

The *American Journal of Kidney Diseases (AJKD)* serves clinicians and scientists who treat and investigate kidney disease and associated conditions. *AJKD* is dedicated to providing high-quality, clinically relevant information in the form of original research articles, case reports, narrative reviews, editorials, and features.

CATEGORIES OF ARTICLES

AJKD welcomes manuscripts in the categories listed below. Authors should adhere to the guidelines provided.

Original Investigations evaluate pathogenesis and treatment of kidney disease and hypertension, acid-base and electrolyte disorders, dialysis therapies, and kidney transplantation. *AJKD* considers only manuscripts that focus on clinical research; studies that focus on laboratory measurements are suitable only if they are directly linked to measurements or outcomes in humans. For clinical trials, *AJKD* requires registration in a public trials registry; more information about the clinical trial registration policy is provided in the *Editorial Policies* section of the *AJKD* website (www.ajkd.org).

An Original Investigation includes a structured abstract of 300 words or fewer and is limited to 3,500 words (excluding abstract, references, acknowledgements, tables, and figure legends). Criteria for review include validity, originality, and clinical importance. A list of study designs follows; flowcharts and checklists from the listed reporting guidelines are provided in Appendix I.

i. Clinical Trial: A clinical trial is an experimental study that assesses the effect of an intervention or compares the effects of 2 or more interventions. Reporting guidelines vary according to the design.

- Randomized Controlled Trial (RCT): The CONSORT Flowchart should be consulted for reporting participant flow through enrollment, allocation, follow-up, and analysis. Customized CONSORT checklists are available in Appendix I for each of the study types listed below.

- Trial with Parallel Group Design
- Cluster-Randomized Trial
- Noninferiority and Equivalence Randomized Trial
- Trial of Herbal Medicine Intervention
- Pragmatic Trial
- Trial of Nonpharmacologic Treatment

Note: If appropriate, the CONSORT Checklist for Reporting of Harms in RCTs should also be consulted.

- Nonrandomized Trial for Evaluation of Behavioral and Public Health Interventions: The TREND Checklist should be consulted for reporting guidance.

ii. Observational Study: An observational study entails the observation and description of individuals or patients based on their exposure to an intervention or risk factor. In contrast to a trial, investigators do not deliver an intervention or manipulate its use; ie, they do not assign patients to treatment and control groups. Specific guidelines vary according to study design and are listed below. Although no dedicated guidelines are available for reports from registries, *AJKD* also considers observational studies of this form.

- Cohort Study: STROBE Checklist for Cohort Studies
- Case-Control Study: STROBE Checklist for Case-Control Studies
- Cross-sectional Study: STROBE Checklist for Cross-sectional Studies
- Gene-Disease Association Study: STREGA Checklist for Genetic Association Studies

iii. Diagnostic Test Study: A diagnostic test study compares the performance of 2 or more diagnostic tests.

The [STARD Flowchart of Diagnostic Test Results](#) should be consulted for reporting participant flow through enrollment, testing, and results and the [STARD Checklist](#) should be consulted for format recommendations.

iv. *Systematic Review or Meta-analysis*: A systematic review follows an explicit protocol to systematically identify, appraise, and synthesize the findings of studies that address a similar question; a meta-analysis, which contains a quantitative synthesis of the results of the systematic review, is preferred, whenever possible. The [PRISMA Flow Diagram](#) should be consulted for reporting study yield and selection. Specific guidelines vary according to the studies analyzed, as listed below.

- Meta-analysis of Randomized Controlled Trials: [PRISMA Meta-analysis of RCTs Checklist](#)
- Meta-analysis of Observational Studies: [MOOSE Meta-analysis of Observational Studies Checklist](#)
- Meta-analysis of Gene-Disease Association Studies:
 - Human Genome Epidemiology Network Review Handbook (PDF freely available at www.medicine.uottawa.ca/public-health-genomics/web/assets/documents/HuGE_Review_Handbook_V1_0.pdf)
 - Ioannidis et al. Assessment of cumulative evidence on genetic associations: interim guidelines. *Int J Epidemiol.* 2008;37(1):120-132. (PDF [freely available](#))
 - Sagoo GS, Little J, Higgins JPT. Systematic reviews of genetic association studies. *PLoS Med.* 2009;6(3):e1000028. (PDF [freely available](#))

v. *Decision Analysis or Cost-Effectiveness Analysis*: A decision analysis weighs choices in a clinical scenario by modeling the projected consequences of different strategies in order to identify the optimal choice or to inform clinical decision-making or public policy. The following published recommendations for format should be consulted:

- Siegel JE, Weinstein MC, Russell LB, Gold MR. Recommendations for reporting cost-effectiveness analyses. Panel on Cost-effectiveness in Health and Medicine. *JAMA.* 1996;276(16):1339-1341.
- Drummond MF, Jefferson TO. Guidelines for authors and peer reviewers of economic submissions to the BMJ. The BMJ Economic Evaluation Working Party. *BMJ.* 1996;313(7052):275-283.

vi. *Quality Improvement Report*: A quality improvement report describes an activity that was conducted as an initiative to improve quality of care and that does not follow the design of a prospective research study such as a clinical trial or an observational study. The [SQUIRE Checklist](#) provides guidance on reporting.

vii. *Case Series*: A case series is a retrospective description of the clinical course of more than 10 individuals or patients. Unlike an observational study, a case series may or may not have a predictor.

Case Reports should be succinct and original and should have a single, well-defined message. These articles are limited to 1,400 words and no more than 2 figures or tables; an abstract (up to 200 words) is required. Case Reports consist of an Introduction, Case Report, and Discussion. The number of individuals or patients should be 10 or fewer. Criteria for review include clinical plausibility and originality. A maximum of 8 authors is generally recommended.

Special Articles encompass content that does not fit in the aforementioned categories and may cover any topic of interest to *AJKD* readers. These articles are limited to 4,000 words and must include an abstract. Abstracts are unstructured and limited to 200 words, unless the manuscript reports original research, in which case the abstract may contain up to 300 words and is structured into the following sections: Background, Methods, Results, and Conclusion.

AJKD also publishes the following features; submissions are welcome unless otherwise noted.

Core Curriculum: An outline providing readers with a basic analytical framework for approaching various topics in clinical nephrology. The feature is primarily intended for use by residency and fellowship program directors to develop educational programs. Core Curricula are written by invitation only; potential authors who wish to propose a topic should contact the Education Editor via the editorial office (AJKD@tuftsmedicalcenter.org).

Editorial: A brief piece which provides focused commentary and analysis on an article published in *AJKD* or in another journal, or on a current issue in nephrology. *In the Literature* editorials evaluate recent articles published in non-nephrology journals which affect the nephrology community. Editorials may have up to 1,400 words and may include 1 figure or table; a maximum of 3 authors is generally recommended. Editorials are usually invited but may be submitted without invitation.

In a Few Words: A nonfiction narrative essay which gives voice to the personal experiences and stories that define kidney disease. Submissions from physicians, allied health professionals, patients, or family members are welcome, and may concern the personal, ethical, or policy implications of any aspect of kidney disease in adults and children (acute kidney injury, chronic kidney disease, dialysis, transplantation, ethics, health policy, genetics, etc). Footnotes or references are discouraged. Essays may have up to 1,600 words, and should be submitted via e-mail to the editorial office (AJKD@tuftsmedicalcenter.org).

In Practice: A review providing in-depth guidance on clinical topics beyond nephrology that affect nephrologists daily. This feature begins with a clinical vignette and then examines special considerations in the day-to-day treatment of patients with chronic kidney disease and end-stage renal disease. These articles may have up to 4,000 words and 6 figures or tables; an unstructured abstract of up to 200 words is required. In Practice articles are generally invited, but potential authors who wish to propose a topic should contact the Deputy Editor via the editorial office (AJKD@tuftsmedicalcenter.org).

In Translation: An authoritative analysis of developments in basic science with diagnostic or therapeutic implications in the clinical practice of nephrology. This feature includes a clinical vignette and describes the pathogenesis of a disease process or its complications as well as recent advances in the field, giving particular attention to cellular and molecular mechanisms of disease and their relation to diagnostic approaches or therapeutic applications. These articles may have up to 4,000 words and 6 figures or tables; an unstructured abstract of up to 200 words is required. In Translation is organized into the following sections: Background (250 words), Case Vignette (300 words), Pathogenesis, Recent Advances, and Summary. A maximum of 6 authors is generally recommended.

Letter to the Editor: Correspondence may be in response to an article in *AJKD* or may concern a topic of current interest in nephrology. In general, letters should not exceed 250 words (up to 10 references and 1 figure or table may also be included) and should not list more than 3 authors. For responses to *AJKD* articles, the letter must be received no more than 4 weeks after the article's date of print publication. There is no guarantee that letters will be published, and they are subject to editing and abridgment without notice. For letters that discuss research findings, authors may submit a *Research Letter*, which may include up to 800 words, 10 references, and a total of 2 figures or tables. *Research Letters* evaluate topics relevant to clinical practice, and include an introduction, concise methods/results, and a discussion in separate paragraphs (no subheadings are used); online supplementary material is encouraged for detailed methods or supporting information. As reports of cases do not include methods, they are not suitable for the *Research Letters* section. There is no author limit for *Research Letters*.

Narrative Review: A review which covers a clinical, translational, or basic science topic of interest to practitioners. Criteria for review include originality, comprehensiveness, and balance of viewpoints. These articles may have up to 4,000 words and must include an unstructured abstract of up to 200 words. The editors encourage the use of figures and tables (up to 8 combined) to assist in the presentation of the central concepts. A maximum of 6 authors is generally recommended.

Quiz Page: An image-based educational feature that recurs monthly; images from the page often appear on the cover of *AJKD*. The first section includes a concise clinical history (150 words or fewer), a maximum of 4 figures, and 1 to 4 brief questions pertaining to the case. An answer to each question, further information regarding the clinical entity, and a brief statement of the final diagnosis should be provided in a separate answer section, which may include an additional 2 to 4 figures and in most cases should have no more than 200 words. For initial submission, Quiz Pages should include a standard title page. A maximum of 4 authors is generally recommended.

Teaching Cases:

Kidney Biopsy Teaching Case: A case report to educate clinicians on pathologic correlates of clinical presentations, with key educational points well delineated in the discussion. These teaching cases may have up to 1,800 words and no more than 4 figures or tables, must include an abstract, and are organized into the

following sections: Introduction, Case Report (with 4 subsections: Clinical History and Initial Laboratory Data, Kidney Biopsy, Diagnosis, and Clinical Follow-up), and Discussion. A maximum of 4 authors is generally recommended.

Imaging Teaching Case: A case report to educate clinicians on interpretation and applications of imaging in clinical nephrology. Key educational points should be clearly delineated in the discussion. These teaching cases may have up to 1,800 words and no more than 4 figures or tables, must include an abstract, and are organized into the following sections: Introduction, Case Report (with 4 subsections: Clinical History and Initial Laboratory Data, Imaging Studies, Diagnosis, and Clinical Follow-up), and Discussion. A maximum of 4 authors is generally recommended.

Acid-Base and Electrolyte Teaching Case: A case report to educate clinicians on the pathophysiology of various acid-base and electrolyte disorders and the interpretation of laboratory studies. Key points should be clearly delineated in the discussion. These teaching cases may have up to 1,800 words and no more than 4 figures or tables, and must include an abstract. The case discussion should be divided into the following sections: Introduction, Case Report (with 4 subsections: Clinical History and Initial Laboratory Data, Additional Investigations, Diagnosis, and Clinical Follow-up), and Discussion. A maximum of 4 authors is generally recommended. Acid-Base and Electrolyte Teaching Cases are often invited by the editors; each case is chosen specifically to emphasize either diagnosis or treatment of a particular disorder and to illustrate the most efficient and practical approach utilized by an expert in the field. Potential authors who wish to propose a topic should contact the Feature Editor via the editorial office (AJKD@tuftsmedicalcenter.org).

World Kidney Forum: A narrative review that explores the socioeconomic, geopolitical, ethical, and historical issues related to kidney disease and the wider world of nephrology. Submissions may have up to 4,000 words, and an unstructured abstract of up to 200 words is required. A maximum of 6 authors is generally recommended.

Two editors will review all manuscripts submitted to *AJKD*, generally within 1 week. If the editors deem that the manuscript is unlikely to be published in *AJKD*, it may be rejected at this stage. With the exception of letters, Quiz Pages, invited editorials, and In a Few Words, manuscripts will then undergo external review. Further details on the review process are available in the *Editorial Policies* section of the *AJKD* website.

INFORMED CONSENT, QUALITY IMPROVEMENT ACTIVITIES, AND PRIVACY

Regardless of country of origin, all studies in humans must include a description of appropriate safeguards (eg, local Institutional Review Board, Ministry of Health approval) in the Methods section.

When submitting a quality improvement report, authors should indicate whether the plan for the quality improvement activity has been approved by the clinical leadership of the organization whose experience is reported.

Whenever possible, any information identifying individual study participants should be avoided. If identifying information is necessary, the patient must be shown the manuscript and provide written informed consent before publication.

CONFLICT OF INTEREST POLICY

AJKD policies and procedures generally follow those of the International Committee of Medical Journal Editors, as published in the "Uniform Requirement for Manuscripts Submitted to Biomedical Journals: Writing and Editing for Biomedical Publication" (updated October 2008; www.icmje.org).

A conflict of interest exists when an author, reviewer, or editor has financial or personal relationships with other persons or organizations that may inappropriately influence or bias his or her actions. There is a potential for a conflict of interest whether or not an individual believes that a relationship affects his or her scientific judgment. Conflicts can occur as the result of employment, consultancies, stock ownership, honoraria, paid expert testimony or opinions, personal and family relationships, or academic competitive pressures. All participants in the peer review and publication process must disclose all relationships that could be viewed as a potential conflict of interest.

Potential Author Conflicts

Authors should disclose at the time of manuscript submission all financial and interpersonal relationships that

could be viewed as presenting a potential conflict of interest. These include, but are not limited to, any financial relationship that involves conditions or tests or treatments discussed in the manuscript or alternatives to tests or treatments. Authors should disclose information even when there is a question as to whether a relationship constitutes a conflict. Potential conflicts should be listed for each author on the page following the title page; a summary of relevant information will be published with the manuscript.

