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memo

August 24, 2015

TO: AHA Manuscript Oversight Committee
AHA Scientific Council Chairs/Vice-Chairs
AHA Science Advisory and Coordinating Committee

FROM: Elliott Antman
Chair, Manuscript Oversight Committee

SUBJECT: **Changes to AHA scientific document development process**

The AHA/ASA is recognized for producing a range of documents that inform the basic science and clinical communities and also help frame policy positions. Some of these documents are published jointly with the ACC (and other organizations) and are referred to as Clinical Practice Guidelines (CPGs); oversight of the production of CPGs is the responsibility of the Task Force on Practice Guidelines. Other documents that the AHA may publish alone (or with other organizations besides the ACC) include Guidelines, Scientific Statements, Science Advisories, Conference Proceedings, Policy Statements, and Stroke Performance Measures.

We have responded to the IOM report on the methods it suggests for creation of Guidelines documents and have published our policies for evidence review and formulation of recommendations in CPGs (Jacobs Circ 127: 268, 2013; Jacobs Circ 130:1208, 2014). In an effort to bring our approach to creation of the other documents noted above in line with the methodology used for CPGs we have undertaken a systematic review of our document portfolio and updated not only the description of the intent of each of these types of documents but also the instructions to Writing Committees, the staff who support their development, and individuals at the AHA/ASA charged with the responsibility of reviewing the documents. The overarching principle we applied was consistency with respect to how recommendations are generated—just as with CPGs, recommendations in other documents must be based on a formal evidence review and use our familiar COR/LOE system. It is anticipated that the use of recommendations will reside mostly with CPGs, but should Writing Committees chose to include them in other documents, the approach to be taken is described in the attached table.

All Writing Committee members will be provided with clear instructions on how to prepare such AHA/ASA documents. The changes described in the table will go into effect as of September 1, 2015 and will serve as the basis by which MOC considers commissions for prospective documents.

Please share this information with your committee members and keep it in mind when considering documents that you wish to propose to MOC.

While this may require some adjustment in the way Writing Committees have done their work in the past, greater consistency in our well regarded documents is the highly desirable objective we all wish to achieve.

BACKGROUND

The evolution of Clinical Practice Guidelines produced by the AHA (in association with other organizations) necessitated a review and modernization of the approach taken to other documents issued by the AHA/ASA. The table below provides instructions to Writing Committees, the staff supporting them, and individuals at the AHA/ASA charged with the responsibility of reviewing them. It is recognized that, depending on the topic and goal (e.g. reviewing a basic science topic and guiding future research, directing clinical practice, or formulating policy guidance of a public health nature) there is a variety of evidence (e.g., fundamental science studies; clinical trials of varying size; observational studies) to be considered by Writing Committees. The nature of the evidence available should dictate the type of document written and drive the decision regarding whether formal evidence-based recommendations for clinical practice versus suggestions/considerations are included in the document.

As a general rule, most clinical disorders and the evidence-based recommendations needed to guide their optimal treatment should be the substance of Guidelines documents (commissioned by the AHA or AHA jointly with other organizations). Formal, evidence-based recommendations are required for these Guidelines documents. Rarely, based on the available evidence, the urgency of the public health need, and the lack of fit with a current or planned Guideline, formal recommendations or suggestions/considerations may be included in Scientific Statements, Science Advisories, or Policy Statements. In all cases, if recommendations are included they must be based on a formal evidence review (which may be conducted by the Writing Committee); the evidence review should be focused around critical questions (some of which may be in the PICOT format) and the text should provide a thorough description of the approach taken. Whenever recommendations are included they should be in the COR/LOE format. The purpose of the COR/LOE system is to indicate to the reader how the Writing Committee synthesized the evidence rather than serve to distinguish Guidelines from other types of documents.

If in the opinion of the Writing Committee the evidence does not warrant recommendations but there is still a desire to provide some guidance to the community this can be accomplished with suggestions/considerations that should not be in the COR/LOE format.

