

Journal of Graduate Medical Education

INSTRUCTIONS FOR AUTHORS (Updated October 2014)

1. Overview

The *Journal of Graduate Medical Education (JGME)* publishes original research articles, educational innovations, narrative and systematic reviews, brief reports, personal essays about teaching and learning, commentaries, editorials, and letters to the editor. JGME focuses on the education of medical residents and fellows, and the environment in which they learn.

Manuscripts should pertain to graduate medical education or related topics.

Manuscripts submitted to *JGME* should contain information important to the *Journal's* audience, which is diverse in specialties, settings, and level of expertise in education.

Word and table/figure limits for each type of manuscript are shown below.

Before submitting your manuscript, please carefully read the instructions for authors, and review the Manuscript Checklist (add hyperlink here). This will enable the journal staff to process your manuscript quickly.

Additional resources on a range of topics are provided at the end of this document.

JGME Word and Box/Table/Figure Limits

Category	Manuscript, words	Abstract, words	Boxes/Tables/Figures, No.
Original Research Quantitative Qualitative	≤ 2,000 ≤ 3,000	≤ 250	≤ 5
Educational Innovation	≤ 2,000	≤ 250	≤ 5
Review (Systematic, Narrative, and Meta-Analyses)	≤ 3,000	≤ 250	≤ 5
Brief Report	≤ 1,200	≤ 250	≤ 2
Perspective	≤ 1,200	No abstract	Usually ≤ 2
On Teaching	≤ 1,200	No abstract	N/A
To the Editor (Comment or Observation)	≤ 500	No abstract	≤ 2

Manuscript word counts exclude the title page, headings, acknowledgements, figures, tables, boxes, abstract, and references. Abstract word counts do include the headings.

- Choose the submission type appropriate for your manuscript, and follow the word count limits. If there are compelling reasons to exceed the limits, discuss them in the cover letter.
- Manuscripts submitted may not have been previously published in print or electronic format, nor can they be under consideration by another publication or medium. The title page elements include name and degree information for all authors, and their institutional affiliations and roles, acknowledgements (if appropriate); sources of funding statement, statements regarding conflicts of/ or competing interest; and information on any prior or related publications, and prior abstract or poster presentation. It should also include the contact information for the corresponding author.

- For *new submissions*, authors should indicate the abstract and manuscript word count in the Details section of the online submission and in the cover letter.
- For *revisions*, authors should include the revised word counts in the cover letter.

2. Types of Manuscripts

Original Research: Studies of graduate medical education curricula, evaluation, teaching methods, or settings, limited to 2,000 words.

Research manuscripts are selected on the basis of accepted quality criteria for education scholarship. Key considerations are methodological rigor, sample size, and adequate statistical power for quantitative research, and use of valid and reliable measurement instruments. For additional guidance please see the resources section at the end of this document.

- **Methodological Rigor:** Manuscripts must have clear hypotheses/foci, with approaches/methodologies matched to them, and conclusions supported by the evidence.
- **Sample Size and Statistical Power:** Quantitative studies must consider sample size, and use appropriate statistical tests, with attention to β -error/power calculations and adjustments for multiple comparisons, if used. For example, use of some parametric statistics for samples of fewer than 15 subjects is not advisable. Authors with questions should contact [JGME editorial staff](#).
- **Validity and Reliability:** Study methods must be appropriate and measurement instruments must be reliable and valid.
- Presence of a statement about Institution Review Board (IRB) review, and appropriate informed consent for studies with human subjects. Research articles should follow the Introduction, Methods, Results, Discussion (IMRD), and Conclusion format.
- **Introduction.** A brief summary of the importance and relevance to *JGME* readers, concise literature review highlighting the evidence gap(s) the study will attempt to answer, and clear hypothesis or question.
- **Methods.** Brief, clear narratives on setting(s), subjects, interventions, outcomes analysis. If survey or assessment instruments are used, include literature on prior validity evidence for survey and assessment instruments, or a description of the authors' efforts to provide validity evidence for the instruments.
- **Results.** Outcomes should match the study question and be objective (ideally, outcomes should go beyond self-reported or self-assessed).
- **Discussion.** The discussion should briefly summarize the most important, surprising, or unique findings from the study and set the findings into context, and must include a summary of the study limitations, which will not reduce the potential for manuscript acceptance. As applicable, brief next steps may be discussed
- **Conclusion.** They should be brief, reasoned, and conservative. Of note, interventions described do not have to be successful; manuscripts may report on approaches others should NOT try.