Authorship of editorials and reviews requires interpretation of the literature and therefore is inherently subject to bias, thus *AJKD* requests that authors of such manuscripts not have a significant financial interest in the subject matter of the manuscript.

Potential Reviewer Conflicts

Individuals who have potential conflicts of interest should not serve as peer reviewers. This includes individuals who closely collaborate either in clinical care or research with authors as well as individuals who may have a financial interest in the subject matter of the manuscript being reviewed. Authors may provide editors with the names of persons they feel should not review their manuscript because of a potential conflict. However, when possible, authors should explain the reason(s) for their concerns. Editors will try to avoid selecting reviewers who have potential conflicts of interest. Individuals who have been invited to review a manuscript must disclose any conflicts that could bias their opinions, and they should disqualify themselves from reviewing when appropriate.

Potential Editor Conflicts

AJKD follows comprehensive policies dictating the treatment of submissions that are associated with the editors. Detailed information is available in the *Editorial Policies* section of the *AJKD* website.

AUTHORSHIP

In accordance with International Committee of Medical Journal Editors recommendations, all authors must have a significant role in the manuscript. This means that all 3 of the following conditions must be met:

- (1) the individual made a substantial contribution to conception and design of the study, to data acquisition, or to data analysis and interpretation; and
- (2) the individual wrote the article and/or revised the article for important intellectual content; and
- (3) the individual approved the final version of the submitted manuscript.

Note: If the manuscript is subsequently accepted, the individual must also approve the final version that is accepted for publication.

All individuals who contributed to the writing of the manuscript must be identified either as an author or in the acknowledgements section of the manuscript. In particular, if medical writer(s)/editor(s) have been involved, their role must be explicitly acknowledged, and their affiliation/source of funding must be listed.

At the editor's discretion, a description of the contribution of each individual listed as an author may be requested by the journal.

MANUSCRIPT PREPARATION AND SUBMISSION

All manuscripts are submitted and processed using Editorial Manager, an online manuscript handling system accessible at www.editorialmanager.com/ajkd. Assistance with Editorial Manager is available from the editorial office staff, who may be contacted at +1 617-636-0599 or AJKD@tuftsmedicalcenter.org.

Manuscript Length and Text Format

Word limits are provided in the "Categories of Articles" section of this document. If following the recommended formats for reporting original research causes the manuscript to exceed the stated length limitation, the authors need not reduce the manuscript length before submission. If revision is requested, the editors will provide guidance on appropriate reductions or the use of supplementary online material.

Manuscripts must be double-spaced using 12-point type (preferably Times New Roman) and unjustified margins. Pages must be numbered starting with the title page.

Title Page

The title page should include the following: (1) title (concise and descriptive); (2) each author's first and last

names and highest degree; (3) institution of each author; (4) corresponding author’s name, address, telephone and fax numbers, and e-mail address; (5) word counts for the abstract and the body of the manuscript; and (6) a short title (45 characters or fewer, including spaces) to be used as a running head.

Note: All individuals listed as authors must fulfill the journal’s definition of authorship. The author who is named as the corresponding author on the manuscript’s title page must be the individual to whom all Editorial Manager–related correspondence is directed.

Support and Financial Disclosure Declaration

The second page of each manuscript should acknowledge research support (from funding agencies or industry) and disclose any potential financial conflicts of interest (relevant consulting fees, stock options, employment, etc) for each author. If no financial conflict of interest is identified, ‘none’ should be written next to the author name.

Note: If the manuscript is accepted for publication, a summary of the relevant information will be transferred to the “Support” and “Financial Disclosure” sections of the Acknowledgements.

Abstract

Original Investigations must include a brief (300 words or fewer) structured abstract followed by a short list of index words. Formats for abstracts differ according to type of study and should follow the guidelines listed in the following table.

Clinical Trial	Background	Study Design	Setting & Participants	Intervention	Outcomes	Measurements	Results	Limitations	Conclusions
Observational Study	Background	Study Design	Setting & Participants	Predictor or Factor	Outcomes	Measurements	Results	Limitations	Conclusions
Diagnostic Test Study	Background	Study Design	Setting & Participants	Index Test	Reference Test or Outcome	Other Measurements (if applicable)	Results	Limitations	Conclusions
Systematic Review or Meta-Analysis	Background	Study Design	Setting & Population	Selection Criteria for Studies	Intervention, Predictor or Factor, or Index Tests (<i>select 1</i>)	Outcomes or Reference Tests (<i>select 1</i>)	Results	Limitations	Conclusions
Decision Analysis/Cost-Effectiveness Analysis	Background	Study Design	Setting & Population	Model, Perspective, & Timeframe	Intervention	Outcomes	Results	Limitations	Conclusions
Quality Improvement Report	Background	Study Design	Setting & Participants	Quality Improvement Plan	Outcomes	Measurements	Results	Limitations	Conclusions
Case Series	Background	Study Design	Setting & Participants	Predictor or Factor (if applicable)	Outcomes	Measurements	Results	Limitations	Conclusions

Although the abstract headings listed above are not identical to CONSORT recommendations, authors interested in further guidance on abstract preparation are referred to the following article: Hopewell S, Clarke M, Moher D, et al. CONSORT for reporting randomized controlled trials in journal and conference abstracts: explanation and elaboration. *PLoS Med.* 2008;5(1):e20 (PDF [freely available](#)).

Abstracts for Case Reports, In Practice, In Translation, Narrative Reviews, teaching cases, and the World Kidney Forum are unstructured and are limited to 200 words. Abstracts for Special Articles are unstructured and limited to 200 words, unless original research is being reported, in which case they may contain up to 300 words and should be structured into Background, Methods, Results, and Conclusions sections.

Manuscript Body

Original Investigations should be organized into the following sections: Introduction, Methods, Results, and Discussion. The Introduction and Discussion sections should not include any subheadings. In writing each section, authors should refer to the recommended formats for reporting as described in [Appendix I](#) of this document.

Information on the organization of other article types is available in the individual article descriptions in the “Categories of Articles” section of this document.

Acknowledgements

If authors wish to express thanks or acknowledge assistance, an acknowledgements section should be inserted after the manuscript text and before the reference list. Additionally, all individuals who contributed to the writing of the manuscript but who do not qualify as authors must be named in this section. Authors are responsible for informing all listed individuals/parties that they are being mentioned in the manuscript and for obtaining their approval prior to publication.

Note: Until a manuscript is accepted for publication, support and financial disclosure information should remain on the page following the title page.

References

References should be compiled at the end of the manuscript according to the order of citation in the text and should follow the style and format recommended by the American Medical Association. A summary of the most common reference types is provided below. Authors using reference handling software (eg, EndNote, Reference Manager) should use the American Medical Association output style (equivalent to the *JAMA* style). Further information may also be found in the *AMA Manual of Style*.

Examples

Journal article (6 or fewer authors):

MacKinnon M, Shurraw S, Akbari A, Knoll GA, Jaffey J, Clark HD. Combination therapy with an angiotensin receptor blocker and an ACE inhibitor in proteinuric renal disease: A systematic review of the efficacy and safety data. *Am J Kidney Dis.* 2006;48(1):8-20.

Journal article (more than 6 authors):

Ponticelli C, Passerini P, Salvadori M, et al. A randomized pilot trial comparing methylprednisolone plus a cytotoxic agent versus synthetic adrenocorticotrophic hormone in idiopathic membranous nephropathy. *Am J Kidney Dis.* 2006;47(2):233-240.

Journal article which has been published online but is not yet available in print:

St. Peter WL, Liu J, Weinhandl E, Fan Q. A comparison of sevelamer and calcium-based phosphate binders on mortality, hospitalization, and morbidity in hemodialysis: A secondary analysis of the dialysis clinical outcomes revisited (DCOR) randomized trial using claims data. *Am J Kidney Dis.* 2008. doi:10.1053/j.ajkd.2007.12.002.

Supplement:

National Kidney Foundation. KDOQI Clinical Practice Guidelines and Clinical Practice Recommendations for Anemia in Chronic Kidney Disease. *Am J Kidney Dis.* 2006;47(5)(suppl 3):S1-S145.

Item presented at a meeting but not yet published:

Richardson MM, Saris-Baglana, RN, Anatchkova MD, et al. Patient experience of chronic kidney disease (CKD): Results of a focus group study. Poster presented at: National Kidney Foundation 2007 Spring Clinical Meeting; April 10-14, 2007; Orlando, FL.

Published meeting abstract:

Pudur S, Savin VJ, McCarthy ET, Sharma M. Albumin permeability (Palb) in focal segmental glomerulosclerosis (FSGS) is associated with rapid progression to end-stage renal disease (ESRD) [NKF abstract 127]. *Am J Kidney Dis.* 2006;47(4):B50.

Website:

Chronic Kidney Disease (CKD). National Kidney Foundation. <http://www.kidney.org/kidneyDisease/ckd/index.cfm>. Accessed January 4, 2008.

Complete book:

Ahmad S. *Manual of Clinical Dialysis*. London, England: Science Press Ltd; 1999.

Book chapter:

Battle D. Metabolic acidosis. In: Greenberg A, ed. *Primer on Kidney Diseases*. 2nd ed. San Diego, CA: Academic Press; 1998:71-79.

Government or agency bulletin:

US Renal Data System. *USRDS 2007 Annual Data Report: Atlas of Chronic Kidney Disease and End-Stage Renal Disease in the United States*. Bethesda, MA: National Institutes of Health, National Institute of Diabetes and Digestive and Kidney Diseases; 2007.

Tables and Figures

Tables and figures should be cited in numerical order in the text using Arabic numbering.

Each table should be on a separate page of the manuscript file, and should appear immediately after the references. The table number and title should be included above the table on the same page. Any additional information, including conversion factors for international units, should be included in notes below each table.

Figure legends (figure title and other explanatory text) should be grouped on a separate page at the end of the manuscript file (immediately following the references and tables, if present). Each figure should have a legend. Titles and legends should not appear in the figure files themselves.

Figures should not be embedded within the manuscript file; instead they should be uploaded in the Editorial Manager system as separate files. For the purposes of initial evaluation, figures must be of sufficient quality to be legible and interpretable. If revision is requested, production-quality figures will be required, for which advice will be given. In general, authors should minimize conversions between file types. Resolution should not be reduced except in cases where file size would otherwise be impractically large; in most cases, pixel-based images should have a resolution of at least 1,200 dpi for line art (eg, graphs, flow charts) or 500 dpi for photographs, micrographs, computed tomography scans, and related images. Color images should use CMYK color mode. In rare cases, the journal may request hard copies of figures; however, no materials, including photomicrographs, can be returned.

Authors are responsible for applying for permission from the relevant publisher(s) for both print and electronic rights to all borrowed material and are responsible for paying any fees related to applying for these permissions. In addition to providing proof of permission to the *AJKD* editorial office, authors should include appropriate wording in the figure legend or table note to indicate the source of the material. Photographs of identifiable persons must be accompanied by a signed release that indicates informed consent.

Supplementary Material for Online Publication

In cases where essential information associated with an article is too extensive for print publication (eg, a lengthy study questionnaire), this content can be included as online-only information. Supplementary material file(s) should be provided at the time of manuscript submission, and should be called out in the text (eg, Table S2, Fig S1, Item S4). Titles and/or legends for each supplementary figure or item should be included as the final page of the manuscript document. Information on copyright assignment for supplementary material can be found in the *Editorial Policies* section of the *AJKD* website.

Abbreviations

To improve readability, only standard abbreviations should be used and all abbreviations should be expanded at first mention. Abbreviations in titles, abstracts, and running heads should generally be avoided. Expansions of all abbreviations used in tables and figures should be provided.

Generic Names

Generic names for drugs should be used throughout; if necessary, a proprietary name and the name and location of the drug manufacturer may be included in parentheses at first mention.

Units of Measurement

For Original Investigations, Special Articles, Narrative Reviews, and Editorials, units should be expressed in US conventional units throughout; international equivalents or conversions are not necessary in running text (the abstract and body of the manuscript). For Case Reports, teaching cases, letters, and case-related content (eg, a clinical vignette), units of measurement should be expressed in US conventional units, with international units provided in parentheses, eg: "Serum creatinine at 3 months was 0.62 mg/dL (54.8 μ mol/L)". For a complete list of values requiring unit conversions, as well as the conversion factors, authors may consult the Unit Converter ([Appendix II](#) and in the FOR AUTHORS section of the *AJKD* website).

In all cases, conversion factors must be provided in figure legends and table notes, as appropriate, as shown in

the following examples.

In figure legends:

Conversion factors for units: serum creatinine in mg/dL to mol/L, $\times 88.4$; urea nitrogen in mg/dL to mmol/L, $\times 0.357$. No conversion necessary for serum potassium in mEq/L and mmol/L, ferritin in ng/mL and $\mu\text{g/L}$, and PTH in pg/mL and ng/L.

In tables:

	<u>Patient 1</u>	<u>Patient 2</u>
Serum creatinine	0.6 mg/dL	1.2 mg/dL
Serum urea nitrogen	8 mg/dL	18 mg/dL
Serum sodium	140 mEq/L	141 mEq/L

Note: Conversion factors for units: serum creatinine in mg/dL to mol/L, $\times 88.4$; serum urea nitrogen in mg/dL to mmol/L, $\times 0.357$. No conversion necessary for serum sodium in mEq/L and mmol/L.

Reporting PValues

Numerical values should always be reported for *P*, even if they are nonsignificant. If the *P* value is greater than or equal to 0.9, it should be reported as 0.9, eg, 0.91 and 0.97 become 0.9. *P* values from 0.001 through 0.9 (inclusive) should be rounded to one nonzero digit, eg, 0.0105 rounds to 0.01 and 0.0452 rounds to 0.05. *P* values less than 0.001 should be reported as <0.001 , eg, 0.0009 and 1.92×10^{-6} become <0.001 .

CONDITIONS OF SUBMISSION

Manuscripts are considered for publication if and only if the article and its key features (1) are not under consideration elsewhere, (2) have not been published, and (3) will not appear in print or online prior to appearing in *AJKD*. This restriction does not apply to abstracts, posters, or press reports published in connection with scientific meetings.

Submission of a manuscript is understood to indicate that the authors have complied with all policies as delineated in this document and the online *Editorial Policies*. Individuals who violate these policies are subject to editorial action including but not limited to (1) disclosure of violations to employers, funding agencies, or other journal offices and/or (2) publication of a retraction, correction, editorial expression of concern, or editorial.