AHA	Recommendations vs. Suggestions	COR/LOE	Formal Evidence Review	PICOT(s) Questions to Drive Evidence Review	Purpose of Recommendations/Suggestions/Considerations
Guidelines Systematically developed statements to assist practitioner and patient decisions about appropriate health care for specific clinical circumstances.	Recommendations required and are based on a systematic review of the literature. Suggestions/considerations may also be included.	Required to indicate to the reader the criteria the Writing Committee used in synthesizing the evidence base when generating recommendations.	Required (May be conducted by writing committee[1]) The document should describe in the preamble the scope, search terms, and methodology of the evidence review.	The Writing Committee for a Guideline will identify a list of critical questions to focus the review of the literature. It is anticipated that a subset of the critical questions in a Guideline will be in the PICOT(s) format)	Inform clinical community of desired course of action based on a formal review of evidence. Examples include ASA Stroke Guidelines and ECC Guidelines (based on ILCOR evidence review)

AHA	Recommendations vs. Suggestions	COR/LOE	Formal Evidence Review	PICOT(s) Questions to Drive Evidence Review	Purpose of Recommendations/Suggestions/Considerations
Scientific Statements General goal is to increase knowledge and awareness by healthcare professionals of effective, state-of-the art science related to the causes, prevention, detection, management or future research related to cardiovascular diseases and stroke. Represent the synthesis of data and a consensus of the leading experts in cardiovascular disease and stroke**.**	May contain "Suggestions/Considerations for Clinical Practice/Public Health Initiatives" in some clinically oriented statements and "Suggestions/Considerations for Laboratory Practice" in some basic science statements. These suggestions should NOT be formatted using COR/LOE system (see COR/LOE column). May (rarely) contain recommendations (see COR/LOE and Formal Evidence Review columns)	COR/LOE format is not to be used if Writing Committee feels evidence review only warrants suggestions/consi-derations Required if recommendations are included. The purpose is to indicate to the reader the criteria the Writing Committee used in synthesizing the evidence base when generating recommendations.	Desirable for sake of completeness but not required if the Writing Committee issues suggestions/considerations rather than recommendations. If literature search is done, the document should describe in the preamble the scope, search terms, and methodology of the evidence review. Required if Writing Committee issues recommendations; may be conducted by Writing Committee. The document should describe in the preamble the scope, search terms, and methodology of the evidence review.	Not required but may be developed by Writing Committee to focus the review of the literature	Inform community of desired course of action.

AHA	Recommendations vs. Suggestions	COR/LOE	Formal Evidence Review	PICOT(s) Questions to Drive Evidence Review	Purpose of Recommendations/Suggestions/Considerations
Science Advisory Provide rapid and clear positioning on specific and focused scientific issues. Advisories are statements on an evolving, prominent scientific issue of great interest to the public and to health professionals.	May contain "Suggestions/Considerations for Clinical Practice/Public Health Initiatives" in some clinically oriented statements and "Suggestions/Considerations for Laboratory Practice" in some basic science statements. These suggestions should NOT be formatted using COR/LOE system (see COR/LOE column. May (rarely) contain recommendations (see COR/LOE and Formal Evidence Review columns)	COR/LOE format is not to be used if Writing Committee feels evidence review only warrants suggestions/consi-derations Required if recommendations are included. The purpose is to indicate to the reader the criteria the Writing Committee used in synthesizing the evidence base when generating recommendations.	Desirable for sake of completeness but not required if the Writing Committee issues suggestions/considerations rather than recommendations. If literature search is done, the document should describe in the preamble the scope, search terms, and methodology of the evidence review. Required if Writing Committee issues recommendations; may be conducted by Writing Committee. The document should describe in the preamble the scope, search terms, and methodology of the evidence review.	Not required but may be developed by Writing Committee to focus the review of the literature	Inform community of desired course of action *in a focused scientific area*.
Conference Proceedings Reflect the opinion of the conference participants and not necessarily the sponsoring body	Not to be used in document	No	No	No	N/A