Educational Innovation: A description of a new approach or strategy in medical education that has been implemented and assessed, limited to 2,000 words.

Educational Innovation manuscripts should answer the question: Should this innovation be tried (or avoided) in other settings or disciplines?

- Submissions should use the structured abstract and paper format, and must include a statement on IRB review (see Original Research manuscripts above).
- Studies should focus on novel educational strategies, and have potential for replication in other disciplines/settings.
- Descriptions must be sufficiently detailed to allow others to replicate the approach, and must include feasibility information (time, costs/materials, and acceptability) as relevant.
- Of note, innovations do not have to be successful; manuscripts may report on approaches others should NOT try.

Brief Report: A summary of a new curriculum, assessment, or teaching method, or successful best practice that has at minimum been implemented, at minimum on a pilot basis. Brief Reports are limited to 1,200 words.

- Submissions should use the structured abstract and paper format (see the requirements for Original Research manuscripts above).
- Brief Reports may have a more limited focus: a single setting, smaller number of trainees, a single discipline, preliminary or self-reported outcome measures.

Published Abstracts: Submissions in the Original Research, Educational Innovation, or Brief Report category may be based on an abstract presented at a scientific meeting or previously submitted to a journal. The authors should indicate this in their submission.

Reviews: Reviews encompass systematic reviews and narrative reviews on topics of interest to graduate medical educators, limited to 3,000 words.

- Systematic review or meta-analysis: A formal (quantitative or qualitative) aggregation of the existing literature on a topic in graduate medical education.
- Narrative reviews combine expert opinion with a thorough review of the available evidence, most appropriate when available outcomes are scarce or cannot be readily aggregated. The review will interpret the available evidence and propose best practices and future directions.
- All reviews should use a structured format and a structured abstract that discusses objectives; data sources; participants and interventions; eligibility criteria, study appraisal, and synthesis methods; results; limitations; and conclusions.

Perspectives: Provide views and opinions on issues of broad interest to program directors, educators, researchers, and institutional GME leaders, limited to 1,200 words. Perspectives will be evidence-based but will also reflect the authors' expert opinion.

On Teaching/On Learning: Personal essays or reflections, that speak to the experience of teaching, learning, or related topics, and that will be of interest to multiple specialties. Submissions are limited to 1,200 words. Both educators and learners are encouraged to submit

articles for this category; the quality of the writing will determine acceptance.

To the Editor: Provide comments on articles published in *JGME* or brief observations on topics relevant to graduate medical education, with a word limit of 500 words and 5 or fewer references. Submissions may be shortened at the discretion of the editor.

3. Manuscript Preparation

JGME adheres to the *American Medical Association (AMA) Manual of Style*. Authors should consult the manual to ensure submissions are formatted correctly. Papers not correctly formatted may be returned to the authors for correction and resubmission.

Manuscript elements. The following information should be provided for all articles:

1. A title page listing all authors' degrees, affiliations, their roles at their institutions or organizations, and contact information for the corresponding author.
2. A structured abstract is required for research articles, and should follow the Background, Objective, Methods, Results, and Conclusions (BOMRC) format.
3. References, which must be numbered consecutively in the order in which they are cited in both the text and graphics (sample references for different types of documents are found below in the *Appendix*). All references must be provided as typed endnotes using superscripted numbers (ie, ^{1,2,3}). Footnotes in tables or figures use superscripted letters (ie, ^{a,b,c}).
4. List of abbreviations (if used).
5. Tables, Figures, and Boxes with legends (if used).
6. Description of additional data files (if any).
7. Acknowledgments (if appropriate).
8. Prior poster or abstract presentation (if applicable).

Authorship. Only persons who have actively participated in the research, writing and editing of the manuscript should be listed as authors.

- Anyone who contributes to the writing must be listed or acknowledged; ghost authors are not acceptable.
- Individuals who contributed to the manuscript to a lesser degree and who do not meet the criteria for authorship (individuals who provided technical support, or writing or editorial assistance, or general support) should be listed in the acknowledgments.
- Anyone who contributes to the writing must be listed or acknowledged; ghost authors are not acceptable (this does not apply to individuals who edit a manuscript for style, grammar, or clarity).
- If an author who contributed cannot be contacted, that author must be included on the author roster, and the lack of sign-off must be noted in the cover letter.