PUBLICATION ON *AJKD* ELECTRONIC PAGES

Because *AJKD* receives many more meritorious papers than can be published in the print edition, some Case Reports may be accepted for publication solely on the *AJKD* website. The initial decision letter sent to the authors will indicate if the manuscript is being considered as an online Case Report. Articles that are published exclusively online will be listed in the printed table of contents and indexed in MEDLINE. Online Case Reports will incur no page charges or charges for color figures, but will be subject to the same copyright laws as the printed edition.

AFTER ACCEPTANCE

Copyright Transfer

The copyright will be assigned exclusively to the National Kidney Foundation, including the right to reproduce the article in all forms and media. Permission requests are handled by the publisher, Elsevier; information on how to request permission is available in the *Contact Information* section of the *AJKD* website. Elsevier will not refuse any reasonable request by the author for permission to reproduce any of his or her contributions following publication in *AJKD*. Further information on copyright policies can be found in the *Editorial Policies* section of the *AJKD* website.

Page Charges

AJKD holds all authors responsible for payment of excess page charges for published manuscripts. Authors may publish up to 4 printed pages without any page charges; for each page in excess of the 4 free pages, authors are responsible for paying \$75.00 per page or partial page. One printed text page is approximately equivalent to 2.5 double-spaced manuscript pages, 35 references, or 2 tables/figures. The letter of acceptance e-mailed to the author will provide an *estimate* of the page charges. The actual invoice for page charges will be

sent to the corresponding author after the manuscript is published in print. If no response to the invoice or subsequent reminders is received, the editorial office will place a publication hold on all further papers from the corresponding author and all listed co-authors until the outstanding invoice is paid in full. Page charges and color reproduction costs are billed separately.

Color Reproduction Charges

Authors must bear all costs connected with printed color illustrations, with the exception of those appearing in Quiz Pages. The first color figure will cost \$650 and each additional figure will cost \$100; multipart figures generally will be considered as 1 figure. After a manuscript with color illustrations is accepted, the issue manager at Elsevier will contact the corresponding author, provide a cost estimate, and give a choice of publication in color or black and white. In some cases, authors may be able to have their color figure(s) produced in black and white for the print version of *AJKD*, but the figure(s) will appear in color for the online version. The issue manager will contact the author if there is a problem reproducing a figure. If the author chooses color reproduction, Elsevier (not the editorial office) will send the bill to the author. Color reproduction costs and page charges are billed separately.

Public Access and Sponsored Articles

AJKD complies with the National Institutes of Health (NIH) Public Access Policy; further information is available in the *Editorial Policies* section of the *AJKD* website.

Authors may sponsor nonsubscriber access to their articles for a fee; additional details are available in the *Editorial Policies* section of the *AJKD* website.

Proofreading

Corresponding authors are provided with proofs via e-mail and are asked to proofread them for typesetting and/or copyediting errors. Important changes in data are allowed, but authors will be charged for excessive alterations to proofs. Corrections must be returned to Elsevier within 48 hours.

Reprints

Reprints of articles can be ordered before or after publication. Individuals wishing to obtain reprints of an article that appears in *AJKD* may do so by contacting the author at the address given in the article.

EDITORIAL OFFICE

Andrew S. Levey, MD, Editor-in-Chief
Daniel E. Weiner, MD, MS, Deputy Editor

Nijsje Dorman, PhD, Managing Editor
Elizabeth Frank, Associate Managing Editor
David Boffa, Editorial Assistant
Elizabeth Bury, MFA, Editorial Assistant

Phone: +1 617-636-0599

Fax: +1 617-636-0598

E-mail: AJKD@tuftsmedicalcenter.org

US Postal Mail Address

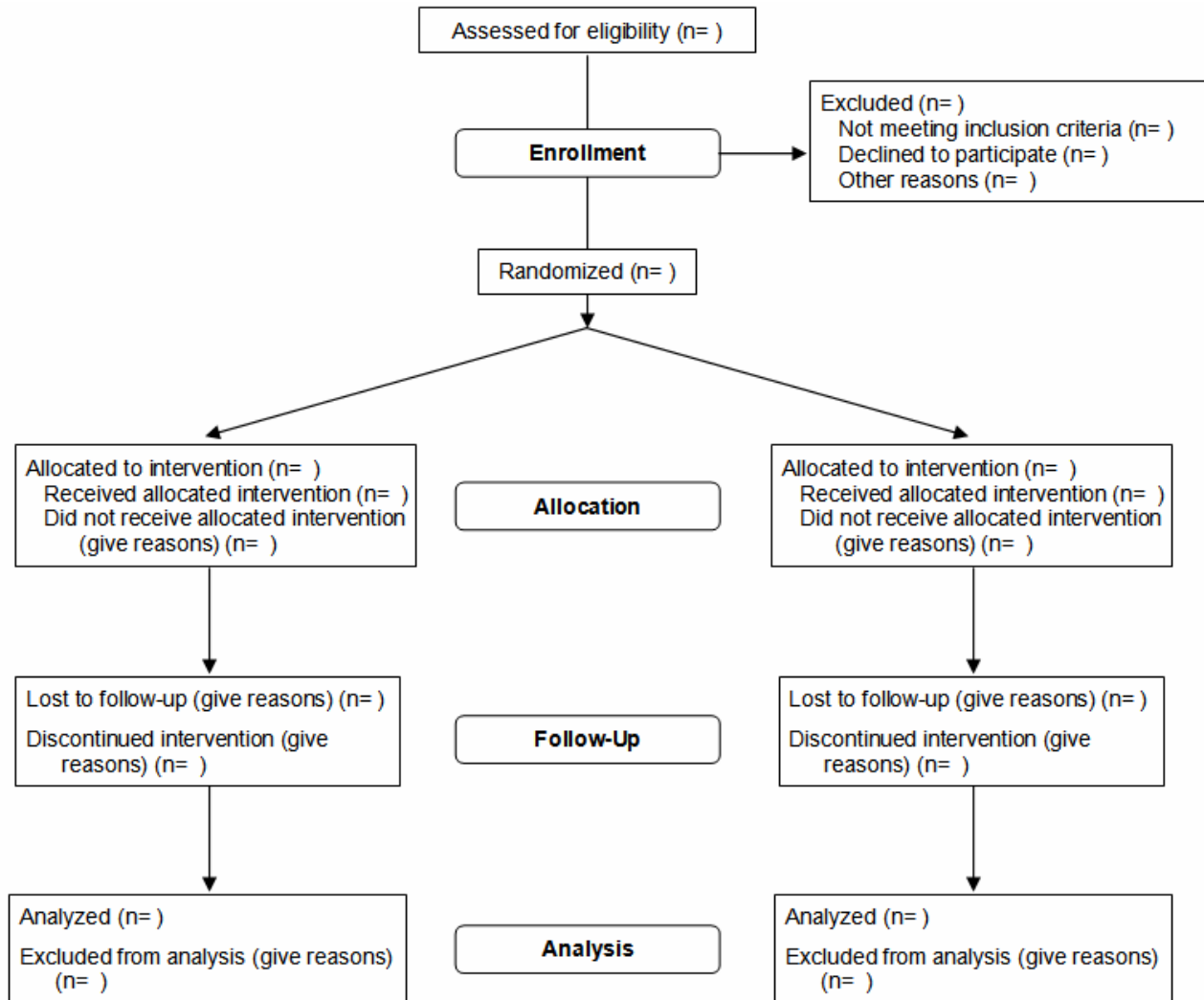
[recipient's name]

AJKD Editorial Office
Division of Nephrology
Tufts Medical Center, Box 391
800 Washington St
Boston, MA 02111, USA

APPENDIX I: RECOMMENDED FORMATS FOR REPORTING BY STUDY DESIGN

The CONSORT Participant Flowchart ↻

Reference: Schulz et al, for the CONSORT Group: CONSORT 2010 Statement: Updated Guidelines for Reporting Parallel Group Randomised Trials. *PLoS Med* 7:e1000251, 2010 (PDF freely downloadable from bit.ly/cnKsKQ). Editable flow chart template available for download at the CONSORT website (www.consort-statement.org).



Recommended Format for Reporting of Randomized Controlled Trials With Parallel Group Design According to the CONSORT Group 

Section	Item	Descriptor
Title & Abstract	1a	Identification as a randomized trial in the title.
	1b	Structured summary of trial design, methods, results, and conclusions.
Introduction		
Background and objectives	2a	Scientific background and explanation of rationale.
	2b	Specific objectives or hypotheses.
Methods		
Trial design	3a	Description of trial design (such as parallel, factorial) including allocation ratio.
	3b	Important changes to methods after trial commencement (such as eligibility criteria), with reasons.
Participants	4a	Eligibility criteria for participants.
	4b	Settings and locations where the data were collected.
Interventions	5	The interventions for each group with sufficient details to allow replication, including how and when they were actually administered.
Outcomes	6a	Completely defined prespecified primary and secondary outcome measures, including how and when they were assessed.
	6b	Any changes to trial outcomes after the trial commenced, with reasons.
Sample size	7a	How sample size was determined.
	7b	When applicable, explanation of any interim analyses and stopping guidelines.
Randomization Sequence generation	8a	Method used to generate the random allocation sequence.
	8b	Type of randomization; details of any restriction (such as blocking and block size).
Allocation concealment mechanism Implementation	9	Mechanism used to implement the random allocation sequence (such as sequentially numbered containers), describing any steps taken to conceal the sequence until interventions were assigned.
	10	Who generated the random allocation sequence, who enrolled participants, and who assigned participants to interventions.
Blinding (masking)	11a	If done, who was blinded after assignment to interventions (for example, participants, care providers, those assessing outcomes) and how.
	11b	If relevant, description of the similarity of interventions.
Statistical methods	12a	Statistical methods used to compare groups for primary and secondary outcomes.
	12b	Methods for additional analyses, such as subgroup analyses and adjusted analyses.
Results		
Participant flow*	13a	For each group, the numbers of participants who were randomly assigned, received intended treatment, and were analyzed for the primary outcome.
	13b	For each group, losses and exclusions after randomization, together with reasons.
Recruitment	14a	Dates defining the periods of recruitment and follow-up.
	14b	Why the trial ended or was stopped.
Baseline data	15	A table showing baseline demographic and clinical characteristics for each group.
Numbers analyzed	16	For each group, number of participants (denominator) included in each analysis and whether the analysis was by original assigned groups.
Outcomes and estimation	17a	For each primary and secondary outcome, results for each group, and the estimated effect size and its precision (such as 95% CI).
	17b	For binary outcomes, presentation of both absolute and relative effect sizes is recommended.
Ancillary analyses	18	Results of any other analyses performed, including subgroup analyses and adjusted analyses, distinguishing prespecified from exploratory.
Harms	19	All important harms or unintended effects in each group.
Discussion		
Limitations	20	Trial limitations, addressing sources of potential bias, imprecision, and, if relevant, multiplicity of analyses.
Generalizability	21	Generalizability (external validity, applicability) of the trial findings.
Interpretation	22	Interpretation consistent with results, balancing benefits and harms, and considering other relevant evidence.
Other information		
Registration	23	Registration number and name of trial registry.
Protocol	24	Where the full trial protocol can be accessed, if available.
Funding	25	Sources of funding and other support (such as supply of drugs), role of funders.

*A flow diagram is strongly recommended.

Adapted from Schulz et al, for the CONSORT Group: CONSORT 2010 Statement: Updated guidelines for reporting parallel group randomised trials. *PLoS Med* 7:e1000251, 2010 (PDF freely downloadable from bit.ly/cnKsKQ).
Further information available in Moher et al: CONSORT 2010 explanation and elaboration: Updated guidelines for reporting parallel group randomised trials. *BMJ* 340:c869, 2010 (PDF freely downloadable from bit.ly/a62d6j).

Recommended Format for Reporting of Cluster-Randomized Trials According to the CONSORT Group ↩

Section	Item	Descriptor
Title & Abstract	1	How participants were allocated to interventions (eg, random allocation, randomized, or randomly assigned), specifying that allocation was based on clusters.
Introduction		
Background	2	Scientific background and explanation of rationale, including the rationale for using a cluster design.
Methods		
Participants	3	Eligibility criteria for participants and clusters and the settings and locations where the data were collected.
Interventions	4	Precise details of the interventions intended for each group, whether they pertain to the individual level, the cluster level, or both, and how and when they were actually administered.
Objectives	5	Specific objectives and hypotheses and whether they pertain to the individual level, the cluster level, or both.
Outcomes	6	Report clearly defined primary and secondary outcome measures, whether they pertain to the individual level, the cluster level, or both, and, when applicable, any methods used to enhance the quality of measurements (eg, multiple observations, training of assessors).
Sample size	7	How total sample size was determined (including methods of calculation, number of clusters, cluster size, a coefficient of intracluster correlation (ICC or k), and an indication of its uncertainty) and, when applicable, explanation of any interim analyses and stopping rules.
Randomization	8	Method used to generate the random allocation sequence, including details of any restriction (eg, blocking, stratification, matching).
Sequence generation	9	Method used to implement the random allocation sequence specifying that allocation was based on clusters rather than individuals and clarifying whether the sequence was concealed until interventions were assigned.
Allocation concealment	10	Who generated the allocation sequence, who enrolled participants, and who assigned participants to their groups.
Implementation	10	Who generated the allocation sequence, who enrolled participants, and who assigned participants to their groups.
Blinding (masking)	11	Whether participants, those administering the interventions, and those assessing the outcomes were blinded to group assignment. If done, how the success of blinding was evaluated.
Statistical methods	12	Statistical methods used to compare groups for primary outcome(s) indicating how clustering was taken into account; methods for additional analyses, such as subgroup analyses and adjusted analyses.
Results		
Participant flow	13	Flow of clusters and individual participants through each stage (a diagram is strongly recommended). Specifically, for each group report the numbers of clusters and participants randomly assigned, receiving intended treatment, completing the study protocol, and analyzed for the primary outcome. Describe protocol deviations from study as planned, together with reasons.
Recruitment	14	Dates defining the periods of recruitment and follow up.
Baseline data	15	Baseline information for each group for the individual and cluster levels as applicable.
Numbers analyzed	16	Number of clusters and participants (denominator) in each group included in each analysis and whether the analysis was by intention-to-treat. State the results in absolute numbers when feasible (eg, 10 of 20, not 50%).
Outcomes and estimation	17	For each primary and secondary outcome, a summary of results for each group for the individual or cluster level, as applicable, and the estimated effect size and its precision (eg, 95% CI) and a coefficient of intracluster correlation (ICC or k) for each primary outcome.
Ancillary analyses	18	Address multiplicity by reporting any other analyses performed, including subgroup analyses and adjusted analyses, indicating those prespecified and those exploratory.
Adverse events	19	All important adverse events or side effects in each intervention group.
Discussion		
Interpretation	20	Interpretation of the results, taking into account study hypotheses, sources of potential bias or imprecision and the dangers associated with multiplicity of analyses and outcomes.
Generalizability	21	Generalizability (external validity) to individuals and/or clusters (as relevant) of the trial findings.
Overall evidence	22	General interpretation of the results in the context of current evidence.

