APPENDIX B: CONCURRENCE WITH INSTITUTE OF MEDICINE STANDARDS FOR SYSTEMATIC REVIEWS AND FOR GUIDELINES

IOM Standards for Systematic Reviews		Part of KDIGO Process?
2.1	Establish a team with appropriate expertise and experience to conduct the systematic review	Yes
2.1.1	Include expertise in the pertinent clinical content areas	Yes
2.1.2	Include expertise in systematic review methods	Yes
2.1.3	Include expertise in searching for relevant evidence	Yes
2.1.4	Include expertise in quantitative methods	Yes
2.1.5	Include other expertise as appropriate	Yes
2.2	Manage bias and conflict of interest (COI) of the team conducting the systematic review	Yes
2.2.1	Require each team member to disclose potential COI and professional or intellectual bias	Yes (not explicitly intellectual bias)
2.2.2	Exclude individuals with a clear financial conflict	Yes
2.2.3	Exclude individuals whose professional or intellectual bias would diminish the credibility of the review in the eyes of the intended users	Not explicitly
2.3	Ensure user and stakeholder input as the review is designed and conducted	Yes
2.3.1	Protect the independence of the review team to make the final decisions about the design, analysis, and reporting of the review	Yes
2.4	Manage bias and COI for individuals providing input into the systematic review	Yes
2.4.1	Require individuals to disclose potential COI and professional or intellectual bias	Yes (not intellectual bias)
2.4.2	Exclude input from individuals whose COI or bias would diminish the credibility of the review in the eyes of the intended users	No
2.5	Formulate the topic for the systematic review	Yes
2.5.1	Confirm the need for a new review	Yes
2.5.2	Develop an analytic framework that clearly lays out the chain of logic that links the health intervention to the outcomes of interest and defines the key clinical questions to be addressed by the systematic review	No
2.5.3	Use a standard format to articulate each clinical question of interest	No
2.5.4	State the rationale for each clinical question	No
2.5.5	Refine each question based on user and stakeholder input	Yes
2.6	Develop a systematic review protocol	Yes
2.6.1	Describe the context and rationale for the review from both a decision-making and research perspective	No
2.6.2	Describe the study screening and selection criteria (inclusion/exclusion criteria)	Yes
2.6.3	Describe precisely which outcome measures, time points, interventions, and comparison groups will be addressed	Yes
2.6.4	Describe the search strategy for identifying relevant evidence	Yes
2.6.5	Describe the procedures for study selection	Yes
2.6.6	Describe the data extraction strategy	Yes
2.6.7	Describe the process for identifying and resolving disagreement between researchers in study selection and data extraction decisions	Yes
2.6.8	Describe the approach to critically appraising individual studies	Yes
2.6.9	Describe the method for evaluating the body of evidence, including the quantitative and qualitative synthesis strategies	Yes

