the TF will review the CoSTR and EtD and ensure it is compliant with the CoSTR checklist prior to submitting the CoSTR and EtD and completed checklist to SAC for approval.
12. The SAC representative on the ILCOR priority team will provide the oversight to ensure the SR is conducted as anticipated with rigorous scientific methodology and within timelines prescribed by the contract and update the ILCOR dashboard. The SAC rep also reports back to SAC on performance of the KSU or ESR, all members of the ILCOR priority team and KSU or ESR local team members. The SAC rep on the ILCOR priority team reviews the PROSPERO listing and confirms compliance with the PROSPERO checklist prior to posting on PROSPERO. The SAC rep on the ILCOR priority team reviews the SR manuscript and ensures it is compliant with the SR manuscript checklist prior to submission to the SAC for review and approval.
13. The ILCOR SR mentee is dependent upon this process to shine in the eyes of the ESR such that if they perform well the ESR will recommend to SAC that they be promoted to ESR. Thus, it is important that the ILCOR SR mentee play a lead role mentored by the ESR directly.
14. ILCOR TF prepares the draft PICOST from its priority list of PICOs and once approved by the SAC rep on the TF, the TF chair submits the completed PICOST for approval to SAC. The PICOST template includes the need for the TF to confirm COI of appointed TF members with the AHA staff. The date of SAC approval of the PICOST becomes **time zero on the timeline workflow document called the SR Workflow on ILCOR.org.**
15. SAC chair or delegate sends the approved PICOST to KSU or ESR Team. The KSU and ESR team works with the approved PICOST or alternatively revises the draft PICOST with input from the ILCOR priority team at the first webinar. Core content experts confirm with Task Force that the revised PICOST is acceptable. The KSU or ESR submits the revised PICOST to SAC rep for approval.
16. AHA staff will update the ILCOR dashboard based on the SR Workflow (ILCOR.org)
17. ESR ONLY: The lead Information Specialists (IS) under contract to ILCOR will assign an information specialist to the PICOST literature search and provide contact information.
18. ESR ONLY: Within 5 days of receipt of this affirmed PICOST the information specialist will lead a webinar (preferred) or conference call with the ESR prior to developing the search strategy. The ESR is responsible for ensuring that the strategy covers all concepts and list of key studies and previous SRs in the PICOST and the IS decides how to translate those concepts into a search strategy that works.
19. The KSU lead or ESR or designate is responsible for conducting doodle polls and scheduling/management of all conference calls. Use of “local” resources is encouraged. AHA can provide a web interface for conference calls as needed.
20. All Questions related to process or performance matters or conflict resolution are to be referred to the ILCOR Coordinator ([bmont28@gmail.com)](mailto:bmont28@gmail.com)) and SAC ESR/KDSU coordinator (laurie.morrison@unityhealth.to). SAC follows all ILCOR policies and procedures.
21. In step 8 below the KSU or ESR prepares their submission of the SAC SR checklist compliant SR manuscript for peer review and publication for TF and SAC rep to approve and forward SAC chair for approval. The SAC chair or delegate may assign the manuscript to a SAC member who is not involved in the writing group or taskforce(s) to independently review the manuscript. This process provides independent peer review prior to submission to a journal and formative peer feedback to members of SAC. The SAC chair or delegate will approve the manuscript for submission to a journal and notify the lead author.
22. The Task Force(s) uses the evidence profile tables to complete the CoS, Values and Preference, Evidence to Decision Framework and TR. The TF chair(s) should adhere to the CoSTR template and checklist documents (ilcor.org) when preparing the CoSTR. The TF chair submits the SAC CoSTR checklist compliant CoSTR and EtD to SAC rep to approve and forward to independent SAC review.
23. The SAC checklists are on ILCOR.org. the checklists can be completed by anyone on the writing group or task force but they must be approved by the SAC rep.
24. A SAC approved CoSTR and EtD is posted on [ilcor.org](http://ilcor.org/) website for public comments for two weeks. The TF chair reviews the public comments and makes changes to the CoSTR as required and submits to SAC rep for reapproval prior to reposting. An individual response to comments or a summary of changes made or not made in response to public comments would be helpful to the public and is encouraged. This would also be posted on the CoSTR site.
25. Work Flow begins by ESR or KSU with “ILCOR priority team” as outlined on ILCOR.org as the SR workflow document. ESR or KSU will perform Services and provide deliverables according to SR workflow document and their executed contract with AHA/ILCOR. Dates will be inserted into the Generic SR Workflow document and generated for each PICOST once the PICOST is finalized.
26. **Timing and linkage of ILCOR publications and web based posting of COSTR and ETD Framework**
    1. The systematic reviews must be published prior to the PICOST being included in the yearly COSTR summary.
    2. The final version of the COSTR posting (after public commentary) and the ETD Framework must be posted on the ILCOR website prior to the PICOST being included in the COSTR summary to be submitted to Circulation and Resuscitation for peer review.
    3. The ILCOR website posting of the COSTR and ETD Framework will link to the published SR citation and the relevant COSTR Summary citation from Circulation and Resuscitation.
27. **Investigator Roles and Authorship: Please Refer to the Guidance Authorship Categories on ILCOR.org for all author, collaborator, acknowledgments and funding text for all ILCOR SRs and CoSTRs and EtDs.**

Authorship is assigned based on contribution and compliance with international authorship guidelines. It is anticipated the KSU lead or ESR and SR mentee will be first or last author or first or last co-author. The ESR may choose to discuss authorship and responsibilities at the outset with the ILCOR priority team and local team members. The decision to do this or to defer this discussion until the SR is completed is deferred to the ESR.