Adapted with permission; © 2004 BMJ Publishing Group Ltd. Reference: Campbell et al, for the CONSORT Group: CONSORT Statement: Extension to cluster randomized trials. *BMJ* 328:702-708, 2004 (freely available at bit.ly/97gnw5).

Recommended Format for Reporting of Noninferiority and Equivalence Trials According to the CONSORT Group ↶

Section	Item	Descriptor
Title & Abstract	1	How participants were allocated to interventions (eg, random allocation, randomized, or randomly assigned), specifying that the trial is a noninferiority or equivalence trial.
Introduction		
Background	2	Scientific background and explanation of rationale, including the rationale for using a noninferiority or equivalence design.
Methods		
Participants	3	Eligibility criteria for participants (detailing whether participants in the noninferiority or equivalence trial are similar to those in any trial(s) that established efficacy of the reference treatment) and the settings and locations where the data were collected.
Interventions	4	Precise details of the interventions intended for each group, detailing whether the reference treatment in the noninferiority or equivalence trial is identical (or very similar) to that in any trial(s) that established efficacy, and how and when they were actually administered.
Objectives	5	Specific objectives and hypotheses, including the hypothesis concerning noninferiority or equivalence.
Outcomes	6	Clearly defined primary and secondary outcome measures, detailing whether the outcomes in the noninferiority or equivalence trial are identical (or very similar) to those in any trial(s) that established efficacy of the reference treatment and, when applicable, any methods used to enhance the quality of measurements (eg, multiple observations, training of assessors).
Sample size	7	How sample size was determined, detailing whether it was calculated using a noninferiority or equivalence criterion and specifying the margin of equivalence with the rationale for its choice. When applicable, explanation of any interim analyses and stopping rules (and whether related to a noninferiority or equivalence hypothesis).
Randomization	8	Method used to generate the random allocation sequence, including details of any restriction (eg, blocking, stratification).
Sequence generation	9	Method used to implement the random allocation sequence (eg, numbered containers or central telephone), clarifying whether the sequence was concealed until interventions were assigned.
Allocation concealment	10	Who generated the allocation sequence, who enrolled participants, and who assigned participants to their groups.
Implementation	10	Who generated the allocation sequence, who enrolled participants, and who assigned participants to their groups.
Blinding (masking)	11	Whether or not participants, those administering the interventions, and those assessing the outcomes were blinded to group assignment. When relevant, how the success of blinding was evaluated.
Statistical Methods	12	Statistical methods used to compare groups for primary outcome(s), specifying whether a 1- or 2-sided CI approach was used. Methods for additional analyses, such as subgroup analyses and adjusted analyses.
Results		
Participant flow	13	Flow of participants through each stage (include flowchart). Specifically, for each group report the numbers of participants randomly assigned, receiving intended treatment, completing the trial protocol, and analyzed for the primary outcome. Describe protocol deviations from trial as planned, together with reasons.
Recruitment	14	Dates defining the periods of recruitment and follow up.
Baseline data	15	Baseline demographic and clinical characteristics of each group.
Numbers analyzed	16	Number of participants (denominator) in each group included in each analysis and whether intention-to-treat and/or alternative analyses were conducted. State the results in absolute numbers when feasible (eg, 10 of 20, not 50%).
Outcomes and estimation	17	For each primary and secondary outcome, a summary of results for each group and the estimated effect size and its precision (eg, 95% CI). For the outcome(s) for which noninferiority or equivalence if hypothesized, a figure showing CIs and margins of equivalence may be useful.
Ancillary analyses	18	Address multiplicity by reporting any other analyses performed, including subgroup analyses and adjusted analyses, indicating those prespecified and those exploratory.
Adverse events	19	All important adverse events or side effects in each intervention group.
Discussion		
Interpretation	20	Interpretation of the results, taking into account the noninferiority or equivalence hypothesis and any other trial hypotheses, sources of potential bias or imprecision and the dangers associated with multiplicity of analyses and outcomes.
Generalizability	21	Generalizability (external validity) of the trial findings.
Overall evidence	22	General interpretation of the results in the context of current evidence.

Adapted with permission: © 2006 American Medical Association. Reference: Piaggio et al, for the CONSORT Group: Reporting of noninferiority and equivalence randomized trials: an extension of the CONSORT Statement. *JAMA* 295:1152-1160, 2006 (PDF freely downloadable from bit.ly/aVUF2L).

Recommended Format for Reporting of Randomized Controlled Trials of Herbal Medicine Interventions According to the CONSORT Group 

Section	Item	Descriptor (additional requirements for item 5 of the CONSORT checklist for RCTs of parallel group design)
Methods		
Interventions	5	Where applicable, the description of an herbal intervention should include:
	5A: Herbal medicinal product name	<ol style="list-style-type: none"> 1. The Latin binomial name together with botanical authority and family name for each herbal ingredient; common name(s) should also be included. 2. The proprietary product name (ie, brand name) or the extract name (eg, EGb-761) and the name of the manufacturer of the product. 3. Whether the product used is authorized (licensed, registered) in the country in which the study was conducted.
	5B: Characteristics of the herbal product	<ol style="list-style-type: none"> 1. The part(s) of the plant used to produce the product or extract. 2. The type of product used (eg, raw [fresh or dry], extract). 3. The type and concentration of extraction solvent used (eg, 80% ethanol, 100% H₂O, 90% glycerine, etc) and the ratio of herbal drug to extract (eg, 2 to 1). 5. The method of authentication of raw material (ie, how done and by whom) and the lot number of the raw material. State if a voucher specimen (ie, retention sample) was retained and, if so, where it is kept or deposited, and the reference number.
	5C: Dosage regimen and quantitative description	<ol style="list-style-type: none"> 1. The dosage of the product, the duration of administration, and how these were determined. 2. The content (eg, as weight, concentration; may be given as range where appropriate) of all quantified herbal product constituents, both native and added, per dosage unit form. Added materials, such as binders, fillers, and other excipients (eg, 17% maltodextrin, 3% silicon dioxide per capsule), should also be listed. 3. For standardized products, the quantity of active/marker constituents per dosage unit form.
	5D: Qualitative testing	<ol style="list-style-type: none"> 1. Product's chemical fingerprint and methods used (equipment and chemical reference standards) and who performed the chemical analysis (eg, the name of the laboratory used); whether a sample of the product (ie, retention sample) was retained and if so, where it is kept or deposited. 2. Description of any special testing/purity testing (eg, heavy metal or other contaminant testing) undertaken, which unwanted components were removed and how (ie, methods). 3. Standardization: what to standardize (eg, which chemical components of the product) and how (eg, chemical processes or biological/functional measures of activity).
	5E: Placebo/control group	The rationale for the type of control/placebo used.
5F: Practitioner	A description of the practitioners (eg, training and practice experience) who are a part of the intervention.	

Adapted with permission; © 2006 American College of Physicians. Reference: Gagnier et al, for the CONSORT Group: Reporting randomized, controlled trials of herbal interventions: an elaborated CONSORT Statement. *Ann Intern Med* 144:364-367, 2006 (PDF freely downloadable from bit.ly/bRhNiE).

Recommended Format for Reporting of Pragmatic Trials According to the CONSORT and Pragmatic Trials in Healthcare Groups ↪

Section	Item	Descriptor
Title & Abstract	1	How participants were allocated to interventions (eg, random allocation, randomized, or randomly assigned).
Introduction		
Background	2	Scientific background and explanation of rationale. Describe the health or health service problem that the intervention is intended to address and other interventions that may commonly be aimed at this problem.
Methods		
Participants	3	Eligibility criteria for participants and the settings and locations where the data were collected. Eligibility criteria should be explicitly framed to show the degree to which they include typical participants and/or, where applicable, typical providers (eg, nurses), institutions (eg, hospitals), communities (or localities, eg, towns) and settings of care (eg, different healthcare financing systems).
Interventions	4	Precise details of the interventions intended for each group and how and when they were actually administered. Describe extra resources added to (or resources removed from) usual settings in order to implement intervention. Indicate if efforts were made to standardize the intervention or if the intervention and its delivery were allowed to vary between participants, practitioners, or study sites. Describe the comparator in similar detail to the intervention.
Objectives	5	Specific objectives and hypotheses.
Outcomes	6	Report clearly defined primary and secondary outcome measures, and, when applicable, any methods used to enhance the quality of measurements (eg, multiple observations, training of assessors). Explain why the chosen outcomes and, when relevant, the length of follow up are considered important to those who will use the results of the trial.
Sample size	7	How sample size was determined and, when applicable, explanation of any interim analyses and stopping rules. If calculated using the smallest difference considered important by the target decision maker audience (the minimally important difference) then report where this difference was obtained.
Randomization	8	Method used to generate the random allocation sequence, including details of any restriction (eg, blocking, stratification).
Sequence generation	9	Method used to implement the random allocation sequence (eg, numbered containers or central telephone), clarifying whether the sequence was concealed until interventions were assigned.
Allocation concealment	10	Who generated the allocation sequence, who enrolled participants, and who assigned participants to their groups.
Implementation	11	Whether or not participants, those administering the interventions, and those assessing the outcomes were blinded to group assignment. If blinding was not done, or was not possible, explain why.
Blinding (masking)	12	Statistical methods used to compare groups for primary outcome(s); methods for additional analyses, such as subgroup analyses and adjusted analyses.
Statistical methods	13	Flow of participants through each stage (a diagram is strongly recommended)—specifically, for each group, report the numbers of participants randomly assigned, receiving intended treatment, completing the study protocol, and analyzed for the primary outcome; describe protocol deviations from study as planned, together with reasons. The number of participants or units approached to take part in the trial, the number which were eligible, and reasons for nonparticipation should be reported.
Results		
Participant flow	14	Dates defining the periods of recruitment and follow up.
Recruitment	15	Baseline demographic and clinical characteristics for each group.
Baseline data	16	Number of participants (denominator) in each group included in each analysis and whether the analysis was by intention-to-treat; state the results in absolute numbers when feasible (eg, 10 of 20, not 50%).
Numbers analyzed	17	For each primary and secondary outcome, a summary of results for each group and the estimated effect size and its precision (eg, 95% CI).
Outcomes and estimation	18	Address multiplicity by reporting any other analyses performed, including subgroup analyses and adjusted analyses, indicating those prespecified and those exploratory.
Ancillary analyses	19	All important adverse events or side effects in each intervention group.
Adverse events	20	Interpretation of the results, taking into account study hypotheses, sources of potential bias or imprecision and the dangers associated with multiplicity of analyses and outcomes.
Discussion		
Interpretation	21	Generalizability (external validity) of the trial findings. Describe key aspects of the setting which determined the trial results. Discuss possible differences in other settings where clinical traditions, health service organization, staffing, or resources may vary from those of the trial.
Generalizability	22	General interpretation of the results in the context of current evidence.
Overall evidence		

Adapted with permission; © 2008 BMJ Publishing Group Ltd. Reference: Zwarenstein et al, for the CONSORT and Pragmatic Trials in Healthcare (Practhc) groups: Improving the reporting of pragmatic trials: an extension of the CONSORT Statement. *BMJ* 337:a2390, 2008 (PDF freely downloadable from bit.ly/bOIRKc).

Recommended Format for Reporting of Randomized Controlled Trials of Nonpharmacologic Treatments According to the CONSORT Group 

Section	Item	Descriptor
Title & Abstract	1	How participants were allocated to interventions (eg, random allocation, randomized, or randomly assigned). In the abstract, description of the experimental treatment, comparator, care providers, centers, and blinding status.
Introduction		
Background	2	Scientific background and explanation of rationale.
Methods		
Participants	3	Eligibility criteria for participants and the settings and locations where the data were collected. When applicable, eligibility criteria for centers and those performing the interventions.
Interventions	4	Precise details of the interventions intended for each group and how/when they were actually administered. Precise details of both the experimental treatment and comparator. (a) Description of the different components of the interventions and, when applicable, descriptions of the procedure for tailoring the interventions to individual participants. (b) Details of how the interventions were standardized. (c) Details of how adherence of care providers with the protocol was assessed or enhanced.
Objectives	5	Specific objectives and hypotheses.
Outcomes	6	Report clearly defined primary and secondary outcome measures, and, when applicable, any methods used to enhance the quality of measurements (eg, multiple observations, training of assessors).
Sample size	7	How sample size was determined and, when applicable, explanation of any interim analyses and stopping rules. When applicable, details of whether and how the clustering by care providers or centers was addressed.
Randomization	8	Method used to generate the random allocation sequence, including details of any restriction (eg, blocking, stratification). When applicable, how care providers were allocated to each trial group.
Sequence generation	9	Method used to implement the random allocation sequence (eg, numbered containers or central telephone), clarifying whether the sequence was concealed until interventions were assigned.
Allocation concealment	10	Who generated the allocation sequence, who enrolled participants, and who assigned participants to their groups.
Implementation		
Blinding (masking)	11A	Whether or not participants, those administering the interventions, and those assessing the outcomes were blinded to group assignment. Whether or not those administering co-interventions were blinded to group assignment.
	11B	If blinded, method of blinding and description of the similarity of interventions.
Statistical methods	12	Statistical methods used to compare groups for primary outcome(s); methods for additional analyses, such as subgroup analyses and adjusted analyses. When applicable, details of whether and how the clustering by care providers or centers was addressed.
Results		
Participant flow	13	Flow of participants through each stage (a diagram is strongly recommended)—specifically, for each group, report the numbers of participants randomly assigned, receiving intended treatment, completing the study protocol, and analyzed for the primary outcome; describe protocol deviations from study as planned, together with reasons. The number of care providers or centers performing the intervention in each group and the number of patients treated by each care provider or in each center.
Implementation of intervention	(new)	Details of the experimental treatment and comparator as they were implemented.
Recruitment	14	Dates defining the periods of recruitment and follow up.
Baseline data	15	Baseline demographic and clinical characteristics for each group. When applicable, a description of care providers (case volume, qualification, expertise, etc) and centers (volume) in each group.
Numbers analyzed	16	Number of participants (denominator) in each group included in each analysis and whether the analysis was by intention-to-treat; state the results in absolute numbers when feasible (eg, 10 of 20, not 50%).
Outcomes and estimation	17	For each primary and secondary outcome, a summary of results for each group and the estimated effect size and its precision (eg, 95% CI).
Ancillary analyses	18	Address multiplicity by reporting any other analyses performed, including subgroup and adjusted analyses, indicating those prespecified and those exploratory.
Adverse events	19	All important adverse events or side effects in each intervention group.
Discussion		
Interpretation	20	Interpretation of the results, taking into account study hypotheses, sources of potential bias or imprecision and the dangers associated with multiplicity of analyses and outcomes. Also, take into account the choice of the comparator, lack of or partial blinding, and unequal expertise of care providers or centers in each group.
Generalizability	21	Generalizability (external validity) of the trial findings according to the intervention, comparators, patients, and care providers and centers involved in the trial.
Overall evidence	22	General interpretation of the results in the context of current evidence.

