



**KDIGO CLINICAL PRACTICE GUIDELINE  
FOR GLOMERULONEPHRITIS**

**Online Appendices 1-3  
May 2012**

## APPENDIX 1: ONLINE SEARCH STRATEGIES

### Appendix 1a. Search strategy for randomized controlled trials on glomerulonephritis

1. glomerulonephritis.mp. or exp Glomerulonephritis/
2. glomerulopathy.tw.
3. exp Nephrotic Syndrome/
4. exp Glomerulonephritis, Membranous/
5. glomerulonephrit\$.tw.
6. exp Glomerulonephritis, Membranoproliferative/
7. membranous nephropathy.mp.
8. IGA nephrit\$.tw.
9. exp Glomerulonephritis, IGA/
10. rapidly progressive glomerulonephr\$.tw.
11. RPGN.tw.
12. (focal sclerosing glomerulopathy or FSGS).tw.
13. Sclerosing Glomerulonephrit\$.tw.
14. glomerulosclerosis.mp.
15. Mesangiocapillary Glomerulonephrit\$.tw.
16. Hypocomplementemic Glomerulonephrit\$.tw.
17. Berger's disease.mp.
18. Focal segmental glomerulosclerosis.mp.
19. Goodpasture syndrome.mp.
20. Nephritis.mp.
21. exp Purpura, Schoenlein-Henoch/
22. exp Antibodies, Antineutrophil Cytoplasmic/ and vasculitis/et
23. exp Glomerulosclerosis, Focal Segmental/
24. exp Nephrosis, Lipoid/
25. Minimal change nephropathy.mp.
26. minimal change disease.mp.
27. churg-strauss syndrome/ or wegener granulomatosis/
28. exp Lupus Nephritis/ or Lupus nephritis.mp.
29. renal vasculitis.mp.
30. or/1-29
31. randomized controlled trial.pt.
32. controlled clinical trial.pt.
33. randomized controlled trials/
34. Random Allocation/
35. Double-blind Method/
36. Single-Blind Method/
37. clinical trial.pt.
38. Clinical Trials.mp. or exp Clinical Trials/
39. (clinic\$ adj25 trial\$).tw.
40. ((singl\$ or doubl\$ or trebl\$ or tripl\$) adj (mask\$ or blind\$)).tw.
41. Placebos/
42. placebo\$.tw.
43. random\$.tw.
44. trial\$.tw.
45. (latin adj square).tw.
46. Comparative Study.tw.
47. exp Evaluation studies/
48. Follow-Up Studies/
49. Prospective Studies/

50. (control\$ or prospectiv\$ or volunteer\$).tw.
51. Cross-Over Studies/
52. or/31-51
53. 52 and 30
54. Animals/ not humans.mp.
55. 53 not 54
56. limit 55 to (guideline or meta analysis or practice guideline or "review")
57. 55 not 56
58. limit 57 to comment and (letter or editorial).pt.
59. limit 57 to (addresses or bibliography or biography or case reports or congresses or consensus development conference or consensus development conference, nih or dictionary or directory or editorial or festschrift or government publications or interview or lectures or legal cases or legislation or news or newspaper article or patient education handout or periodical index)
60. 57 not (58 or 59)