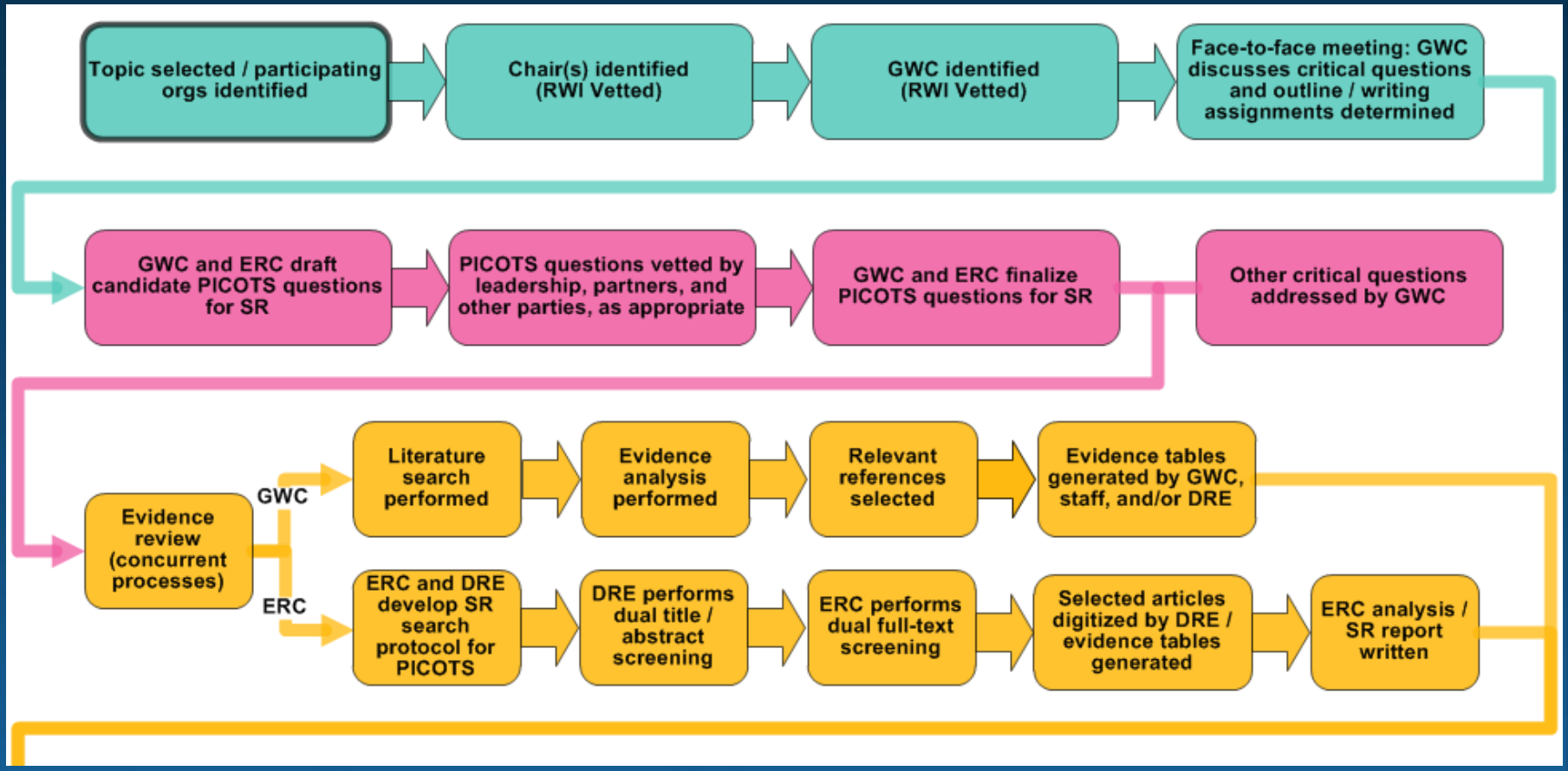
AHA	Recommendations vs. Suggestions	COR/LOE	Formal Evidence Review	PICOT(s) Questions to Drive Evidence Review	Purpose of Recommendations/Suggestions/Considerations
Policy Statements Expert panel working groups convened by the Advocacy Coordinating Committee to study timely issues such as quality health care, disease management, or other specific topics as appropriate. Policy statements resulting from these panels include recommendations, and/or considerations for clinical and public policy. Policy statements, sections or directives are not to be placed in the other types of documents described here.	May contain "Suggestions/Considerations for Clinical Practice/Public Health Initiatives" in some clinically oriented Policy statements and "Suggestions/Considerations for Laboratory Practice" in some basic science Policy statements. These suggestions/considerations should NOT be formatted using COR/LOE system (see COR/LOE column). May (rarely) contain recommendations (see COR/LOE and Formal Evidence Review columns)	COR/LOE format is not to be used if Writing Committee feels evidence review only warrants suggestions/consi-derations Required if recommendations are included. The purpose is to indicate to the reader the criteria the Writing Committee used in synthesizing the evidence base when generating recommendations.	Desirable for sake of completeness but not required if the Writing Committee issues suggestions rather than recommendations. If literature search is done, the document should describe in the preamble the scope, search terms, and methodology of the evidence review. Required if Writing Committee issues recommendations; may be conducted by Writing Committee. The document should describe in the preamble the scope, search terms, and methodology of the evidence review.	Not required but may be developed by Writing Committee to focus the review of the literature	Provide expert advice for consideration of clinical and public policy
Stroke Performance Measures Derived from stroke practice guidelines and intended to provide practitioners with tools for measuring the quality of stroke care, by defining specific, measurable elements of care.	Formatted as performance measures but not as formal recommendations or suggestions.	No	No	Not required but may be developed by Writing Committee to focus the review of the literature	N/A The primary intended purpose of performance measures is to facilitate improved adherence to guideline-recommended care.