Adapted with permission; © 2008 American College of Physicians. Reference: Boutron et al, for the CONSORT group. Extending the CONSORT Statement to randomized trials of nonpharmacologic treatment: explanation and elaboration. *Ann Intern Med* 148:295-309, 2008 (PDF freely downloadable from bit.ly/9Zko83).

Recommended Format for the Reporting of Harms in Randomized Controlled Trials According to the CONSORT Group 

Section	Item	Descriptor
Title & Abstract	1	How participants were allocated to interventions (eg, random allocation, randomized, or randomly assigned). If the study collected data on harms and benefits, the title or abstract should so state.
Introduction		
Background	2	Scientific background and explanation of rationale. If the trial addresses both harms and benefits, the introduction should so state.
Methods		
Participants	3	Eligibility criteria for participants and the settings and location where the data were collected.
Interventions	4	Precise details of the intervention intended for each group and how and when they were actually administered.
Objectives	5	Specific objectives and hypotheses.
Outcomes	6	Clearly defined primary and secondary outcome measures and, when applicable, any methods used to enhance the quality of measurements (eg, multiple observations, training of assessors). List addressed adverse events with definitions for each (with attention, when relevant, to grading, expected vs unexpected events, reference to standardized and validated definitions, and description of new definitions). Clarify how harms-related information was collected (mode of data collection, timing, attribution methods, intensity of ascertainment, and harms-related monitoring and stopping rules, if pertinent).
Sample size	7	How sample size was determined and, when applicable, explanation of any interim analyses and stopping rules.
Randomization	8	Method used to generate the random allocation sequence, including details of any restriction (eg, blocking, stratification). Method used to implement the random allocation sequence (eg, numbered containers or central telephone), clarifying whether the sequence was concealed until interventions were assigned. Who generated the allocation sequence, who enrolled participants, and who assigned participants to their groups.
Sequence generation	9	
Allocation concealment	10	
Implementation	10	
Blinding (masking)	11	Whether or not participants, those administering the interventions, and those assessing the outcomes were blinded to group assignment. If done, how the success of blinding was evaluated.
Statistical methods	12	Statistical methods used to compare groups for primary outcome(s); methods for additional analyses, such as subgroup analyses and adjusted analyses. Describe plans for presenting and analyzing information on harms (including coding, handling of recurrent events, specification of timing issues, handling of continuous measures, and any statistical analyses).
Results		
Participant flow	13	Flow of participants through each stage (include flowchart). Specifically, for each group report the numbers of participants randomly assigned, receiving intended treatment, completing the study protocol, and analyzed for the primary outcome. Describe protocol deviations from study as planned, together with reasons. Describe for each arm the participant withdrawals that are due to harms and their experiences with the allocated treatment.
Recruitment	14	Dates defining the periods of recruitment and follow up.
Baseline data	15	Baseline demographic and clinical characteristics of each group.
Numbers analyzed	16	Number of participants (denominator) in each group included in each analysis and whether the analysis was by intention-to-treat. State the results in absolute numbers when feasible (eg, 10 of 20, not 50%). Provide the denominators for analyses of harms.
Outcomes and estimation	17	For each primary and secondary outcome, a summary of results for each group and the estimated effect size and its precision (eg, 95% CI). Present the absolute risk per arm and per adverse event by type, grade, and seriousness, and present appropriate metrics for recurrent events, continuous variables, and scale variables, whenever pertinent. Describe any subgroup analyses and exploratory analyses for harms.
Ancillary analyses	18	Address multiplicity by reporting any other analyses performed, including subgroup analyses and adjusted analyses, indicating those prespecified and those exploratory.
Adverse events	19	All important adverse events or side effects in each intervention group.
Discussion		
Interpretation	20	Interpretation of the results, taking into account study hypotheses, sources of potential bias or imprecision, and the dangers associated with multiplicity of analyses and outcomes. Provide a balanced discussion of benefits and harms with emphasis on study limitations, generalizability, and other sources of information on harms.
Generalizability	21	Generalizability (external validity) of the trial findings.
Overall evidence	22	General interpretation of the results in the context of current evidence.

Adapted with permission; © 2006 American College of Physicians. Reference: Ioannidis et al, for the CONSORT Group: Better reporting of harms in randomized trials: an extension of the CONSORT Statement. *Ann Intern Med* 141:781-788, 2004 (PDF freely downloadable from bit.ly/cG9ZF1).

Recommended Format for Reporting of Nonrandomized Evaluations of Behavioral and Public Health Interventions According to the TREND Group ↪

Section	Item	Descriptor
Title & Abstract	1	Information on how units were allocated to interventions. Information on target population or study sample.
Introduction		
Background	2	Scientific background and explanation of rationale. Theories used in designing behavioral interventions.
Methods		
Participants	3	Eligibility criteria for participants, including criteria at different levels in recruitment/sampling plan (eg, cities, clinics, subjects). Method of recruitment (eg, referral, self-selection), including the sampling method if a systematic sampling plan was implemented. Recruitment setting. Settings and locations where the data were collected.
Interventions	4	Details of the interventions intended for each study condition and how and when they were actually administered, specifically including: Content: what was given? Delivery method: how was content given? Unit of delivery: how were subjects grouped during delivery? Deliverer: who delivered intervention? Setting: where was the intervention delivered? Exposure quantity and duration: how many sessions or episodes or events were intended to be delivered? How long were they intended to last? Time span: how long was it intended to take to deliver the intervention to each unit? Activities to increase compliance or adherence (eg, incentives).
Objectives	5	Specific objectives and hypotheses.
Outcomes	6	Clearly defined primary and secondary outcome measures. Methods used to collect data and any methods used to enhance the quality of measurements. Information on validated instruments such as psychometric and biometric properties.
Sample size	7	How sample size was determined and, when applicable, explanation of any interim analyses and stopping rules.
Assignment method	8	Unit of assignment (the unit being assigned to study condition, eg, individual, group, community). Method used to assign units to study conditions, including details of any restriction (eg, blocking, stratification, minimization). Inclusion of aspects employed to help minimize potential bias induced due to nonrandomization (eg, matching).
Blinding (masking)	9	Whether or not participants, those administering the interventions, and those assessing the outcomes were blinded to study condition assignment; if so, statement regarding how the blinding was accomplished and how it was assessed.
Unit of analysis	10	Description of the smallest unit that is being analyzed to assess intervention effects (eg, individual, group, or community). If the unit of analysis differs from the unit of assignment, the analytical method used to account for this (eg, adjusting the standard error estimates by the design effect or using multilevel analysis).
Statistical methods	11	Statistical methods used to compare study groups for primary outcome(s), including complex methods for correlated data. Statistical methods used for additional analyses, such as subgroup analyses and adjusted analysis. Methods for imputing missing data, if used. Statistical software or programs used.
Results		
Participant flow	12	Flow of participants through each stage of the study, specifically: Enrollment: the numbers of participants screened for eligibility, found to be eligible or not eligible, declined to be enrolled, and enrolled in the study. Assignment: the numbers of participants assigned to a study condition. Allocation and intervention exposure: the number of participants assigned to each study condition and the number of participants who received each intervention. Follow up: the number of participants who completed the follow up or did not complete the follow up (ie, lost to follow up), by study condition. Analysis: the number of participants included in or excluded from the main analysis, by study condition. Description of protocol deviations from study as planned, along with reasons.
Recruitment	13	Dates defining the periods of recruitment and follow up.
Baseline data	14	Baseline demographic and clinical characteristics of participants in each study condition. Baseline characteristics for each study condition relevant to specific disease prevention research. Baseline comparisons of those lost to follow up and those retained, overall and by study condition. Comparison between study population at baseline and target population of interest.
Baseline equivalence	15	Data on study group equivalence at baseline and statistical methods used to control for baseline differences.
Numbers analyzed	16	Number of participants (denominator) included in each analysis for each study condition, particularly when the denominators change for different outcomes; statement of the results in absolute numbers when feasible. Indication of whether the analysis strategy was intention-to-treat or, if not, description of how nonadherent participants were treated in the analyses.
Outcomes and estimation	17	For each primary and secondary outcome, a summary of results for each study condition, and the estimated effect size and a CI to indicate the precision. Inclusion of null and negative findings. Inclusion of results from testing prespecified causal pathways through which the intervention was intended to operate, if any.
Ancillary analyses	18	Summary of other analyses performed, including subgroup or restricted analyses, indicating which are prespecified or exploratory.

Adverse events	19	Summary of all important adverse events or unintended effects in each study condition (including summary measures, effect size estimates, and CIs).
Discussion		
Interpretation	20	Interpretation of the results, taking into account study hypotheses, sources of potential bias, imprecision of measures, multiplicative analyses, and other limitations or weaknesses of the study. Discussion of results taking into account the mechanism by which the intervention was intended to work (causal pathways) or alternative mechanisms or explanations. Discussion of the success of and barriers to implementing the intervention, fidelity of implementation. Discussion of research, programmatic, or policy implications.
Generalizability	21	Generalizability (external validity) of the trial findings, taking into account the study population, the characteristics of the intervention, length of follow up, incentives, compliance rates, specific sites/settings involved in the study, and other contextual issues.
Overall evidence	22	General interpretation of the results in the context of current evidence and current theory.

Note: Masking (blinding) of participants or those administering the intervention may not be relevant or possible for many behavioral interventions. Theories used to design the interventions (item 2) could also be reported as part of item 4. The comparison between study population at baseline and target population of interest (see item 14) could also be reported as part of item 21.

Adapted with permission; © 2004 American Public Health Association. Reference: Des Jarlais et al, and the TREND Group: Improving the reporting quality of nonrandomized evaluations of behavioral and public health interventions: the TREND Statement. *Am J Public Health* 94:361-366, 2004 (PDF freely downloadable from bit.ly/astqfB).

Recommended Format for the Reporting of Observational Cohort Studies According to the STROBE Group 

Section	Item	Recommendation
Title & Abstract	1	Indicate the study's design with a commonly used term in the title or the abstract. Provide in the abstract an informative and balanced summary of what was done and what was found.
Introduction		
Background/Rationale	2	Explain the scientific background and rationale for the investigation being reported.
Objectives	3	State specific objectives, including any prespecified hypotheses.
Methods		
Study design	4	Present key elements of study design early in the paper.
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow up, and data collection.
Participants	6	Give the eligibility criteria, and the sources and methods of selection of participants. Describe methods of follow up. For matched studies, give matching criteria and number of exposed and unexposed.
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable.
Data sources/measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than 1 group.
Bias	9	Describe any efforts to address potential sources of bias.
Study size	10	Explain how the study size was arrived at.
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why.
Statistical methods	12	Describe all statistical methods, including those used to control for confounding. Describe any methods used to examine subgroups and interactions. Explain how missing data were addressed. If applicable, explain how loss to follow up was addressed. Describe any sensitivity analyses.
Results		
Participants	13*	Report numbers of individuals at each stage of study—eg, numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow up, and analyzed. Give reasons for nonparticipation at each stage. Consider use of a flow diagram.
Descriptive data	14*	Give characteristics of study participants (eg, demographic, clinical, social) and information on exposures and potential confounders. Indicate number of participants with missing data for each variable of interest. Summarize follow up time (eg, average and total amount).
Outcome data	15*	Report numbers of outcome events or summary measures over time.
Main results	16	Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% CI). Make clear which confounders were adjusted for and why they were included. Report category boundaries when continuous variables were categorized. If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period.
Other analyses	17	Report other analyses done—eg, analyses of subgroups and interactions, and sensitivity analyses.
Discussion		
Key results	18	Summarize key results with reference to study objectives.
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias.
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence.
Generalizability	21	Discuss the generalizability (external validity) of the study results.
Funding	22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based.

*Give such information separately for cases and controls in case-control studies, and if applicable for exposed and unexposed groups in cohort and cross-sectional studies.
Adapted with permission from the STROBE group (www.strobe-statement.org). Reference: von Elm et al, for the STROBE Initiative: The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) Statement: Guidelines for reporting observational studies. *PLoS Med* 4:e296, 2007 (PDF freely downloadable from bit.ly/dxan5k). Further information in Vandenbroucke et al, for the STROBE Initiative: Strengthening the Reporting of Observational Studies in Epidemiology (STROBE): Explanation and elaboration. *PLoS Med* 4:e297, 2007 (PDF freely downloadable from bit.ly/9EhdNi).