## Appendix 1b. Search strategy for randomized controlled trials on infectious glomerulonephritis

1. Malaria.mp. [mp=ti, ot, ab, sh, hw, kw, nm]
2. exp malaria/
3. exp Schistosomiasis/ or Schistosomiasis.mp.
4. Wucheria bancrofti.mp. [mp=ti, ot, ab, sh, hw, kw, nm]
5. Onchocerca volvulus.mp. [mp=ti, ot, ab, sh, hw, kw, nm]
6. Trypanosoma cruzi.mp. [mp=ti, ot, ab, sh, hw, kw, nm]
7. Trypanosoma brucei.mp. [mp=ti, ot, ab, sh, hw, kw, nm]
8. exp Toxoplasmosis/ or Toxoplasmosis.mp.
9. exp Leishmaniasis/ or Leishmaniasis.mp.
10. Loa loa.mp. [mp=ti, ot, ab, sh, hw, kw, nm]
11. or/1-10
12. glomerulonephritis.mp. or exp Glomerulonephritis/ or glomerul\$.tw.
13. Nephritis.mp. or exp Nephritis/ or nephropathy.tw.
14. 12 or 13
15. 11 and 14
16. randomized controlled trial.pt.
17. controlled clinical trial.pt.
18. randomized controlled trials/
19. Random Allocation/
20. Double-blind Method/
21. Single-Blind Method/
22. clinical trial.pt.
23. Clinical Trials.mp. or exp Clinical Trials/
24. (clinic\$ adj25 trial\$).tw.
25. ((singl\$ or doubl\$ or trebl\$ or tripl\$) adj (mask\$ or blind\$)).tw.
26. Placebos/
27. placebo\$.tw.
28. random\$.tw.
29. trial\$.tw.
30. (randomized control trial or clinical control trial).sd.
31. (latin adj square).tw.
32. Comparative Study.tw. or Comparative Study.pt.
33. exp Evaluation studies/
34. Follow-Up Studies/
35. Prospective Studies/
36. (control\$ or prospectiv\$ or volunteer\$).tw.
37. Cross-Over Studies/
38. or/16-37
39. exp cohort studies/ or exp prospective studies/ or exp retrospective studies/ or exp epidemiologic studies/ or exp case-control studies/
40. (cohort or retrospective or prospective or longitudinal or observational or follow-up or followup or registry).af.
41. case-control.af. or (case adj10 control).tw.
42. ep.fs.
43. or/39-42
44. 38 or 43
45. 44 and 15
46. Animals/ not humans/
47. 45 not 46
48. (guideline or meta analysis or practice guideline or "review").mp. [mp=ti, ot, ab, sh, hw, kw, nm]
49. 47 not 48
50. limit 49 to yr="1980-2009"

## Appendix 1c. Search strategy for systematic reviews on glomerulonephritis

1. glomerulonephritis.mp. or exp Glomerulonephritis/
2. glomerulopathy.tw.
3. exp Nephrotic Syndrome/
4. exp Glomerulonephritis, Membranous/
5. glomerulonephrit\$.tw.
6. exp Glomerulonephritis, Membranoproliferative/
7. membranous nephropathy.mp.
8. IGA nephrit\$.tw.
9. renal vasculitis.mp.
10. exp Glomerulonephritis, IGA/
11. rapidly progressive glomerulonephrit\$.tw.
12. RPGN.tw.
13. (focal sclerosing glomerulopathy or FSGS).tw.
14. Sclerosing Glomerulonephrit\$.tw.
15. glomerulosclerosis.mp.
16. Mesangiocapillary Glomerulonephrit\$.tw.
17. Hypocomplementemic Glomerulonephrit\$.tw.
18. Berger's disease.mp.
19. Focal segmental glomerulosclerosis.mp.
20. Goodpasture syndrome.mp.
21. Nephritis.mp.
22. exp Purpura, Schoenlein-Henoch/
23. exp Antibodies, Antineutrophil Cytoplasmic/ and vasculitis/et
24. exp Glomerulosclerosis, Focal Segmental/
25. exp Nephrosis, Lipoid/
26. Minimal change nephropathy.mp.
27. minimal change disease.mp.
28. churg-strauss syndrome/ or wegener granulomatosis/
29. exp Lupus Nephritis/ or Lupus nephritis.mp.
30. or/1-29
31. meta analysis.mp. or exp Meta-Analysis/
32. (meta-analysis or metaanalysis).ti.
33. systematic review.mp.
34. systematic literature.mp.
35. systematic review.ti.
36. systematic review\$.tw.
37. (guideline or practice guideline).mp.
38. (evidence review or evidence based).mp. [mp=ti, ab, tx, kw, ct, ot, nm, hw]
39. or/31-38
40. 30 and 39
41. remove duplicates from 40
42. Animals/ not humans.mp.
43. 41 not 42
44. limit 43 to comment and (letter or editorial).pt.
45. limit 43 to (addresses or bibliography or biography or case reports or congresses or consensus development conference or consensus development conference, nih or dictionary or directory or editorial or festschrift or government publications or interview or lectures or legal cases or legislation or news or newspaper article or patient education handout or periodical index)
46. 43 not (44 or 45)