IOM Standards for Systematic Reviews		Part of KDIGO Process?
2.6.10	Describe and justify any planned analyses of differential treatment effects according to patient subgroups, how an intervention is delivered, or how an outcome is measured	Yes
2.6.11	Describe the proposed timetable for conducting the review	Yes
2.7	Submit the protocol for peer review	No
2.7.1	Provide a public comment period for the protocol and publicly report on disposition of comments	No
2.8	Make the final protocol publicly available, and add any amendments to the protocol in a timely fashion	No
3.1	Conduct a comprehensive systematic search for evidence	Yes
3.1.1	Work with a librarian or other information specialist trained in performing systematic reviews to plan the search strategy	Yes
3.1.2	Design the search strategy to address each key research question	Yes
3.1.3	Use an independent librarian or other information specialist to peer review the search strategy	No
3.1.4	Search bibliographic databases	Yes
3.1.5	Search citation indexes	No
3.1.6	Search literature cited by eligible studies	No
3.1.7	Update the search at intervals appropriate to the pace of generation of new information for the research question being addressed	Yes
3.1.8	Search subject-specific databases if other databases are unlikely to provide all relevant evidence	N/A
3.1.9	Search regional bibliographic databases if other databases are unlikely to provide all relevant evidence	N/A
3.2	Take action to address potentially biased reporting of research results	No
3.2.1	Search grey-literature databases, clinical trial registries, and other sources of unpublished information about studies	Yes
3.2.2	Invite researchers to clarify information about study eligibility, study characteristics, and risk of bias	No
3.2.3	Invite all study sponsors and researchers to submit unpublished data, including unreported outcomes, for possible inclusion in the systematic review	No
3.2.4	Handsearch selected journals and conference abstracts	Yes
3.2.5	Conduct a web search	No
3.2.6	Search for studies reported in languages other than English if appropriate	Yes
3.3	Screen and select studies	Yes
3.3.1	Include or exclude studies based on the protocol's prespecified criteria	Yes
3.3.2	Use observational studies in addition to randomized clinical trials to evaluate harms of interventions	Yes
3.3.3	Use two or more members of the review team, working independently, to screen and select studies	Yes
3.3.4	Train screeners using written documentation; test and retest screeners to improve accuracy and consistency	Yes
3.3.5	Use one of two strategies to select studies: (1) read all fulltext articles identified in the search or (2) screen titles and abstracts of all articles and then read the full texts of articles identified in initial screening	Yes (2)
3.3.6	Taking account of the risk of bias, consider using observational studies to address gaps in the evidence from randomized clinical trials on the benefits of interventions	Yes
3.4	Document the search	Yes
3.4.1	Provide a line-by-line description of the search strategy, including the date of every search for each database, web browser, etc.	Yes
3.4.2	Document the disposition of each report identified including reasons for their exclusion if appropriate	No
3.5	Manage data collection	Yes
3.5.1	At a minimum, use two or more researchers, working independently, to extract quantitative and other critical data from each study. For other types of data, one individual could extract the data while the second individual independently checks for accuracy and completeness. Establish a fair procedure for resolving discrepancies—do not simply give final decision-making power to the senior reviewer	One reviewer extracted data and the second checked

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3.5.2	Link publications from the same study to avoid including data from the same study more than once	Yes
3.5.3	Use standard data extraction forms developed for the specific SR	Yes
3.5.4	Pilot-test the data extraction forms and process	Yes
3.6	Critically appraise each study	Yes
3.6.1	Systematically assess the risk of bias, using predefined criteria	Yes
3.6.2	Assess the relevance of the study's populations, interventions, and outcome measures	Yes
3.6.3	Assess the fidelity of the implementation of interventions	Yes
4.1	Use a prespecified method to evaluate the body of evidence	Yes
4.1.1	For each outcome, systematically assess the following characteristics of the body of evidence: Risk of bias; Consistency; Precision; Directness; Reporting bias	Yes
4.1.2	For bodies of evidence that include observational research, also systematically assess the following characteristics for each outcome: Dose–response association; Plausible confounding that would change the observed effect; Strength of association	Yes
4.1.3	For each outcome specified in the protocol, use consistent language to characterize the level of confidence in the estimates of the effect of an intervention	Yes
4.2	Conduct a qualitative synthesis	Yes
4.2.1	Describe the clinical and methodological characteristics of the included studies, including their size, inclusion or exclusion of important subgroups, timeliness, and other relevant factors	Yes
4.2.2	Describe the strengths and limitations of individual studies and patterns across studies	Yes
4.2.3	Describe, in plain terms, how flaws in the design or execution of the study (or groups of studies) could bias the results, explaining the reasoning behind these judgments	No
4.2.4	Describe the relationships between the characteristics of the individual studies and their reported findings and patterns across studies	No
4.2.5	Discuss the relevance of individual studies to the populations, comparisons, cointerventions, settings, and outcomes or measures of interest	No
4.3	Decide if, in addition to a qualitative analysis, the systematic review will include a quantitative analysis (meta-analysis)	Yes
4.3.1	Explain why a pooled estimate might be useful to decision makers	No
4.4	If conducting a meta-analysis, then do the following: • Use expert methodologists to develop, execute, and peer review the meta-analyses • Address the heterogeneity among study effects • Accompany all estimates with measures of statistical uncertainty • Assess the sensitivity of conclusions to changes in the protocol, assumptions	N/A
5.1	Prepare final report using a structured format	N/A
5.1.1	Include a report title	N/A
5.1.2	Include an abstract	N/A
5.1.3	Include an executive summary	N/A
5.1.4	Include a summary written for the lay public	N/A
5.1.5	Include an introduction (rationale and objectives)	N/A
5.1.6	Include a methods section. Describe the following:	Yes
	• Research protocol	Yes
	• Eligibility criteria (criteria for including and excluding studies in the systematic review)	Yes
	• Analytic framework and key questions	No
	• Databases and other information sources used to identify relevant studies	Yes
	• Search strategy	Yes
	• Study selection process	Yes
	• Data extraction process	Yes
	• Methods for handling missing information	No

