DESCRIPTION

*Research in Social and Administrative Pharmacy (RSAP)* publishes monthly/twelve times per year, featuring original scientific reports, comprehensive review articles, proposed models, and provocative commentaries in the *social and administrative pharmaceutical sciences*. Topics of interest include outcomes evaluation of drug products, programs, or services; pharmacoepidemiology; medication adherence; disease management; medication use policy; drug marketing; evaluation of educational paradigms that could impact practice and/or patient behavior; and other topics related to public health in the context of pharmacy or medication use.

RSAP strives to become a widely recognized venue for publishing articles that proffer new models to guide existing research, make methodological arguments, or otherwise describe the results of rigorous theory-building research. Practice and education research are considered, with preference given to papers evaluating theoretical constructs and to those that might shape policy.

AUDIENCE

Researchers in pharmacy practice and medication-use policy, including academicians in pharmacy, public health, medicine, and business and practitioners, clinicians, and consultants

IMPACT FACTOR

2018: 2.719 © Clarivate Analytics Journal Citation Reports 2019

EDITORIAL BOARD

*Editor-in-Chief*
Shane Desselle, Touro University California, Vallejo, California, United States

*Associate Editors*
Mohamed E. K. Amin, Beirut Arab University, Indiana, USA
Parisa Aslani, The University of Sydney, Sydney, NSW, Australia
Aleda M. H. Chen, Cedarville University, Cedarville, Ohio, United States
Dalia Dawoud, National Institute for Health and Care Excellence, London, United Kingdom
Anandi Law, Western University of Health Sciences, Pomona, California, United States
Carlo Marra, University of Otago, Dunedin, New Zealand
Lotte Stig Norgaard, University of Copenhagen, København, Denmark

Editorial Board

Katri Aaltonen, The Social Insurance Institution of Finland, Helsinki, Finland
Joy P. Alonzo, University of Houston, Houston, Texas, United States
Rajender Aparasu, University of Houston, Houston, Texas, United States
Zaheer-Ud-Din Babar, University of Huddersfield, Huddersfield, West Yorkshire, England, United Kingdom
Lina R. Bader, University of Nottingham, Nottingham, United Kingdom
J. Scott Bell, University of South Australia, Adelaide, South Australia, Australia
Arcelio Benetoli, State University of Ponta Grossa Department of Pharmaceutical Sciences, PONTA GROSSA, Brazil

Michelle L. Blakely, Truman State University, Kirksville, Missouri, United States
Alicia Bouldin, University of Mississippi, Oxford, Mississippi, United States
Matthew J. Boyd, University of Nottingham, Nottingham, United Kingdom
Todd A. Boyd, PhD, Saint Francis Xavier University, Antigonish, Nova Scotia, Canada
William B. Brieger, Johns Hopkins University School of Medicine, Baltimore, Maryland, United States
Amber L. Briggs, Central Peninsula Hospital, Soldotna, Alaska, United States
Cathal Cadogan, Royal College of Surgeons in Ireland, Dublin, Ireland
Victoria Garcia Cardenas, The University of Sydney, Sydney, Australia

Afonso Cavaco, New University of Lisbon, Lisboa, Portugal
Betty Chewning, University of Wisconsin System, Madison, Wisconsin, United States
Michelle A. Chui, University of Wisconsin System, Madison, Wisconsin, United States
Geoffrey Curran, UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES, Little Rock, Arkansas, United States
Roy Dobson, University of Saskatchewan, Saskatoon, Saskatchewan, Canada
Erwin Martinez Faller, Management and Science University, Jalan Persiarian Olahraga
Jay Ford, University of Wisconsin Madison, Madison, Wisconsin, United States
Kevin T. Fuji, Creighton University, Omaha, Nebraska, United States
Natasa Gisev, University of New South Wales, Sydney, NSW, Australia
Jeff J. Guo, University of Cincinnati, Cincinnati, Ohio, United States
Katri Hameen-Anttila, Finnish Medicines Agency Fimea, KUOPIO, Finland
Monica Holiday-Goodman, University of Toledo, Toledo, Ohio, United States
Kreshnik Hoti, University of Prishtina, Prishtina, Kosovo

Sherilyn K. D. Houle, University of British Columbia, Vancouver, British Columbia, Canada
Karen S. Hudmon, Purdue University, West Lafayette, Indiana, United States
Eric Ip, Touro University California, Vallejo, California, United States
Mary Jo Knobloch, University of Wisconsin Madison, Madison, Wisconsin, United States
Ines Krass, The University of Sydney, Australia
Eugene Kreys, California Northstate University, Elk Grove, California, United States
Beth A. Martin, University of Wisconsin System, Madison, Wisconsin, United States
Lisa McCarthy, University of Toronto, Ontario, Canada

Sara McMillan, Griffith University, Nathan, Australia
Noreen D. Mdege, University of York, York, England, United Kingdom
Michael Miller, Texas A&M University Kingsville, Kingsville, Texas, United States
Manish Mittal, AbbVie Inc, North Chicago, Illinois, United States
Leticia Moczygemba, University of Texas at Austin, Austin, Texas, United States
Courtney Mospan, Wingate University School of Pharmacy, Wingate, North Carolina, USA
Marwa Noureldin, Manchester University College of Pharmacy, Fort Wayne, Indiana, United States
Taehwan Park, Saint Louis College of Pharmacy, Saint Louis, Missouri, United States
Isha Patel, Marshall University, Huntington, West Virginia, United States
Mark E. Patterson, University of Missouri Kansas City, Kansas City, Missouri, United States
Vibhu Paudyal, Robert Gordon University, Aberdeen, Scotland, United Kingdom
Jason Perepelkin, University of Saskatchewan, Saskatoon, Saskatchewan, Canada
Cariann Richey-Smith, Butler University, Indianapolis, Indiana, United States
Maguy Saffouh El Hajj, Qatar University, Doha, Qatar