1. *“STANDARD 4” in the IOM report on transparency in guidelines calls for the use of a systematic evidence review process to inform recommendations but does not explicitly call for the formation of a separate evidence review committee from the guideline writing group. For description of the systematic evidence review process, see Manual for Writing Committees.*

Examples of Documents Published by AHA and ACC

AHA	ACC/AHA	ACC
Guidelines Provide systematically developed evidence-based recommendations to assist practitioner and patient decisions about appropriate health care for specific clinical circumstances. Developed after a significant body of studies have accumulated, which include randomized trials, but may also include well-designed cohort registries, meta-analyses and expert consensus.	**Clinical Practice Guidelines** Systematically developed statements to assist practitioner and patient decisions about appropriate health care for specific clinical circumstances.	**Clinical Expert Consensus** Clinical expert consensus documents are intended to inform practitioners, payers and other interested parties of the opinion of the ACC concerning evolving areas of clinical practice and/or technologies that are widely available or new to the practice community.
Scientific Statements Goal is to increase knowledge and awareness by healthcare professionals of effective, state-of-the art science related to the causes, prevention, detection, or management of cardiovascular diseases and stroke. Represent the consensus of the leading experts in cardiovascular disease and stroke**.**	**Performance Measures** Derived from practice guidelines and are intended to provide practitioners with tools for measuring the quality of care they provide, by defining specific, measurable elements of care.	**Appropriate Use Criteria** Developed in response to growing concerns from payers and patients regarding potential overuse or misuse of advanced technologies. Determine whether a particular approach to care is reasonable in a given clinical scenario. (In existence since 1985)
Science Advisory Provide rapid and clear positioning on specific and focused scientific issues. Advisories are statements on an evolving, prominent scientific issue of great interest to the public and to health professionals.	**Clinical Data Standards** Goal is to improve the ability to compare clinical outcomes between various trials and registries and to facilitate data management in future trials and registries by defining standards and outcomes.	**Conference Proceedings** Reflect the opinion of the conference participants and not necessarily the sponsoring body
Conference Proceedings Reflect the opinion(s) of the conference participants and not necessarily the sponsoring body	**Clinical Competence and Training Statements** Intended to address summative knowledge and experience of specific types of physicians and/or training programs. Evidence-based, and when evidence is not available, expert opinion is used to formulate recommendations. Indications and contraindications for specific services or procedures are not included in the scope of these documents	**Health Policy Statements** Expert panel working groups convened to study timely issues such as quality health care, disease management, and other topics as appropriate. These panels examine the complex issues around their topics, issue recommendations, and considerations for clinical and public policy.
Policy Statements Expert panel working groups are convened to study timely issues such as quality health care, disease management, and other specific topics as appropriate and issue recommendations/considerations for clinical and public policy.		**Practice Advisories** Provide rapid, clear and consistent positioning on scientific issues. Advisories are statements on an evolving, prominent scientific issue of great interest to the public and to health professionals.
Stroke Performance Measures Derived from Stroke Practice Guidelines and are intended to provide practitioners with tools for measuring the quality of stroke care, by defining specific, measurable elements of care.		