IOM Standards for Systematic Reviews		Part of KDIGO Process?
	• Information to be extracted from included studies	Yes
	• Methods to appraise the quality of individual studies	Yes
	• Summary measures of effect size (e.g., risk ratio, difference in means)	No
	• Rationale for pooling (or not pooling) results of included studies	No
	• Methods of synthesizing the evidence (qualitative and meta-analysis)	Yes
	• Additional analyses, if done, indicating which were prespecified	N/A
5.1.7	Include a results section; organize the presentation of results around key questions; describe the following (repeat for each key question):	N/A
5.1.8	Include a discussion section. Include the following:	N/A[1]
	• Summary of the evidence	Mostly
	• Strengths and limitations of the systematic review	Yes (in Methods Appendix)
	• Conclusions for each key question	No
	• Gaps in evidence	Yes
5.1.9	Include a section describing funding sources and COI	Yes
5.2	Peer review the draft report	N/A
5.2.1	Use a third party to manage the peer review process	N/A
5.2.2	Provide a public comment period for the report and publicly report on disposition of comments	N/A[2]
5.3	Publish the final report in a manner that ensures free public access	N/A[3]

[1] The systematic review is not written up as a separate report. There is no stand-alone discussion section. The evidence is summarized in individual rationale sections of the guideline as needed to support the recommendations. There are no key questions, per se, for which to write conclusions, beyond what is summarized as needed in the rationale for the recommendations. Gaps in the evidence are discussed as needed to support the recommendations.

[2] There is a public comment period for the guideline as a whole, not for the systematic review, per se.

[3] The guideline is published in a manner that ensures free public access; however, there is no stand-alone systematic review published.