Recommended Format for the Reporting of Observational Case-Control Studies According to the STROBE Group ↻

Section	Item	Recommendation
Title & Abstract	1	Indicate the study's design with a commonly used term in the title or the abstract. Provide in the abstract an informative and balanced summary of what was done and what was found.
Introduction		
Background/Rationale	2	Explain the scientific background and rationale for the investigation being reported.
Objectives	3	State specific objectives, including any prespecified hypotheses.
Methods		
Study design	4	Present key elements of study design early in the paper.
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow up, and data collection.
Participants	6	Give the eligibility criteria, and the sources and methods of case ascertainment and control selection. Give the rationale for the choice of cases and controls. For matched studies, give matching criteria and the number of controls per case.
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable.
Data sources/measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than 1 group.
Bias	9	Describe any efforts to address potential sources of bias.
Study size	10	Explain how the study size was arrived at.
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why.
Statistical methods	12	Describe all statistical methods, including those used to control for confounding. Describe any methods used to examine subgroups and interactions. Explain how missing data were addressed. If applicable, explain how matching of cases and controls was addressed. Describe any sensitivity analyses.
Results		
Participants	13*	Report numbers of individuals at each stage of study—eg, numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow up, and analyzed. Give reasons for nonparticipation at each stage. Consider use of a flow diagram.
Descriptive data	14*	Give characteristics of study participants (eg, demographic, clinical, social) and information on exposures and potential confounders. Indicate number of participants with missing data for each variable of interest.
Outcome data	15*	Report numbers in each exposure category, or summary measures of exposure.
Main results	16	Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% CI). Make clear which confounders were adjusted for and why they were included. Report category boundaries when continuous variables were categorized. If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period.
Other analyses	17	Report other analyses done—eg, analyses of subgroups and interactions, and sensitivity analyses.
Discussion		
Key results	18	Summarize key results with reference to study objectives.
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias.
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence.
Generalizability	21	Discuss the generalizability (external validity) of the study results.
Funding	22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based.

*Give such information separately for cases and controls in case-control studies, and if applicable for exposed and unexposed groups in cohort and cross-sectional studies.

Adapted with permission from the STROBE group (www.strobe-statement.org). Reference: von Elm et al, for the STROBE Initiative: The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) Statement: Guidelines for reporting observational studies. *PLoS Med* 4:e296, 2007 (PDF freely downloadable from bit.ly/dxan5k). Further information in Vandenberg et al, for the STROBE Initiative: Strengthening the Reporting of Observational Studies in Epidemiology (STROBE): Explanation and elaboration. *PLoS Med* 4:e297, 2007 (PDF freely downloadable from bit.ly/9EhdNi).

Recommended Format for the Reporting of Observational Cross-sectional Studies According to the STROBE Group ↷

Section	Item	Recommendation
Title & Abstract	1	Indicate the study's design with a commonly used term in the title or the abstract. Provide in the abstract an informative and balanced summary of what was done and what was found.
Introduction		
Background/Rationale	2	Explain scientific background and rationale for the investigation being reported.
Objectives	3	State specific objectives including any prespecified hypotheses.
Methods		
Study design	4	Present key elements of study design early in the paper.
Setting	5	Describe setting, locations, and relevant dates, including periods of recruitment, exposure, follow up, and data collection.
Participants	6	Give the eligibility criteria, and the sources and methods of selection of participants.
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable.
Data sources/measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than 1 group.
Bias	9	Describe any efforts to address potential sources of bias.
Study size	10	Explain how the study size was arrived at.
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why.
Statistical methods	12	Describe all statistical methods including those to control for confounding. Describe any methods used to examine subgroups and interactions. Explain how missing data were addressed. If applicable, describe analytical methods taking account of sampling strategy. Describe any sensitivity analysis.
Results		
Participants	13*	Report the numbers of individuals at each stage of the study—numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow up, and analyzed. Give reasons for nonparticipation at each stage. Consider use of flow diagram.
Descriptive data	14*	Give characteristics of study participants (eg, demographic, clinical, social) and information on exposures and potential confounders. Indicate number of participants with missing data for each variable of interest.
Outcome data	15*	Report numbers of outcome events or summary measures.
Main results	16	Give unadjusted estimates and, if applicable, confounder adjusted estimates and their precision (eg, 95% CIs). Make clear which confounders were adjusted for and why they were included. Report category boundaries when continuous variables were categorized. If relevant, consider translating estimates of relative risk into absolute risk for meaningful time period.
Other analyses	17	Report other analyses done—eg, analyses of subgroups and interactions, and sensitivity analyses.
Discussion		
Key results	18	Summarize key results with reference to study objectives.
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias.
Interpretation	20	Give a cautious overall interpretation of the results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence.
Generalizability	21	Discuss the generalizability (external validity) of the study results.
Funding	22	Give source of funding and role of funder(s) for the present study and, if applicable, the original study on which the present article is based.

*Give such information separately for cases and controls in case-control studies, and if applicable for exposed and unexposed groups in cohort and cross-sectional studies.

Adapted with permission from the STROBE group (www.strobe-statement.org). Reference: von Elm et al, for the STROBE Initiative: The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) Statement: Guidelines for reporting observational studies. *PLoS Med* 4:e296, 2007 (PDF freely downloadable from bit.ly/dxan5k). Further information in Vandembroucke et al, for the STROBE Initiative: Strengthening the Reporting of Observational Studies in Epidemiology (STROBE): Explanation and elaboration. *PLoS Med* 4:e297, 2007 (PDF freely downloadable from bit.ly/9EhdNi).

Recommended Format for the Reporting of Genetic Association Studies According to the STREGA Statement ↵

Section	Item	Recommendation (items in italics are additions to the STROBE guidelines)
Title & Abstract	1	Indicate the study's design with a commonly used term in the title or the abstract. Provide in the abstract an informative and balanced summary of what was done and what was found.
Introduction		
Background rationale	2	Explain the scientific background and rationale for the investigation being reported.
Objectives	3	State specific objectives, including any prespecified hypotheses. <i>State if the study is the first report of a genetic association, a replication effort, or both.</i>
Methods		
Study design	4	Present key elements of study design early in the paper.
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow up, and data collection.
Participants	6	<i>Give information on the criteria and methods for selection of subsets of participants from a larger study, where relevant.</i> Cohort study - Give the eligibility criteria, and the sources and methods of selection of participants. Describe methods of follow up. For matched studies, give matching criteria and number of exposed and unexposed. Case-control study - Give the eligibility criteria, and the sources and methods of case ascertainment and control selection. Give the rationale for the choice of cases and controls. For matched studies, give matching criteria and the numbers of controls per case. Cross-sectional study - Give the eligibility criteria, and the sources and methods of selection of participants.
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable. <i>Clearly define genetic exposures (genetic variants) using a widely-used nomenclature system. Identify variables likely to be associated with population stratification (confounding by ethnic origin).</i>
Data sources/measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than 1 group. <i>Describe laboratory methods, including source and storage of DNA, genotyping methods and platforms (including the allele-calling algorithm used, and its version), error rates and call rates. State the laboratory/center where genotyping was done. Describe comparability of laboratory methods if there is more than 1 group. Specify whether genotypes were assigned using all of the data from the study simultaneously or in smaller batches.</i>
Bias	9	Describe any efforts to address potential sources of bias. <i>For quantitative outcome variables, specify if any investigation of potential bias resulting from pharmacotherapy was undertaken. If relevant, describe the nature and magnitude of the potential bias, and explain what approach was used to deal with this.</i>
Study size	10	Explain how the study size was arrived at.
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why. <i>If applicable, describe how effects of treatment were dealt with.</i>
Statistical methods	12	Describe all statistical methods, including those used to control for confounding. <i>State software version used and options (or settings) chosen.</i> Describe any methods used to examine subgroups and interactions. Explain how missing data were addressed. Cohort study - If applicable, explain how loss to follow up was addressed. Case-control study - If applicable, explain how matching of cases and controls was addressed. Cross-sectional study - If applicable, describe analytical methods taking account of sampling strategy. Describe any sensitivity analyses. <i>State whether Hardy-Weinberg equilibrium was considered and, if so, how.</i> <i>Describe any methods used for inferring genotypes or haplotypes.</i> <i>Describe any methods used to assess or address population stratification.</i> <i>Describe any methods used to address multiple comparisons or to control risk of false positive findings.</i> <i>Describe any methods used to address and correct for relatedness among subjects.</i>
Results		
Participants	13*	Report numbers of individuals at each stage of study—eg, numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow up, and analyzed. <i>Report numbers of individuals in whom genotyping was attempted and numbers of individuals in whom genotyping was successful.</i> Give reasons for nonparticipation at each stage. Consider use of a flow diagram.
Descriptive data	14*	Give characteristics of study participants (eg, demographic, clinical, social) and information on exposures and potential confounders. <i>Consider giving information by genotype.</i> Indicate number of participants with missing data for each variable of interest. Cohort study - Summarize follow up time (eg, average and total amount).
Outcome data	15*	Cohort study - Report numbers of outcome events or summary measures over time. <i>Report outcomes (phenotypes) for each genotype category over time.</i> Case-control study - Report numbers in each exposure category, or summary measures of exposure. <i>Report numbers in each genotype category</i> Cross-sectional study - Report numbers of outcome events or summary measures. <i>Report outcomes (phenotypes) for each genotype category.</i>

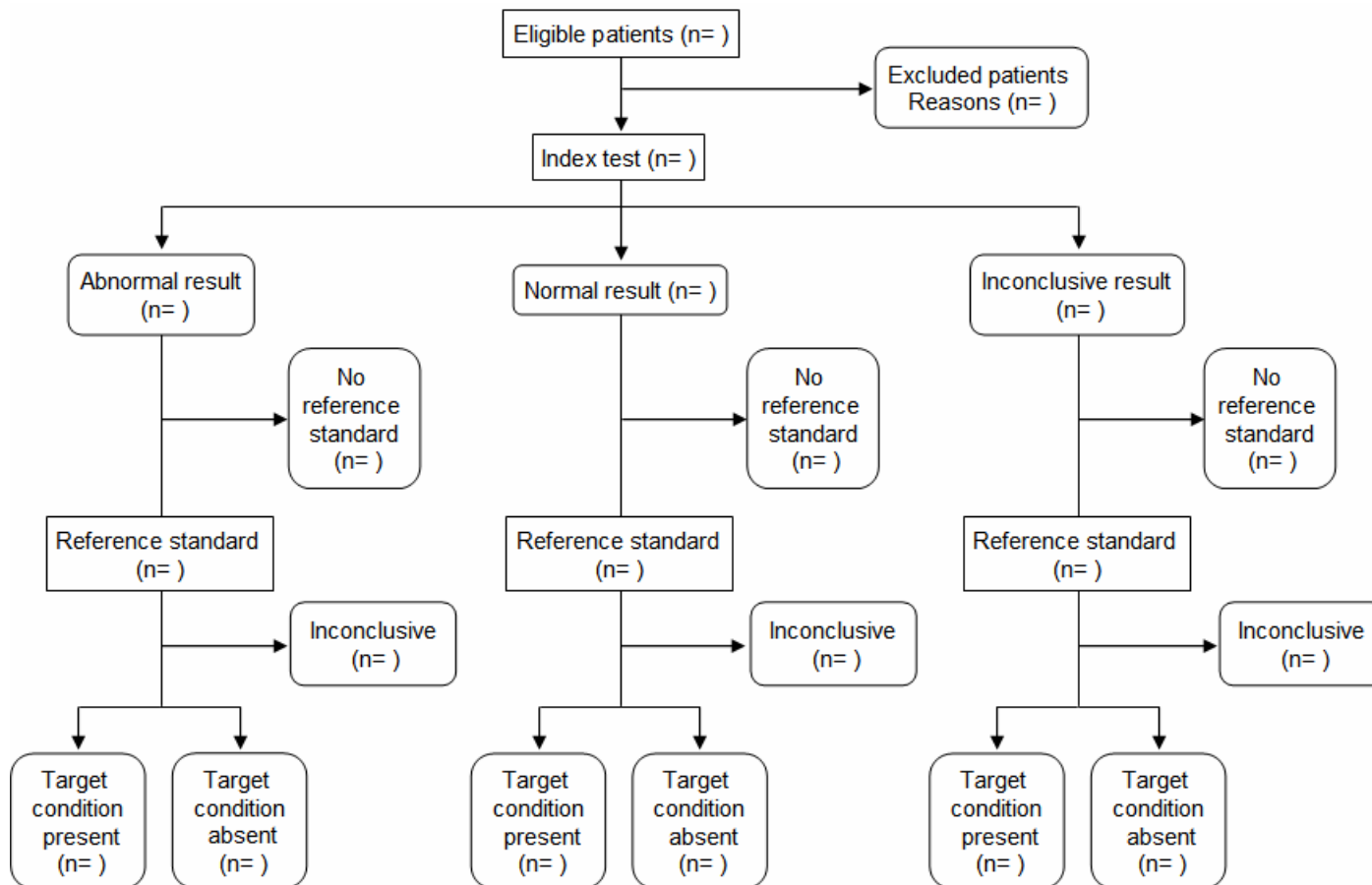
Main results	16	Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% CI). Make clear which confounders were adjusted for and why they were included. Report category boundaries when continuous variables were categorized. If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period. <i>Report results of any adjustments for multiple comparisons.</i>
Discussion		
Key results	18	Summarize key results with reference to study objectives.
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias.
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence.
Generalizability	21	Discuss the generalizability (external validity) of the study results.
Other Information		
Funding	22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based.

*Give information separately for cases and controls in case-control studies and, if applicable, for exposed and unexposed groups in cohort and cross-sectional studies.

Reference: Little et al: STrengthening the REporting of Genetic Association Studies (STREGA)—An extension of the STROBE Statement. *PLoS Med* 6:e22, 2009 (PDF freely downloadable from bit.ly/9WEUSW).

STARD Flowchart of Diagnostic Test Results ↵

Reference: Bossuyt et al, for the STARD Steering Group: Towards complete and accurate reporting of studies on diagnostic accuracy. *BMJ* 326:41-44, 2003 (freely available at bit.ly/d9sgFL).



Adapted with permission; © 2003 BMJ Publishing Group Ltd.