Authors with questions about authorship should consult the Committee on Publication Ethics (COPE) [guidance on what constitutes authorship](#) or contact [Jean Mattes](#) on the journal staff.

File formats. Acceptable formats for the main manuscript include: Microsoft Word, WordPerfect, and rich text format (RTF). Manuscripts prepared with word processing packages should be converted to RTF before uploading. Manuscripts in PDF format will be returned.

- Text must be double-spaced, pages numbered, left aligned (unjustified), without hyphenated words at line breaks.

Sources of funding. Sources of funding must be acknowledged. All authors will disclose conflict of interest information. If there is no source of funding, state that “The authors report no external funding source for this study.”

Conflicts of interest/competing interests. Authors should declare competing interests, including financial ties; payment for research; ownership of stock and stock options; honoraria for consulting, speaking, and similar activities; academic/institutional affiliations; and competition among researchers examining similar questions.

- The corresponding author must indicate conflicts of interest on behalf of ALL authors as part of online manuscript submission process, and in a statement on the manuscript’s title page.
- Competing interests are listed in the published article. If no conflicts of/competing interests are declared, the listing reads “The author(s) declare they have no competing interests.”
- Editors and reviewers also may have conflicts of/competing interests with a given manuscript and/or its authors, and will recuse themselves from the review in that case.

4. Manuscript Submission

Manuscripts must be submitted by one of the authors of the manuscript at <http://www.editorialmanager.com/jgme/>. Instructions and support are available from the online site. A user ID and password need to be obtained on the first visit.

Submission of a manuscript implies that:

- All authors have read and agreed with the manuscript’s content.
- Any research with human subjects was performed with the approval or exemption of an appropriate ethics or review board. A statement about this must appear in the Methods section of the manuscript, and must include the name of the body that gave approval or passed judgment for exemption. When appropriate, informed consent should be documented. Manuscripts from nations where education research is not usually reviewed by an ethics committee will be individually evaluated by the editors.
- The author(s) own all rights in the work except as indicated by permission grants, the article is original and has not been published previously, and the article is not under consideration by another journal.

Authors should note the following:

- The submitting author takes responsibility for the article during submission and peer review. To facilitate rapid publication, *JGME* accepts all submissions via its online system.
- During submission the submitting author is asked to provide a cover letter that briefly discusses why the manuscript should be published in *JGME*, and addresses any areas that require exceptions to the editorial policies detailed in the instructions for authors.
- On acceptance, all rights are transferred to the Accreditation Council for Graduate Medical Education, which will register the copyright per the copyright form authors will be asked to submit before article publication.

Questions about manuscript preparation and submission should be directed to [Amanda Plashal](#) on the *JGME* editorial staff.

5. Editorial and Peer Review Processes

Manuscripts undergo an initial screening to assure their concordance with the *Journal's* focus and audience, followed by review by the editors.

- On average, 60-70% of *JGME* manuscripts are sent out for peer review. Statistical reviews are requested as needed. Reviewers are asked to declare any competing interests.
- Peer review seeks to evaluate the manuscript for its scientific merit which includes:
 1. significance of the topic's relevance to the *JGME* audience;
 2. connection with existing literature/best practices in the field;
 3. methodological rigor; and
 4. quality and clarity of the writing.
- The final decision is made by the *Journal's* editorial board and editor-in-chief, based on reviewer recommendations.
- Accepted manuscripts are copy-edited for grammar, punctuation, clarity of language, and style. Proofs are provided for author approval. Prior to publication, authors are asked to complete a copyright form.
- The editorial board may select articles as especially noteworthy and give them greater prominence, external publicity, or a commentary.

6. Tables, Figures, and Boxes

Boxes. Should be used for single-cell tables, such as bulleted ideas. Boxes may be pasted with the text they accompany or at the end of the text document.

Tables. Should be used to present data relevant for the findings/conclusions. Each table should be numbered in sequence using Arabic numerals (ie, Table 1, 2, etc).

- Tables should have a title that summarizes the whole table using a maximum of 15

words. Concise legends may follow the Table. Tables should be self-explanatory and not require discussion in the text.