IOM Standards for Developing Trustworthy Clinical Practice Guidelines		Part of KDIGO Process?
1. Establishing Transparency		
1.1	The processes by which a CPG is developed and funded should be detailed explicitly and publicly accessible.	Yes
2.	Management of Conflict of Interest (COI)	Yes
2.1	Prior to selection of the guideline development group (GDG), individuals being considered for membership should declare all interests and activities potentially resulting in COI with development group activity, by written disclosure to those convening the GDG:	Yes
	• Disclosure should reflect all current and planned commercial (including services from which a clinician derives a substantial proportion of income), non-commercial, intellectual, institutional, and patient– public activities pertinent to the potential scope of the CPG.	Yes (not intellectual)
2.2	Disclosure of COIs within GDG:	
	• All COI of each GDG member should be reported and discussed by the prospective development group prior to the onset of his or her work.	Reported, not discussed
	• Each panel member should explain how his or her COI could influence the CPG development process or specific recommendations.	No
2.3	Divestment	
	• Members of the GDG should divest themselves of financial investments they or their family members have in, and not participate in marketing activities or advisory boards of, entities whose interests could be affected by CPG recommendations.	Not explicitly
2.4	Exclusions	
	• Whenever possible GDG members should not have COI.	No
	• In some circumstances, a GDG may not be able to perform its work without members who have COIs, such as relevant clinical specialists who receive a substantial portion of their incomes from services pertinent to the CPG.	True for KDIGO
	• Members with COIs should represent not more than a minority of the GDG.	No
	• The chair or cochairs should not be a person(s) with COI.	No
	• Funders should have no role in CPG development.	Yes
3.	Guideline Development Group Composition	
3.1	The GDG should be multidisciplinary and balanced, comprising a variety of methodological experts and clinicians, and populations expected to be affected by the CPG.	Yes
3.2	Patient and public involvement should be facilitated by including (at least at the time of clinical question formulation and draft CPG review) a current or former patient, and a patient advocate or patient/consumer organization representative in the GDG.	No
3.3	Strategies to increase effective participation of patient and consumer representatives, including training in appraisal of evidence, should be adopted by GDGs.	No
4.	Clinical Practice Guideline–Systematic Review Intersection	
4.1	Clinical practice guideline developers should use systematic reviews that meet standards set by the Institute of Medicine's Committee on Standards for Systematic Reviews of Comparative Effectiveness Research.	Yes
4.2	When systematic reviews are conducted specifically to inform particular guidelines, the GDG and systematic review team should interact regarding the scope, approach, and output of both processes.	Yes
5.	Establishing Evidence Foundations for and Rating Strength of Recommendations	
5.1	For each recommendation, the following should be provided:	
	• An explanation of the reasoning underlying the recommendation, including	Yes
	• a clear description of potential benefits and harms;	Yes

IOM Standards for Developing Trustworthy Clinical Practice Guidelines		Part of KDIGO Process?
	• a summary of relevant available evidence (and evidentiary gaps), description of the quality (including applicability), quantity (including completeness), and consistency of the aggregate available evidence;	Yes
	• an explanation of the part played by values, opinion, theory, and clinical experience in deriving the recommendation.	Yes
	• A rating of the level of confidence in (certainty regarding) the evidence underpinning the recommendation	Yes
	• A rating of the strength of the recommendation in light of the preceding bullets	Yes
	• A description and explanation of any differences of opinion regarding the recommendation	Yes
6.	Articulation of Recommendations	
6.1	Recommendations should be articulated in a standardized form detailing precisely what the recommended action is, and under what circumstances it should be performed.	Yes
6.2	Strong recommendations should be worded so that compliance with the recommendation(s) can be evaluated.	Yes
7.	External Review	
7.1	External reviewers should comprise a full spectrum of relevant stakeholders, including scientific and clinical experts, organizations (e.g., health care, specialty societies), agencies (e.g., federal government), patients, and representatives of the public.	Yes
7.2	The authorship of external reviews submitted by individuals and/or organizations should be kept confidential unless that protection has been waived by the reviewer(s).	Yes
7.3	The GDG should consider all external reviewer comments… …and keep a written record of the rationale for modifying or not modifying a CPG in response to reviewers' comments.	Yes Yes
7.4	A draft of the CPG at the external review stage or immediately following it (i.e., prior to the final draft) should be made available to the general public for comment. Reasonable notice of impending publication should be provided to interested public stakeholders.	Yes
8.	Updating	
8.1	The CPG publication date, date of pertinent systematic evidence review, and proposed date for future CPG review should be documented in the CPG.	Yes; The requirement for an update will be assessed periodically from the publication date or earlier if important new evidence becomes available in the interim
8.2	Literature should be monitored regularly following CPG publication to identify the emergence of new, potentially relevant evidence and to evaluate the continued validity of the CPG.	Planned after publication
8.3	CPGs should be updated when new evidence suggests the need for modification of clinically important recommendations. For example, a CPG should be updated if new evidence shows that a recommended intervention causes previously unknown substantial harm; that a new intervention is significantly superior to a previously recommended intervention from an efficacy or harms perspective; or that a recommendation can be applied to new populations.	Planned after publication