New ACC/AHA Guideline Development Methodology



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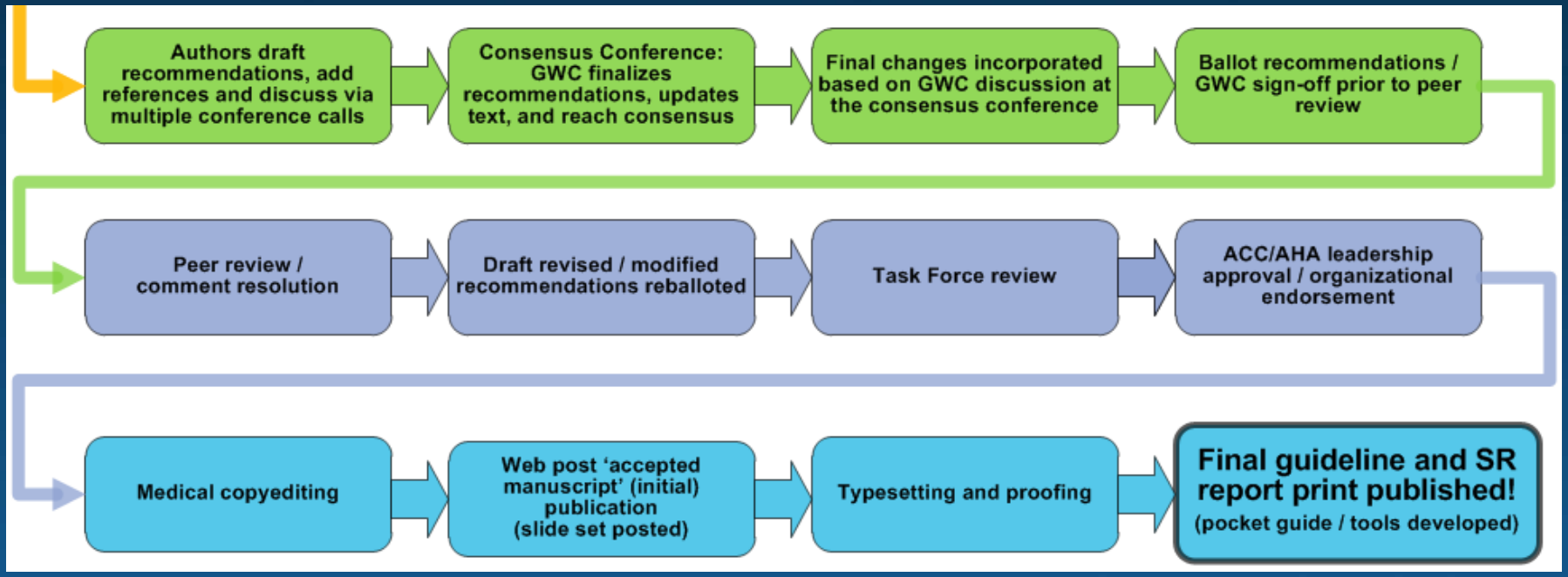
New ACC/AHA Guideline Development Methodology – con't.



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Process for Creating Recommendations

Authors must develop the guideline using a stepwise process and adhere to designated due dates outlined in the timeline for each step.

a. First - complete literature search

b. Second - create tables (*either author or Doctor Evidence*) from relevant literature identified during searches (NOTE: **summary table must include all studies/articles to support the recommendations**)

c. Third - write recommendations based on analysis of evidence (tables)

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Literature Search Process

- Literature search forms are included in the guideline packet and requests must include key search words, date ranges, type of study, etc.