- Tables should be pasted at the end of the document text file, and should be formatted using the “Table object” to ensure that columns remain aligned when files are sent electronically.
- Tabular data provided as additional files can be uploaded as an Excel spreadsheet (.xls) using appropriate file names and standard file extensions.
- Demographic data should be provided only if study populations and findings are stratified by 1 or more demographic variables.

Figures. Use of figures is strongly encouraged to present concepts and process flow in a concise manner. Figures should be provided as separate, individual files.

- The following file formats can be accepted: Microsoft Word (version 5 and above; figures must be a single page); PDF (especially suitable for diagrams); .jpg, .tiff, .gif, .ppt.
- Each figure should comprise a single file, with resolution of 200 dpi or higher. Figures must be submitted in grayscale only unless authors have arranged to pay for color charges.
- Figures should be cited consecutively in Arabic numerals in the text.
- Figure legends should be limited to 200 words, and should contain sufficient explanation to allow figures to be interpreted without reference to the text.
- Figures must be submitted in a form that permits reproduction without retouching or typesetting. Lettering and labeling should be large enough to allow reduction for page layout.

If figures, tables, or boxes have previously been published, it is the responsibility of the author(s) to obtain permission from the copyright holder to reproduce them in *JGME*. Appropriate credit text must be included in the figure legend. Documentation of permission to reproduce must be sent with the manuscript during submission.

Photographs: Should be used to present models, simulation set-ups, or other images that aid understanding, and should be high-quality images that can be scaled to fit the layout.

Supplemental online content. *JGME* encourages authors to share forms and interview outlines used for survey research, survey and assessment instruments, video or audio files, or other relevant data as supplemental material. These additional files will not be displayed in the print form of the article, but will be made available in the online version. The editorial office reserves the right to convert figures or tables to online supplemental material.

Authors should list all supplemental content consecutively at the end of the manuscript. This should include the type of material submitted, should be clearly labeled as “supplemental content,” and be numbered consecutively in the text.

Resources for authors

About the *Journal of Graduate Medical Education*

- Sullivan GM. Ten Things You Didn't Know About the Journal of Graduate Medical Education. *J Grad Med Educ.* 2010;2(4):491-492.
[Full text](#) | [PDF](#)
- Sullivan GM. Publishing Your Education Work in the Journal of Graduate Medical Education. *J Grad Med Educ.* 2010;2(4):493-495.
[Full text](#) | [PDF](#)

Assessment instruments (Design, and Validity and Reliability)

- Sullivan GM. A Primer on the Validity of Assessment Instruments. *J Grad Med Educ.* 2011; 3(2):119-120.
[Full text](#) | [PDF](#)
- Sullivan GM, Artino Jr AR. Analyzing and Interpreting Data From Likert-Type Scales
[Full Text](#) | [PDF \(54 KB\)](#)
- Rickards G, Magee M, Artino Jr AR. You Can't Fix by Analysis What You've Spoiled by Design: Developing Survey Instruments and Collecting Validity Evidence. *J Grad Med Educ.* 2012;4(4): 407-410.
[Full text](#) | [PDF](#)
- Magee C, Rickards G, Byars LA, Artino Jr AR. Tracing the Steps of Survey Design: A Graduate Medical Education Research Example. *J Grad Med Educ.* 2013;5(1):1-5.
[Full Text](#) | [PDF](#)
- Willis GB, Artino Jr AR. What Do Our Respondents Think We're Asking? Using Cognitive Interviewing to Improve Medical Education Surveys. *Journal of Graduate Medical Education: J Grad Med Educ.* 2013;5(3):353-356.
[Full Text](#) | [PDF](#)

Authorship

- [Committee on Publication Ethics \(COPE\) Authorship Discussion Document](#)
- Lypson M, Philibert I. Residents and Authorship: Rights, Obligations, and Avoiding the Pitfalls. *J Grad Med Educ.* 2012; 4(2):138-139.
[Full text](#) | [PDF](#)

Conflict of Interest

- International Committee of Medical Journal Editors (ICMJE) [Conflict of Interest assessment and disclosure form](#)

Educational Innovation Manuscripts

- The [EQUATOR network website](#) includes resources in writing different types of innovation studies such as quality improvement projects (SQUIRE) or qualitative research using focus groups or interviews (COREQ).