Since the search strategy on a SR is essential to the success of an SR, typically Information Specialists are integral and therefore granted authorship. They are expected to write or review the methods section (or a part thereof) of the paper and to ensure that the search strategy is properly reproduced in the paper or appendix. They are also responsible for ensuring the search strategy is subjected to Peer Review (PRESS) by another expert Information Specialist. If they do not review the paper and/or write the methods section (especially as it pertains to the search strategy) they should at least be granted an acknowledgment. For the KSU we defer to them for their approach to IS authorship as per their standard operating procedure.

Prior to submission of the completed SR for peer review it is anticipated that the KSU lead or ESR will provide a preliminary author order list and justification for discussion with SAC rep and TF chair. When both agree, the KSU lead and ESR will pre-circulate author order and acknowledgement with justification and obtain approval from all authors prior to submitting his/her final recommendations to the SAC rep. It is anticipated that the KSU lead or ESR will resolve any conflicts with co-authors prior to submitting her/her recommendations to the SAC rep.

Any unresolved conflicts authorship and order can be appealed to the SAC rep and then to SAC chair which will follow all applicable ILCOR policies and procedures relating to appeal.

The SR timeline and deliverables are set by contract and summarized in the SR workflow document (generic form on ILCOR.org). It is important in the SR process to promote and enable contribution fully by the ILCOR priority team members as authors i.e. the ILCOR core content experts appointed by the Task Force Chair(s), the ILCOR SR mentee and the SAC representative. Otherwise there is no opportunity for academic growth or capacity building or value added for those who volunteer for these ILCOR roles. Thus, most of the SR will be accomplished by engaging the ILCOR priority team members as investigators and eventually authors.

**Is there a role for the local SR team members in terms of authorship?**

It is anticipated that the KSU or ESR will have a local team to support the SR. This may include hired staff such as PhD or post docs or research coordinators. However, it is important to remember that these individuals are supplemental to the ILCOR priority team members in terms of completing the work and authorship. If an ILCOR priority member fails to deliver on time, this will be reported to the SAC rep and the ESR will be approved to pull from the ILCOR team or his or her local team to complete the work in an adjusted timeline and authorship adjusted accordingly. The ESR role is to balance responsibilities carefully across the ILCOR priority team members and the local ESR team to manage authorship expectations, compliance with timelines and ensuring high quality deliverables.

The KSU team member of the ESR local team may be comprised of paid or unpaid contributors to the SR. It is hard to guide the ESR on how many of the local team will be authors.

It is anticipated the KSU or ESR may wish to acknowledge paid or unpaid contributions by his or her local ESR team through the acknowledgement section. This includes summer or elective students, residents or fellows.

The size of the local team supporting the KSU or ESR will depend on the complexity of the question and the search strategy results. We anticipate that 3-4 members of the local team will merit authorship in a routine simple PICOST however a larger search and more complex analysis may increase this to a number of authors greater than four.

It is anticipated that the KSU or ESR may wish to advocate for authorship based on contribution and performance for members of the local SR team. This is allowed as long as their contribution does not take away from the role of the ILCOR priority members of the team i.e. tasks delegated to the local team that the priority members are capable of completing on time.

Most importantly it would be inappropriate to promote a local team member to first author instead of an ILCOR priority member so the roles and responsibilities of the team need to be allocated accordingly to ensure first authorship for an ILCOR priority member may be possible and is justifiable. For example it is anticipated that the ILCOR appointed mentee is fully capable of completing an SR and requires supervision of the ESR to do so thus it would appropriate for the ESR to decide at the end that they will be last author and the ILCOR assigned mentee will be first author or alternatively the ESR and the mentee are co first authors and another member of the ILCOR priority team who played a significant role will be the last author. It would not be appropriate for the KSU lead or ESR to promise a local fellow or young investigator a first author role on an ILCOR SR.

**Recognition of Task Force Chairs and Members who meet the criteria as a collaborator or author on the published SR**

It is anticipated that TF chair or member involvement in each systematic review will vary but it is unlikely that a TF chair or member who is not a content expert will merit authorship based on international standards (www.icmje.org).However, if the ESR or KSU lead and domain lead feel a member of the Task Force who was not on the iLCOR priority team merits all the requirements for authorship (http://www.icmje.org/recommendations/browse/roles-and-responsibilities/defining-the-role-of-authors-and-contributors.html) they may add this individual to the authorship list with justification to the CEE WG for approval.

It is anticipated that the chair and/or some or all of the TF members will merit acknowledgment as collaborators if they meet some but not all the requirements to be an author. (http://www.icmje.org/recommendations/browse/roles-and-responsibilities/defining-the-role-of-authors-and-contributors.html) The TF chairs will be asked by the KSU or ESR to specify if their TF members merit acknowledgement on the published SR as a collaborator. It is acknowledged that the TF members are indeed volunteers, and they may not be able to contribute to each and every ILCOR TF output in a way that merits recognition as a collaborator. The TF chair will be responsible for documenting the participation and contribution of each TF member for each SR and for justifying the criteria for collaborator status for some or all TF members. The TF chair(s) will submit a list of the names of all collaborators who merit to be listed in this way and the TF chair will be required to obtain and submit to the ESR or KSU lead the written approval (email confirmation is sufficient) that is required to acknowledge an individual as a collaborator. Because acknowledgment as a collaborator may imply endorsement of a study’s data and conclusions, editors may require written permission to be acknowledged from all collaborators.

**Acknowledgement of non –author and non-collaborator contributors**

ESR, KSU leads may recommend individuals for acknowledgement on the SR manuscript. This may include but is not limited to local SR team members or KSU team members, Students, residents and fellows, administrative staff, colleagues or experts.