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Study Analysis

- Prior to summary table creation, study features need to be analyzed (next slide)
- All these features may not be relevant for all study types
- Most of the features should be relevant for clinical trials and randomized controlled trials

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Study Analysis
Statistics (Results)

- Intention to treat
- Power ≥80% for 1° endpoint
- Point statistics reported (i.e., HR, RR, OR) with 95% CI
- p-value in relation to magnitude of effect
- Magnitude of effect
- Adjusted/transformed data (log rank data)

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Study Analysis
Endpoints and Follow-Up

- Primary endpoint
- Composite primary endpoint
- Follow-up ≥95% for 1° endpoint
- Follow-up 1° endpoint ≥12 months
- Accounting for lost to follow-up, withdrawals, drop-outs
- Follow-up ≥80% for 2° endpoint

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Other Study Attributes to Consider

- Subgroup analysis
- Quality of life
- Background Therapy
- Outcome driven data
- Diagnosis accuracy (specificity/sensitivity)

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Study Analysis
Trial Data Adjudication and Funding

- Data Safety Monitoring Board (*DSMB*) or Data Monitoring Committee
- Clinical Events Committee (*CEC*)
- Trial funding source - grants/nonindustry vs. industry

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Basic Characteristics of a Evidence Table

- The basic set of data necessary for any table follows: Names of study (with yr and author), N (total #), n (subgroups), study aim, background therapy, inclusion/exclusion criteria, endpoints (primary, safety, secondary), results, point statistics, 95% CI, p-value, power, study findings/limitations, adverse events

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Evidence Table Template

Study Acronym Author Year	Aim of Study; Study Type; Study Size (N)	Patient Population	Study Intervention (include # patients) / Study Comparator (include # patients)	Endpoint Results (include Absolute Event Rates, P value; OR or RR; and 95% CI)	Relevant 2° Endpoint (if any); Study Limitations; Adverse Events; Summary
•**BOLDED ACRONYM** • •	Aim: Study type: Size:	Inclusion criteria: Exclusion criteria:	Intervention: Comparator:	1° endpoint: 1° Safety endpoint (if relevant):	• • • Summary:

- Please note: a separate evidence table template exists for observational studies.
- Fill out table with numbers as much as possible along with text
- Do not use yes/no to fill out tables
- Include published article and not LBCT slides

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CLASS (STRENGTH) OF RECOMMENDATION

CLASS I (STRONG) — **Benefit >>> Risk**

Suggested phrases for writing recommendations:
- Is recommended
- Is indicated/useful/effective/beneficial
- Should be performed/administered/other
- Comparative-Effectiveness Phrases†:
  - Treatment/strategy A is recommended/indicated in preference to treatment B
  - Treatment A should be chosen over treatment B

CLASS IIa (MODERATE) — **Benefit >> Risk**

Suggested phrases for writing recommendations:
- Is reasonable
- Can be useful/effective/beneficial
- Comparative-Effectiveness Phrases†:
  - Treatment/strategy A is probably recommended/indicated in preference to treatment B
  - It is reasonable to choose treatment A over treatment B

CLASS IIb (WEAK) — **Benefit ≥ Risk**

Suggested phrases for writing recommendations:
- May/might be reasonable
- May/might be considered
- Usefulness/effectiveness is unknown/unclear/uncertain or not well established

CLASS III: No Benefit (MODERATE) — **Benefit = Risk**
(Generally, LOE A or B use only)

Suggested phrases for writing recommendations:
- Is not recommended
- Is not indicated/useful/effective/beneficial
- Should not be performed/administered/other

CLASS III: Harm (STRONG) — **Risk > Benefit**

Suggested phrases for writing recommendations:
- Potentially harmful
- Causes harm
- Associated with excess morbidity/mortality
- Should not be performed/administered/other

LEVEL (QUALITY) OF EVIDENCE‡

LEVEL A
- High-quality evidence‡ from more than 1 RCTs
- Meta-analyses of high-quality RCTs
- One or more RCTs corroborated by high-quality registry studies

LEVEL B-R (Randomized)
- Moderate-quality evidence‡ from 1 or more RCTs
- Meta-analyses of moderate-quality RCTs

LEVEL B-NR (Nonrandomized)
- Moderate-quality evidence‡ from 1 or more well-designed, well-executed nonrandomized studies, observational studies, or registry studies
- Meta-analyses of such studies

LEVEL C
- Randomized or nonrandomized observational or registry studies with limitations of design or execution
- Meta-analyses of such studies
- Physiological or mechanistic studies in human subjects

LEVEL E

Consensus of expert opinion based on clinical experience when evidence is insufficient, vague, or conflicting

COR and LOE are determined independently (any COR may be paired with any LOE).