Effect Size

- Sullivan GM, Feinn R. Using Effect Size—or Why the P Value Is Not Enough. *J Grad Med Educ.* 2012; 4(3):279-282.
[Full text](#) | [PDF](#)
- Sullivan GM. FAQs About Effect Size. *J Grad Med Educ.* 2012; 4(3):283-284.
[Full text](#) | [PDF](#)

Institutional Review Board Review

- Sullivan GM. Education Research and Human Subject Protection: Crossing the IRB Quagmire. *J Grad Med Educ.* 2011;3(1):1-4.
[Full text](#) | [PDF](#)
- Sullivan GM. IRB 101. *J Grad Med Educ.* 2011;3(1):5-6.
[Full text](#) | [PDF](#)

Medical Education Research

- Sullivan GM. Deconstructing Quality in Education Research. *J Grad Med Educ.* 2011; 3(2):121-124.
[Full text](#) | [PDF](#)
- Sullivan GM. Getting Off the “Gold Standard”: Randomized Controlled Trials and Education Research. *J Grad Med Educ.* 2011; 3(3):285-289.
[Full text](#) | [PDF](#)
- Sullivan GM, Sargeant J. Qualities of Qualitative Research: Part I. *J Grad Med Educ.* 2011; 3(4):449-452.
[Full text](#) | [PDF](#)
- Sargeant J. Qualitative Research Part II: Participants, Analysis, and Quality Assurance. *J Grad Med Educ.* 2012; 4(1):1-3.
[Full text](#) | [PDF](#)

Non-Randomized Study Design

- Helpful guidance on writing up studies using a nonrandomized design can be found in the [TREND statement](#) (*Am J Public Health* 2004;94(3):361–366).

On Writing

- Sullivan GM. Writing Education Studies for Publication. *J Grad Med Educ.* 2012; 4(2):133-137.
[Full text](#) | [PDF](#)
- Sullivan GM. Is There a Role for Spin Doctors in Med Ed Research? *J Grad Med Educ.* 2014; 6(3):405-407.
[Citation](#) | [Full Text](#) | [PDF \(56 KB\)](#)

Statistical Methods

- Basic guidance on common concepts, including [statistical significance](#), [reliability](#), and other topics is found from the STATISTICA/StatSoft [open access textbook](#).

Systematic Reviews and Meta-Analyses

- The [PRISMA \(Preferred Reporting Items for Systematic Reviews and Meta-Analyses\) has several guidelines](#) for writing up systematic reviews and meta-analyses.

Appendix: References (formats for different types of documents)

All references must be numbered consecutively in the order they are cited in the text, tables, or legends. Examples for a range of different types of references are provided below. Abbreviations of journal names must follow the Index Medicus/MEDLINE format. Citations in the reference list should contain up to 6 authors. Reference style should conform to *AMA Manual of Style*, 10th ed.

Journal article

Horwitz LI, Krumholz HM, Green ML, Huot SJ. Transfers of patient care between house staff on internal medicine wards: a national survey. *Arch Intern Med*. 2006;166(11):1173–1177.

Link/URL

Joint Commission on the Accreditation of Healthcare Organizations. 2006 National Patient Safety Goals. http://www.jointcommission.org/PatientSafety/NationalPatientSafetyGoals/06_npsg_dsc.htm. Accessed October 29, 2013.

Book

Patton, MQ. *Qualitative Evaluation and Research Methods*. 3rd ed. Newbury Park, CA: Sage Publications; 2000.

Book chapter or article in a book

Cacioppo JT, Petty RE. Social psychological procedures for cognitive response assessment: The thought listing technique. In: Merluzzi T, Glass C, Genest M, eds. *Cognitive Assessment*. New York: Guilford; 1981:309–342.

Conference proceedings not published in a book or journal

Jones DL, ed. Proceedings: Eighteenth Annual Conference on Research in Medical Education. Paper presented at: 19th Annual Conference on Research in Medical Education; November 1979; Washington, DC.

Thesis or dissertation

Dale, DC. A Brief History of Graduate Medical Education in Washington, Alaska, Montana and Idaho. [master's thesis], Seattle: University of Washington; 1972.

Government report

Johnston LD, O'Malley PM, Bachman JG. Monitoring the Future: National Survey Results on Adolescent Drug Use: Overview of Key Findings. Bethesda, MD: National Institute on Drug Abuse, US Dept of Health and Human Services; 2000.

Non-Government report

Millis JS. The Graduate Education of Physicians. Report of the Citizens' Commission on Graduate Medical Education. Chicago: American Medical Association; 1966.