## Appendix 1d. Search strategy for predictor studies on glomerulonephritis

1. exp recurrence/
2. exp disease progression/
3. exp kaplan-meiers estimate/
4. exp risk factors/
5. exp multivariate analysis/
6. exp survival analysis/
7. exp treatment outcome/
8. exp remission induction/
9. exp glomerulonephritis/
10. or/2-9
11. 10 and 11
12. limit 12 to (english language and humans)
13. limit 13 to (addresses or bibliography or biography or case reports or clinical conference or comment or congresses or consensus development conference or consensus development conference, nih or dictionary or directory or editorial or festschrift or government publications or historical article or in vitro or interactive tutorial or interview or lectures or legal cases or legislation or letter or news or newspaper article or patient education handout or periodical index or portraits or retracted publication or "retraction of publication" or "scientific integrity review")
14. 13 not 14
15. remove duplicates from 15

## APPENDIX 2: THE CONFERENCE ON GUIDELINE STANDARDIZATION (COGS) CHECKLIST FOR REPORTING CLINICAL PRACTICE GUIDELINES

| Topic                     | Description  | Discussed in KDIGO GN Guideline   |
|---------------------------|--|---|
| 1. Overview material      | Provide a structured abstract that includes the guideline's release date, status (original, revised, updated), and print and electronic sources.   | Executive Summary.  |
| 2. Focus                  | Describe the primary disease/condition and intervention/service/technology that the guideline addresses. Indicate any alternative preventative, diagnostic or therapeutic interventions that were considered during development. | The "Guideline Scope" is addressed in a separate section in the introduction.   |
| 3. Goal                   | Describe the goal that following the guideline is expected to achieve, including the rationale for development of a guideline on this topic.   | This clinical practice guideline is intended to assist the practitioner caring for patients with biopsy-proven GN, and to improve kidney survival and the patients' quality of life.  |
| 4. User/setting           | Describe the intended users of the guideline (e.g., provider types, patients) and the settings in which the guideline is intended to be used.  | This guideline is primarily for the practicing nephrologist but does have application for other medical profession that directly care for kidney patients with GN.<br>Policy Makers: Those in related health fields.  |
| 5. Target population      | Describe the patient population eligible for guideline recommendations and list any exclusion criteria.  | All patients with the most common variants of primary and secondary GN in both the adult and pediatric populations. Exclusions are listed in the introductory chapter.  |
| 6. Developer              | Identify the organization(s) responsible for guideline development and the names/credentials/potential conflicts of interest of individuals involved in the guideline's development.   | Organization: KDIGO<br>Names/credentials/potential conflicts of interest of individuals involved in the guideline's development are disclosed in the Biographic and Disclosure Statements.  |
| 7. Funding source/sponsor | Identify the funding source/sponsor and describe its role in developing and/or reporting the guideline. Disclose potential conflict of interest.   | KDIGO is supported by the following consortium of sponsors: Abbott, Amgen, Belo Foundation, Coca-Cola Company, Dole Food Company, Genzyme, Hoffmann-LaRoche, JC Penney, NATCO—The Organization for Transplant Professionals, National Kidney Foundation—Board of Directors, Novartis, Robert and Jane Cizik Foundation, Shire, Transwestern Commercial Services, and Wyeth. No funding is accepted for the development or reporting of specific guidelines. All stakeholders could participate in open review. Refer to Biographic and Disclosure Statements. |
| 8. Evidence collection    | Describe the methods used to search the scientific literature, including the range of dates and databases searched, and criteria applied to filter the retrieved evidence.   | The MEDLINE, Cochrane Central Registry for trials, and Cochrane database of systematic reviews were searched by the ERT to capture all citations relevant to the topic of GN, including original articles, systematic reviews, and previous guidelines. The search was updated through January 2011 and supplemented by articles identified by Work Group members through November 2011.  |