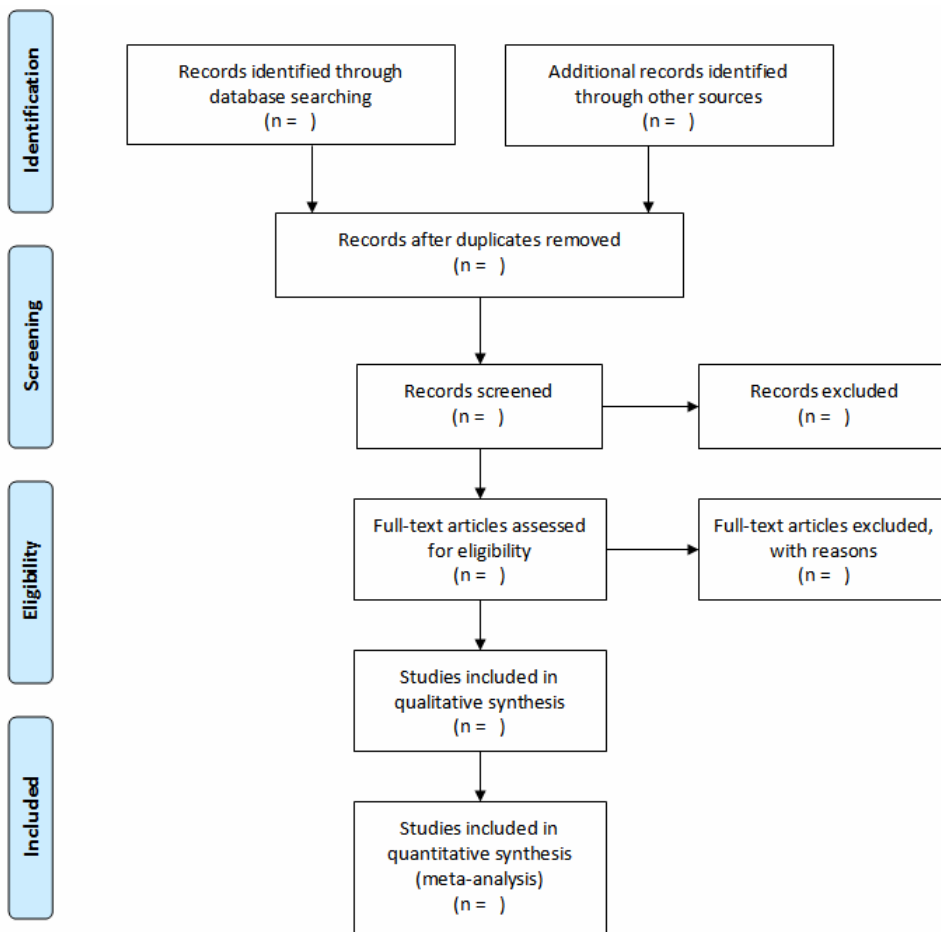
Recommended Format for the Reporting of Studies on Diagnostic Accuracy According to the STARD Group ↷

Section	Item	Description
Title, Abstract, & Keywords	1	Identify the article as a study of diagnostic accuracy (recommend MeSH heading "sensitivity and specificity").
Introduction	2	State the research questions or aims, such as estimating diagnostic accuracy or comparing accuracy between tests or across participant groups.
Methods		
Participants	3	Describe the study population: the inclusion and exclusion criteria and the settings and locations where the data were collected.
	4	Describe participant recruitment: was this based on presenting symptoms, results from previous tests, or the fact that the participants had received the index tests or the reference standard?
	5	Describe participant sampling: was this a consecutive series of participants defined by selection criteria in items 3 and 4? If not, specify how patients were further selected.
	6	Describe data collection: was the data collection before the index tests and reference standard were performed (prospective study) or after (retrospective study)?
Test methods	7	Describe the reference standard and its rationale.
	8	Describe technical specifications of material and methods involved, including how and when measurements were taken, or cite references for index tests or reference standard, or both.
	9	Describe definition and rationale for the units, cut-off points, or categories of the results of the index tests and the reference standard.
	10	Describe the number, training, and expertise of the persons executing and reading the index tests and the reference standard.
Statistical methods	11	Were the readers of the index tests and reference standard blind (masked) to the results of the other test? Describe any other clinical information available to the readers.
	12	Describe methods for calculating or comparing measures of diagnostic accuracy, and the statistical methods used to quantify uncertainty (eg, 95% CIs).
	13	Describe methods for calculating test reproducibility, if done.
Results		
Participants	14	Report when study was done, including beginning and ending dates of recruitment.
	15	Report clinical and demographic characteristics (eg, age, sex, spectrum of presenting symptoms, comorbidity, current treatments, recruitment center).
	16	Report how many participants satisfying the criteria for inclusion did or did not undergo the index tests or the reference standard, or both; describe why participants failed to receive either test (a flow diagram is strongly recommended).
Reference standard	17	Report time interval from index tests to reference standard, and any treatment administered between.
	18	Report distribution of severity of disease (define criteria) in those with the target condition and other diagnoses in participants without the target condition.
Test results	19	Report a cross tabulation of the results of the index tests (including indeterminate and missing results) by the results of the reference standard; for continuous results, report the distribution of the test results by the results of the reference standard.
	20	Report any adverse events from performing the index test or the reference standard.
Estimation	21	Report estimates of diagnostic accuracy and measures of statistical uncertainty (eg, 95% CIs).
	22	Report how indeterminate results, missing responses, and outliers of index tests were handled.
	23	Report estimates of variability of diagnostic accuracy between readers, centers, or subgroups of participants, if done.
	24	Report estimates of test reproducibility, if done.
Discussion	25	Discuss the clinical applicability of the study findings.

Adapted with permission: © 2003 BMJ Publishing Group Ltd. Reference: Bossuyt et al, for the STARD Steering Group: Towards complete and accurate reporting of studies on diagnostic accuracy. *BMJ* 326:41-44, 2003 (freely available at bit.ly/d9sgFL).

PRISMA Flow Diagram for Systematic Reviews and Meta-analyses ↻

Reference: Moher et al, for the PRISMA Group: Preferred reporting items for systematic reviews and meta-analyses: The PRISMA Statement. *PLoS Med* 6:e1000097, 2009 (PDF freely downloadable from bit.ly/9kGZhC).



Recommended Format for Reporting of Meta-analyses of Randomized Controlled Trials According to the PRISMA Group 

Section	Item	Descriptor
Title	1	Identify the report as a systematic review, meta-analysis, or both.
Abstract		
Structured summary	2	Provide a structured summary including, as applicable: background; objectives; data sources; study eligibility criteria, participants, and interventions; study appraisal and synthesis methods; results; limitations; conclusions, and implications of key findings; systematic review registration number.
Introduction		
Rationale	3	Describe the rationale for the review in the context of what is already known.
Objectives	4	Provide an explicit statement of questions being addressed with reference to participants, interventions, comparisons, outcomes, and study design (PICOS).
Methods		
Protocol and registration	5	Indicate if a review protocol exists, if and where it can be accessed (eg, web address), and, if available, provide registration information including registration number.
Eligibility criteria	6	Specify study characteristics (eg, PICOS, length of follow-up) and report characteristics (eg, years considered, language, publication status) used as criteria for eligibility, giving rationale.
Information sources	7	Describe all information sources (eg, databases with dates of coverage, contact with study authors to identify additional studies) in the search and date last searched.
Search	8	Present full electronic search strategy for at least one database, including any limits used, such that it could be repeated.
Study selection	9	State the process for selecting studies (ie, screening, eligibility, included in systematic review, and, if applicable, included in the meta-analysis).
Data collection process	10	Describe method of data extraction from reports (eg, piloted forms, independently, in duplicate) and any processes for obtaining and confirming data from investigators.
Data items	11	List and define all variables for which data were sought (eg, PICOS, funding sources) and any assumptions and simplifications made.
Risk of bias in individual studies	12	Describe methods used for assessing risk of bias of individual studies (including specification of whether this was done at the study or outcome level), and how this information is to be used in any data synthesis.
Summary measures	13	State the principal summary measures (eg, risk ratio, difference in means).
Synthesis of results	14	Describe the methods of handling data and combining results of studies, if done, including measures of consistency (eg, I^2) for each meta-analysis.
Risk of bias across studies	15	Specify any assessment of risk of bias that may affect the cumulative evidence (eg, publication bias, selective reporting within studies).
Additional analyses	16	Describe methods of additional analyses (eg, sensitivity or subgroup analyses, meta-regression), if done, indicating which were prespecified.
Results		
Study selection	17	Give numbers of studies screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally with a flow diagram.
Study characteristics	18	For each study, present characteristics for which data were extracted (eg, study size, PICOS, follow-up period) and provide the citations.
Risk of bias within studies	19	Present data on risk of bias of each study and, if available, any outcome level assessment (see item 12).
Results of individual studies	20	For all outcomes considered (benefits or harms) present, for each study: (a) simple summary data for each intervention group, (b) effect estimates and confidence intervals, ideally with a forest plot.
Synthesis of results	21	Present results of each meta-analysis done, including confidence intervals and measures of consistency.
Risk of bias across studies	22	Present results of any assessment of risk of bias across studies (see item 15).
Additional analysis	23	Give results of additional analyses, if done (eg, sensitivity or subgroup analyses, meta-regression [see item 16]).
Discussion		
Summary of evidence	24	Summarize the main findings including the strength of evidence for each main outcome; consider their relevance to key groups (eg, healthcare providers, users, and policy makers).
Limitations	25	Discuss limitations at study and outcome-level (eg, risk of bias), and at review-level (eg, incomplete retrieval of identified research, reporting bias).
Conclusions	26	Provide a general interpretation of the results in the context of other evidence, and implications for future research.
Other Information		
Funding	27	Describe sources of funding for the systematic review and other support (eg, supply of data); role of funders for the systematic review.

Adapted from Moher et al, for the PRISMA Group: Preferred reporting items for systematic reviews and meta-analyses: The PRISMA Statement. *PLoS Med* 6:e1000097, 2009 (PDF freely downloadable from bit.ly/9kGZhc). Further information available in Liberati et al: The PRISMA Statement for reporting systematic reviews and meta-analyses of studies that evaluate health care interventions: Explanation and elaboration. *PLoS Med* 6:e1000100, 2009 (PDF freely downloadable from bit.ly/91wlat).

Recommended Format for Reporting of Meta-analyses of Observational Studies According to the MOOSE Group ↵

Reporting of background should include:	<p>Problem definition. Hypothesis statement. Description of study outcome(s). Type of exposure or intervention used. Type of study designs used. Study population.</p>
Reporting of search strategy should include:	<p>Qualifications of searchers (eg, librarians and investigators). Search strategy, including time period included in the synthesis and keywords. Effort to include all available studies, including contact with authors. Databases and registries searched. Search software used, name and version, including special features used (eg, explosion). Use of hand searching (eg, reference lists of obtained articles). List of citations located and those excluded, including justification. Method of addressing articles published in languages other than English. Methods of handling abstracts and unpublished studies. Description of any contact with authors.</p>
Reporting of methods should include:	<p>Description of relevance or appropriateness of studies assembled for assessing the hypothesis to be tested. Rationale for the selection and coding of data (eg, sound clinical principles or convenience). Documentation of how data were classified and coded (eg, multiple raters, blinding, and interrater reliability). Assessment of confounding (eg, comparability of cases and controls in studies where appropriate). Assessment of study quality, including blinding of quality assessors; stratification or regression on possible predictors on study results. Assessment of heterogeneity. Description of statistical methods (eg, complete description of fixed or random effects models, justification of whether the chosen models account for predictors of study results, dose-response models, or cumulative meta-analysis) in sufficient detail to be replicated. Provision of appropriate tables and graphics.</p>
Reporting of results should include:	<p>Graphic summarizing individual study estimates and overall estimate. Table giving descriptive information for each study included. Results of sensitivity testing (eg, subgroup analysis). Indication of statistical uncertainty of findings.</p>
Reporting of discussion should include:	<p>Quantitative assessment of bias (eg, publication bias). Justification for exclusion (eg, exclusion of non-English-language citations). Assessment of quality of included studies.</p>
Reporting of conclusions should include:	<p>Consideration of alternative explanations for observed results. Generalization of the conclusions (ie, appropriate for the data presented and within the domain of the literature review). Guidelines for future research. Disclosure of funding source.</p>

Adapted with permission; © 2000 American Medical Association. Reference: Stroup et al, for the MOOSE Group: Meta-analysis of observational studies in epidemiology: A proposal for reporting. *JAMA* 283:2008-2012, 2000 (PDF freely downloadable from bit.ly/bxo3Zv).

Recommended Format for Reporting Quality Improvement Evidence According to the SQUIRE Statement* ↶

Section	Item	Descriptor
Title & Abstract		<i>Did you provide clear and accurate information for finding, indexing, and scanning your paper?</i>
Title	1	a. Indicates the article concerns the improvement of quality (broadly defined to include the safety, effectiveness, patient-centeredness, timeliness, efficiency, and equity of care). b. States the specific aim of the intervention. c. Specifies the study method used (for example, "A qualitative study," or "A randomized cluster trial").
Abstract	2	Summarizes precisely all key information from various sections of the text using the abstract format of the intended publication.
Introduction		<i>Why did you start?</i>
Background knowledge	3	Provides a brief, nonselective summary of current knowledge of the care problem being addressed, and characteristics of organizations in which it occurs.
Local problem	4	Describes the nature and severity of the specific local problem or system dysfunction that was addressed.
Intended improvement	5	a. Describes the specific aim (changes/improvements in care processes and patient outcomes) of the proposed intervention. b. Specifies who (champions, supporters) and what (events, observations) triggered the decision to make changes, and why now (timing).
Study question	6	States precisely the primary improvement-related question and any secondary questions that the study of the intervention was designed to answer.
Methods		<i>What did you do?</i>
Ethical issues	7	Describes ethical aspects of implementing and studying the improvement, such as privacy concerns, protection of participants' physical well-being, and potential author conflicts of interest, and how ethical concerns were addressed.
Setting	8	Specifies how elements of the local care environment considered most likely to influence change/improvement in the involved site or sites were identified and characterized.
Planning the intervention	9	a. Describes the intervention and its component parts in sufficient detail that others could reproduce it. b. Indicates main factors that contributed to choice of the specific intervention (for example, analysis of causes of dysfunction; matching relevant improvement experience of others with the local situation). c. Outlines initial plans for how the intervention was to be implemented: eg, <i>what</i> was to be done (initial steps; functions to be accomplished by those steps; how tests of change would be used to modify intervention), and <i>by whom</i> (intended roles, qualifications, and training of staff).
Planning the study of the intervention	10	a. Outlines plans for assessing how well the intervention was implemented (dose or intensity of exposure). b. Describes mechanisms by which intervention components were expected to cause changes, and plans for testing whether those mechanisms were effective. c. Identifies the study design (for example, observational, quasiexperimental, experimental) chosen for measuring impact of the intervention on primary and secondary outcomes, if applicable. d. Explains plans for implementing essential aspects of the chosen study design, as described in publication guidelines for specific designs, if applicable (see, for example, www.equator-network.org). e. Describes aspects of the study design that specifically concerned internal validity (integrity of the data) and external validity (generalizability).
Methods of evaluation	11	a. Describes instruments and procedures (qualitative, quantitative, or mixed) used to assess a) the effectiveness of implementation, b) the contributions of intervention components and context factors to effectiveness of the intervention, and c) primary and secondary outcomes. b. Reports efforts to validate and test reliability of assessment instruments. c. Explains methods used to assure data quality and adequacy (for example, blinding; repeating measurements and data extraction; training in data collection; collection of sufficient baseline measurements).
Analysis	12	a. Provides details of qualitative and quantitative (statistical) methods used to draw inferences from the data. b. Aligns unit of analysis with level at which the intervention was implemented, if applicable. c. Specifies degree of variability expected in implementation, change expected in primary outcome (effect size), and ability of study design (including size) to detect such effects. d. Describes analytic methods used to demonstrate effects of time as a variable (for example, statistical process control).
Results		<i>What did you find?</i>
Outcomes	13	a. Nature of setting and improvement intervention: i. Characterizes relevant elements of setting or settings (for example, geography, physical resources, organizational culture, history of change efforts), and structures and patterns of care (for example, staffing, leadership) that provided context for the intervention. ii. Explains the actual course of the intervention (for example, sequence of steps, events, or phases; type and number of participants at key points), preferably using a timeline diagram or flow chart. iii. Documents degree of success in implementing intervention components. iv. Describes how and why the initial plan evolved, and the most important lessons learned from that evolution, particularly the effects of internal feedback from tests of change (reflexiveness). b. Changes in processes of care and patient outcomes associated with the intervention: i. Presents data on changes observed in the care delivery process.