A recommendation with LOE C or E does not imply that the recommendation is weak. Many important clinical questions addressed in guidelines do not lend themselves to clinical trials. Although RCTs are unavailable, there may be a very clear clinical consensus that a particular test or therapy is useful or effective.

* The outcome or result of the intervention should be specified (an improved clinical outcome or increased diagnostic accuracy or incremental prognostic information).

† For comparative-effectiveness recommendations (COR I and IIa; LOE A and B only), studies that support the use of comparator verbs should involve direct comparisons of the treatments or strategies being evaluated.

‡ The method of assessing quality is evolving, including the application of standardized, widely used, and preferably validated evidence grading tools; and for systematic reviews, the incorporation of an Evidence Review Committee.

COR indicates Class of Recommendation; LOE, Level of Evidence; NR, nonrandomized; R, randomized; and RCT, randomized controlled trial.

COR/LOE Considerations

- Classification (strength) of Recommendation (COR) based on risk:benefit ratio and effect size of intervention where intervention may indicate a diagnostic test or a treatment measure
- Level (quality) of Evidence (LOE): Based on certainty of treatment effect; level of certainty (precision) of intervention effect
- Mega trials alone are not sufficient for LOE: A

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Class (Strength) of Recommendation (COR)

- Class I (Strong) = Benefit >>> Risk
  - *Is recommended*
- Class IIa (Moderate) = Benefit >> Risk
  - *Is reasonable*
- Class IIb (Weak) = Benefit ≥ Risk
  - *May/might be reasonable*
- Class III: No Benefit (Moderate) = Benefit = Risk
  - *Is not recommended*
- Class III: Harm (Strong) = Risk > Benefit
  - *Potentially harmful*

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Level (Quality) of Evidence (LOE)

- LOE: A = High-quality evidence† from more than 1 RCTs; meta-analyses of high-quality RCTs; 1 or more RCTs corroborated by high-quality registry studies
- LOE: B-R (randomized) = Moderate-quality evidence† from 1 or more RCTs; meta-analyses of moderate-quality RCTs
- LOE: B-NR (nonrandomized) = Moderate-quality evidence† from 1 or more well-designed, well-executed nonrandomized studies, observational studies, or registry studies; meta-analyses of such studies

- †The method of assessing quality is evolving, including the application of standardized, widely used, and preferably validated evidence grading tools; and for systematic reviews, the incorporation of an ERC.

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Level (Quality) of Evidence (LOE)

- LOE: C = Randomized or nonrandomized observational or registry studies with limitations of design or execution; meta-analyses of such studies; physiological or mechanistic studies in human subjects
- LOE: E = Consensus of expert opinion based on clinical experience when evidence is insufficient, vague, or conflicting

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LOE Considerations

- Comparative-effectiveness phrases in recommendations are permitted for Class I and IIa; LOE A and B (direct comparison data must be available for comparative effectiveness)
- Can have LOE B with multiple RCT references when and if studies are small and/or underpowered and/or conflicting

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New ‘Knowledge Byte’ Format

COR	LOE	Recommendations
I	B-R	**1. xxxxxxxx (refs).**
See Online Data Supplement x.		Insert supporting text (<250 words) and appropriate refs. Some text paragraphs may support more than one recommendation. In this situation, duplicate the paragraph under each recommendation. Staff will add the COR and LOE colors to the cells later in the process. Supporting text references should be integrated into the appropriate text sentence as needed. Generally, text should be written using the active voice and present tense.
IIa	B-NR	**1. xxxxxxxx (refs).**
See Online Data Supplement x.		Insert supporting text (<250 words) and appropriate refs.
IIb	C	**1. xxxxxxxx (refs).**
See Online Data Supplement x.		Insert supporting text (<250 words) and appropriate refs.
III: Harm	B-R	**1. xxxxxxxx (refs).**
See Online Data Supplement x.		Insert supporting text (<250 words) and appropriate refs.