| Topic                                | Description   | Discussed in KDIGO GN Guideline   |
|--------------------------------------|---|---|
| 9. Recommendation grading criteria   | Describe the criteria used to rate the quality of evidence that supports the recommendations and the system for describing the strength of the recommendations. Recommendation strength communicates the importance of adherence to a recommendation and is based on both the quality of the evidence and the magnitude of anticipated benefits and harm. | Quality of individual studies was graded in a three-tiered grading system (see Table 34). Quality of evidence and strength of recommendations were graded following the GRADE approach (Table 36 and Table 38). The Work Group could provide general guidance in ungraded statements.   |
| 10. Method for synthesizing evidence | Describe how evidence was used to create recommendations, e.g., evidence tables, meta-analysis, decision analysis.  | 1) Topics were triaged either to a) systematic review; b) systematic search followed by narrative summary; or c) narrative summary. For systematic review topics, summary tables and evidence profiles were generated.<br>2) For recommendations on treatment interventions, the steps outlined by GRADE were followed.   |
| 11. Prerelease review                | Describe how the guideline developer reviewed and/or tested the guidelines prior to release.  | The guideline had undergone internal (i.e., KDIGO Board) and external public review.  |
| 12. Update plan                      | State whether or not there is a plan to update the guideline and, if applicable, expiration date for this version of the guideline.   | There is no date set yet for updating. The updating of the guideline will depend on the publication of new evidence that would change the quality of the evidence or the estimates for effect sizes. Results from registered ongoing studies and other publications will be reviewed periodically to evaluate their potential to impact on the recommendations in this guideline. |
| 13. Definitions                      | Define unfamiliar terms and those critical to correct application of the guideline that might be subject to misinterpretation.  | See Abbreviations and Acronyms.   |
| 14. Recommendations and rationale    | State the recommended action precisely and the specific circumstances under which to perform it. Justify each recommendation by describing the linkage between the recommendation and its supporting evidence. Indicate the quality of evidence and the recommendation strength, based on the criteria described in 9.                                    | Recommendations for management of each of the GN variants described in the guideline are provided within each focused chapter. Each recommendation builds on a supporting rationale with evidence tables if available. The strength of the recommendation and the quality of evidence are provided in parenthesis within each recommendation.                                     |
| 15. Potential benefits and harm      | Describe anticipated benefits and potential risks associated with implementation of guideline recommendations.  | The benefits and harm for each intervention are provided in summary tables and summarized in evidence profiles. The estimated balance between potential benefits and harm was considered when formulating the recommendations.  |
| 16. Patient preferences              | Describe the role of patient preferences when a recommendation involves a substantial element of personal choice or values.   | Level 2 recommendations inherently indicate a greater need to help each patient arrive at a management decision consistent with her or his values and preferences.  |
| 17. Algorithm                        | Provide (when appropriate) a graphical description of the stages and decisions in clinical care described by the guideline.   | These were not provided in the guideline in each chapter but, where available, they have been included.   |
| 18. Implementation considerations    | Describe anticipated barriers to application of the recommendations. Provide reference to any auxiliary documents for providers or patients that are intended to facilitate implementation. Suggest review criteria for measuring changes in care when the guideline is implemented.  | These recommendations are global. Review criteria were not suggested because implementation with prioritization and development of review criteria have to proceed locally. Suggestions were provided for future research.  |

ERT, Evidence Review Team; GN, glomerulonephritis; GRADE, Grading of Recommendations Assessment, Development, and Evaluation; KDIGO, Kidney Disease: Improving Global Outcomes. Adapted with permission: Shiffman RN, Shekelle P, Overhage JM, et al. Standardized reporting of clinical practice guidelines: a proposal from the Conference on Guideline Standardization. *Ann Intern Med* 2003; 139: 493-498.