		<ul style="list-style-type: none"> ii. Presents data on changes observed in measures of patient outcome (for example, morbidity, mortality, function, patient/staff satisfaction, service utilization, cost, care disparities). iii. Considers benefits, harms, unexpected results, problems, failures. iv. Presents evidence regarding the strength of association between observed changes/improvements and intervention components/context factors. v. Includes summary of missing data for intervention and outcomes.
Discussion		<i>What do the findings mean?</i>
Summary	14	<ul style="list-style-type: none"> a. Summarizes the most important successes and difficulties in implementing intervention components, and main changes observed in care delivery and clinical outcomes. b. Highlights the study's particular strengths.
Relation to other evidence	15	Compares and contrasts study results with relevant findings of others, drawing on broad review of the literature; use of a summary table may be helpful in building on existing evidence.
Limitations	16	<ul style="list-style-type: none"> a. Considers possible sources of confounding, bias, or imprecision in design, measurement, and analysis that might have affected study outcomes (internal validity). b. Explores factors that could affect generalizability (external validity), for example: representativeness of participants; effectiveness of implementation; dose-response effects; features of local care setting. c. Addresses likelihood that observed gains may weaken over time, and describes plans, if any, for monitoring and maintaining improvement; explicitly states if such planning was not done. d. Reviews efforts made to minimize and adjust for study limitations. e. Assesses the effect of study limitations on interpretation and application of results.
Interpretation	17	<ul style="list-style-type: none"> a. Explores possible reasons for differences between observed and expected outcomes. b. Draws inferences consistent with the strength of the data about causal mechanisms and size of observed changes, paying particular attention to components of the intervention and context factors that helped determine the intervention's effectiveness (or lack thereof), and types of settings in which this intervention is most likely to be effective. c. Suggests steps that might be modified to improve future performance. d. Reviews issues of opportunity cost and actual financial cost of the intervention.
Conclusions	18	<ul style="list-style-type: none"> a. Considers overall practical usefulness of the intervention. b. Suggests implications of this report for further studies of improvement interventions.
Other Information		<i>Were other factors relevant to conduct and interpretation of the study?</i>
Funding	19	Describes funding sources, if any, and role of funding organization in design, implementation, interpretation, and publication of study.

*These guidelines provide a framework for reporting formal, planned studies designed to assess the nature and effectiveness of interventions to improve the quality and safety of care. It may not always be appropriate or even possible to include information about every numbered guideline item in reports of original studies, but authors should at least consider every item in writing their reports. Although each major section (that is, Introduction, Methods, Results, and Discussion) of a published original study generally contains some information about the numbered items within that section, information about items from 1 section (for example, the Introduction) is also often needed in other sections (for example, the Discussion).

Adapted with permission; © 2008 BMJ Publishing Group Ltd. Further information available at www.squire-statement.org. Reference: Davidoff et al: Publication guidelines for quality improvement studies in health care: Evolution of the SQUIRE project. *Qual Saf Health Care* 17(suppl 1):i3-i9, 2008 (PDF freely downloadable from bit.ly/dpNrSm).

APPENDIX II: AJKD UNIT CONVERSION INFORMATION

Albumin–total protein ratio should be reported as g/g; albumin-creatinine ratio should be reported as mg/g; total protein–creatinine should be reported as mg/g.

Albuminuria and total protein are reported as mg/d (24-h excretion) or mg/dL (spot urine dipstick).

Compound	US Conventional Unit	Multiplicative Factor	International Unit
Acetoacetic acid	mg/dL	0.09795	mmol/L
Acetone	mg/dL	0.1722	mmol/L
Alanine	mg/dL	112.2	μmol/L
Alanine aminotransferase (ALT)	U/L	n/a	[same]
Albumin	g/dL	10	g/L
Aldosterone	ng/dL	0.02774	nmol/L
Alkaline phosphatase	U/L	n/a	[same]
α-Aminobutyric acid	mg/dL	96.97	μmol/L
Amitriptyline	ng/mL	3.605	nmol/L
Ammonia (as NH ₃)	μg/dL	0.587	μmol/L
Amylase	U/L	n/a	[same]
Androstenedione	ng/dL	0.03492	nmol/L
Anion gap	mEq/L	=	mmol/L
Antidiuretic hormone (ADH)	pg/mL	0.923	pmol/L
Antithrombin III	mg/dL	10	mg/L
Apolipoprotein A	mg/dL	0.01	g/L
Apolipoprotein B	mg/dL	0.01	g/L
Arginine	mg/dL	57.4	μmol/L
Asparagine	mg/dL	75.69	μmol/L
Aspartate aminotransferase (AST)	U/L	n/a	[same]
Atrial natriuretic hormone	pg/mL	=	ng/L
Bicarbonate	mEq/L	=	mmol/L
Bilirubin	mg/dL	17.1	μmol/L
C-peptide	ng/mL	0.333	nmol/L
C3 complement	mg/mL	=	g/L
C4 complement	mg/mL	=	g/L
Calcitonin	pg/mL	=	ng/L
Calcium	mg/dL	0.2495	mmol/L
Calcium ion	mEq/L	0.5	mmol/L
Carbon dioxide (CO ₂)	mEq/L	=	mmol/L
β-Carotene	μg/dL	0.01863	μmol/L
Chloride	mEq/L	=	mmol/L
Cholesterol	mg/dL	0.02586	mmol/L
Citrate	mg/dL	52.05	μmol/L
Coproporphyrins	μg/24 h	1.527	nmol/d
Corticotropin (ACTH)	pg/mL	0.22	pmol/L
Cortisol	μg/dL	27.59	nmol/L
Cotinine	ng/mL	5.67	nmol/L
Creatine	mg/dL	76.26	μmol/L
Creatine kinase (CK)	U/L	n/a	[same]
Creatinine	mg/dL	88.4	μmol/L
Creatinine clearance	mL/min	0.01667	mL/s
Dehydroepiandrosterone (DHEA)	ng/mL	3.467	nmol/L
Digoxin	ng/mL	1.281	nmol/L
Epinephrine	pg/mL	5.458	pmol/L
Erythrocyte sedimentation rate	mm/h	n/a	[same]
Estradiol (E2)	pg/mL	3.671	pmol/L
Estriol (E3)	ng/mL	3.467	nmol/L
Estrone (E1)	ng/dL	36.99	pmol/L
Ethanol (ethyl alcohol)	mg/dL	0.217	mmol/L
Ethylene glycol	mg/L	16.11	μmol/L
Ferritin	ng/mL	=	μg/L
α1-Fetoprotein	ng/mL	=	μg/L

Fibrinogen	mg/dL	0.0294	µmol/L
Folate (folic acid)	ng/mL	2.266	nmol/L
Fructose	mg/dL	55.5	µmol/L
Glomerular filtration rate (GFR)	mL/min/1.73 m ²	0.01667	mL/s/1.73 m ²
Glucagon	pg/mL	=	ng/L
Glucose	mg/dL	0.05551	mmol/L
Glutamine	mg/dL	68.42	µmol/L
γ-Glutamyltransferase (GGT)	U/L	n/a	[same]
Glycine	mg/dL	133.3	µmol/L
Haptoglobin	mg/dL	0.01	g/L
Hemoglobin	g/dL	10	g/L
High-density lipoprotein cholesterol (HDL-C)	mg/dL	0.02586	mmol/L
Histidine	mg/dL	64.45	µmol/L
Homocysteine (total)	mg/L	7.397	µmol/L
Human chorionic gonadotropin (HCG)	mIU/mL	=	IU/L
β-Hydroxybutyric acid	mg/dL	96.05	µmol/L
Hydroxyproline	mg/dL	76.27	µmol/L
Immunoglobulin A (IgA)	mg/dL	10	mg/L
Immunoglobulin D (IgD)	mg/dL	10	mg/L
Immunoglobulin E (IgE)	mg/dL	10	mg/L
Immunoglobulin G (IgG)	mg/dL	0.01	g/L
Immunoglobulin M (IgM)	mg/dL	10	mg/L
Insulin	µU/mL	6.00	pmol/L
Iron, total	µg/dL	0.179	µmol/L
Iron binding capacity, total	µg/dL	0.179	µmol/L
Isoleucine	mg/dL	76.24	µmol/L
Isopropanol	mg/L	0.0166	mmol/L
Lactate (lactic acid)	mg/dL	0.111	mmol/L
Lactate dehydrogenase (LDH)	U/L	n/a	[same]
Lactate dehydrogenase isoenzymes (LD1 to LD5)	%	0.01	Proportion of 1.0
Lead	µg/dL	0.04826	µmol/L
Leucine	mg/dL	76.237	µmol/L
Lipase	U/L	n/a	[same]
Lithium	mEq/L	=	mmol/L
Low-density lipoprotein cholesterol (LDL-C)	mg/dL	0.02586	mmol/L
Lysine	mg/dL	68.404	µmol/L
Magnesium	mEq/L	0.5	mmol/L
Methanol	mg/L	0.0312	mmol/L
Methionine	mg/dL	67.02	µmol/L
Nicotine	mg/L	6.164	µmol/L
Nitrogen (nonprotein)	mg/dL	0.7139	mmol/L
Norepinephrine	pg/mL	0.00591	nmol/L
Ornithine	mg/dL	75.67	µmol/L
Osmolality	mOsm/kg	=	mmol/kg
Oxalate	mg/L	11.1	µmol/L
Parathyroid hormone (PTH)	pg/mL	=	ng/L
Phenylalanine	mg/dL	60.54	µmol/L
Phenytoin	mg/L	3.968	µmol/L
Phosphorus (inorganic)	mg/dL	0.3229	mmol/L
Plasminogen	mg/dL	0.113	µmol/L
Plasminogen activator inhibitor	mIU/mL	=	IU/L
Platelets (thrombocytes)	×10 ⁹ /µL	=	×10 ⁹ /L
Potassium	mEq/L	=	mmol/L
Progesterone	ng/mL	3.18	nmol/L
Prolactin	ng/mL	=	µg/L
Proline	mg/dL	86.86	µmol/L
Protein (total)	g/dL	10	g/L
Protoporphyrin	µg/dL	0.01777	µmol/L
Pyruvate	mg/dL	113.6	µmol/L
Quinidine	µg/mL	3.082	µmol/L
Red blood cell count	×10 ⁶ /µL	=	×10 ¹² /L
Renin activity	ng/ml/h	0.2778	ng/L/s

Salicylate	mg/L	0.00724	mmol/L
Serine	mg/dL	95.16	μmol/L
Serotonin (5-hydroxytryptamine)	ng/mL	0.005675	μmol/L
Sodium	mEq/L	=	mmol/L
Taurine	mg/dL	79.91	μmol/L
Testosterone	ng/dL	0.03467	nmol/L
Theophylline	μg/mL	5.55	μmol/L
Thiocyanate	mg/L	17.2	μmol/L
Threonine	mg/dL	83.95	μmol/L
Thyroglobulin	ng/mL	=	μg/L
Thyrotropin (thyroid-stimulating hormone, TSH)	mIU/L	n/a	[same]
Thyroxine, free (FT4)	ng/dL	12.87	pmol/L
Thyroxine, total (T4)	μg/dL	12.87	nmol/L
Transferrin	mg/dL	0.01	g/L
Triglycerides	mg/dL	0.01129	mmol/L
Triiodothyronine, free (FT3)	pg/dL	0.01536	pmol/L
Triiodothyronine, total (T3)	ng/dL	0.01536	nmol/L
Troponin I	ng/mL	=	μg/L
Troponin T	ng/mL	=	μg/L
Tryptophan	mg/dL	48.97	μmol/L
Tyrosine	mg/dL	55.19	μmol/L
Urea nitrogen, serum (SUN)	mg/dL	0.357	mmol/L
Uric acid	mg/dL	59.48	μmol/L
Valine	mg/dL	85.36	μmol/L
Vasoactive intestinal polypeptide	pg/mL	=	ng/L
Vitamin A (retinol)	μg/dL	0.0349	μmol/L
Vitamin B6 (pyridoxine)	ng/mL	4.046	nmol/L
Vitamin B12 (cyanocobalamin)	pg/mL	0.738	pmol/L
Vitamin C (ascorbic acid)	mg/dL	56.78	μmol/L
Vitamin D (1,25 dihydroxyvitamin D)	pg/mL	2.6	pmol/L
Vitamin D (25-hydroxyvitamin D)	ng/mL	2.496	nmol/L
Vitamin E (α-tocopherol)	μg/mL	2.32	μmol/L
Vitamin K	ng/mL	2.22	nmol/L
White blood cell count	×10 ³ /μL	=	×10 ⁹ /L
Zinc	μg/dL	0.153	μmol/L

Data source: Iverson C, Christiansen MA, Flanagan A, et al: American Medical Association Manual of Style: A Guide for Authors and Editors (ed 10), New York, NY, 2007