## APPENDIX 3: CONCURRENCE WITH INSTITUTE OF MEDICINE STANDARDS FOR SYSTEMATIC REVIEWS AND FOR GUIDELINES

| IOM Standards for Systematic Reviews  | Part of<br>KDIGO<br>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<br>intellectual<br>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<br>intellectual<br>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  | No                                |
| 2.6.8 Describe the approach to critically appraising individual studies   | Yes                               |

| IOM Standards for Systematic Reviews |  | Part of KDIGO Process? |
|--------------------------------------|--|------------------------|
| 2.6.9                                | Describe the method for evaluating the body of evidence, including the quantitative and qualitative synthesis strategies   | Yes                    |
| 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   | No                     |
| 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  | No                     |
| 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  | No                     |
| 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   | No                     |
| 3.3.3                                | Use two or more members of the review team, working independently, to screen and select studies  | No                     |
| 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  | No                     |
| 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                    |

| IOM Standards for Systematic Reviews   | Part of KDIGO Process? |
|--|------------------------|
| 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 | Single extraction      |
| 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 (no meta-analyses) |
| 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:  | 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  | No                     |
| • 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                    |

| IOM Standards for Systematic Reviews   | Part of KDIGO Process? |
|--|------------------------|
| • Methods for handling missing information   | No                     |
| • 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 <sup>1</sup>       |
| • Summary of the evidence  | Mostly                 |
| • Strengths and limitations of the systematic review   | No                     |
| • 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 <sup>2</sup>       |
| 5.3 Publish the final report in a manner that ensures free public access   | N/A <sup>3</sup>       |

<sup>1</sup> 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.

<sup>2</sup> There is a public comment period for the guideline as a whole, not for the systematic review, per se.

<sup>3</sup> 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                                |
|   | <ul style="list-style-type: none"> <li>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.</li> </ul> | Yes (not intellectual)             |
| 2.2   | Disclosure of COIs within GDG:   |                                    |
|   | <ul style="list-style-type: none"> <li>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.</li> </ul>  | Reported, not discussed            |
|   | <ul style="list-style-type: none"> <li>Each panel member should explain how his or her COI could influence the CPG development process or specific recommendations.</li> </ul>   | No                                 |
| 2.3   | Divestment   |                                    |
|   | <ul style="list-style-type: none"> <li>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.</li> </ul>                             | Not explicitly                     |
| 2.4   | Exclusions   |                                    |
|   | <ul style="list-style-type: none"> <li>Whenever possible GDG members should not have COI.</li> </ul>   | No                                 |
|   | <ul style="list-style-type: none"> <li>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.</li> </ul>   | True for KDIGO                     |
|   | <ul style="list-style-type: none"> <li>Members with COIs should represent not more than a minority of the GDG.</li> </ul>  | No majority had any particular COI |
|   | <ul style="list-style-type: none"> <li>The chair or cochairs should not be a person(s) with COI.</li> </ul>  | Yes                                |
|   | <ul style="list-style-type: none"> <li>Funders should have no role in CPG development.</li> </ul>  | 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:   |                                    |
|   | <ul style="list-style-type: none"> <li>An explanation of the reasoning underlying the recommendation, including</li> </ul>   | Yes                                |
|   | <ul style="list-style-type: none"> <li>a clear description of potential benefits and harms;</li> </ul>   | Yes                                |

| IOM Standards for Developing Trustworthy Clinical Practice Guidelines   | Part of KDIGO Process?                             |
|---|--|
| <ul style="list-style-type: none"> <li>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;</li> </ul>  | Yes  |
| <ul style="list-style-type: none"> <li>an explanation of the part played by values, opinion, theory, and clinical experience in deriving the recommendation.</li> </ul>   | Yes  |
| <ul style="list-style-type: none"> <li>A rating of the level of confidence in (certainty regarding) the evidence underpinning the recommendation</li> </ul>   | Yes  |
| <ul style="list-style-type: none"> <li>A rating of the strength of the recommendation in light of the preceding bullets</li> </ul>  | Yes  |
| <ul style="list-style-type: none"> <li>A description and explanation of any differences of opinion regarding the recommendation</li> </ul>  | 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...<br>...and keep a written record of the rationale for modifying or not modifying a CPG in response to reviewers' comments.   | Yes<br>No  |
| 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, except no proposed date for future CPG review |
| 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                          |