Bandana Saini, The University of Sydney, Sydney, Australia
Teresa Salgado, Virginia Commonwealth University, Richmond, Virginia, United States
Jayashri Sankaranarayanan, University of Connecticut, Storrs, Connecticut, United States
Shane Scahill, Massey University, Palmerston North, New Zealand
Theresa J. Schindel, Edmonton Clinic Health Academy, Edmonton Alberta, Canada
Mary C. Schroeder, University of Iowa, Iowa City, Iowa, United States
Bupendra Shah, Long Island University, Brooklyn, New York, United States
Natalia Scherbakova, Western New England University, Springfield, Massachusetts, United States
Sarah Shoemaker, ABT Associates Inc, Cambridge, Massachusetts, United States
Monica L. Skomo, Duquesne University, Pittsburgh, Pennsylvania, United States
Margie Snyder, Purdue University, West Lafayette, Indiana, United States
Ricky Suchak, Sandoz AG, Basel, Switzerland
Kent Summers, Astellas Pharma Global Development Inc, Northbrook, Illinois, United States
Ebenezer Tetteh, London School of Hygiene and Tropical Medicine, London, United Kingdom
Carolyn T. Thorpe, University of Pittsburgh School of Pharmacy, Pittsburgh, Pennsylvania, United States
Daniel M. Tomaszewski, Chapman University, Orange, California, United States
June Tordoff, University of Otago, Dunedin, New Zealand
Erin E. Ulrich, Drake University, Des Moines, Iowa, United States
Elizabeth Unni, Roseman University of Health Sciences South Jordan Campus, South Jordan, Utah, United States
Ranjan Varadarajan, Shenandoah University, Winchester, Virginia, United States
Daisy Volmer, University of Tartu, Tartu, Estonia
Sheila Weiss-Smith, Optum Inc Baltimore, Baltimore, Maryland, United States
Kyle Wilby, University of Otago, Dunedin, New Zealand
Matthew J. Witry, University of Iowa, Iowa City, Iowa, United States
Phillip Woods, Griffith University, Nathan
Henry N. Young, The University of Georgia, Athens, Georgia, United States
GUIDE FOR AUTHORS

Manuscript categories

Editorials. Editorials can serve different purposes, but often are in response to a paper published in Research and Social and Administrative Pharmacy, aimed to buttress the arguments proposed, supplement with additional context, or provide a different perspective. Editorial contributions are highly sought by the journal's Editorial Board.

Research Articles. Research articles describe experimental or observational investigations that used formal methods for data collection and reporting of results. There are no restrictions on manuscript length or number of citations for Research Articles.

Research Briefs. Research articles that can provide their results in a shorter format: they have a maximum of 2,000 words, exclusive of abstract, acknowledgements, figures, tables, and references. This submission type is designed for reports of research that are still of high quality but less comprehensive in scope and potentially not of the multivariate nature typically seen in Original Research articles. The abstract should not exceed 200 words. Manuscripts are permitted to have a maximum of four figures and/or tables and 30 references. These articles are indexed all the same as are Original Research papers.

Commentaries. Commentaries are papers on philosophical issues, medication use policies, methodological arguments, or other pertinent subjects. These are extensive pieces built upon a wealth of knowledge, and research and give rise to topics likely much debated in the scientific literature. They papers are accompanied by an abstract written in prose serving to some extent as an executive summary. Many researchers who have been exploring a topic for years are well-positioned to write Commentary pieces, which are often well-references and welcomed by the editorial board. Commentary papers are indexed all the same as Original Research papers.

Proposed Models. Proposed models are comprehensive, well-executed papers that seek to propose and advance for scholarly discourse a model to guide future research or practice in pharmacy or medication use policy. There are no restrictions on manuscript length or number of citations for Proposed Models.

Reviews. Reviews are comprehensive, well-referenced descriptive papers on research topics directly related to clinical practice and/or medication use policy, or other phenomena that have implications for patients' well-being. There are no restrictions on manuscript length or number of citations for Reviews. Systematic review papers in RSAP are expected to adhere as well as possible to guidelines for systematic reviews by PRISMA's Transparent Reporting of Systematic Reviews and Meta-analyses found at http://www.prisma-statement.org/. Scoping and narrative review submissions are also welcome. Should they be accepted, depending on the paper's final make-up, it could be re-categorized as a Commentary.

Case Reports. Case reports represent any of several types of papers, including but not limited to the piloting of a new measure backed by theory, collection of data from a limited geographical area or number of institutions that might otherwise be considered for Original Research, or additional data to evidence a phenomenon previously reported by the same or different authors in a limited venue, or set of venues.

Letters to the Editor. Letters to the Editor serve as a forum for the expression of ideas or for commenting on matters of interest. It is also an avenue for critiquing or expanding on the information presented in a previously published manuscript. Authors are required to identify themselves. The Editor reserves the right to reject, shorten, excerpt, or edit letters for publication.

Book and Software Reviews. Book and Software Reviews are brief documents (700-1000 words) that provide a clear understanding of content in a book or software program, as well as the product structure, scope, and limitations. The reviewer should state the utility of the product for use by researchers or in the teaching pedagogy of research.

Study Protocols. RSAP seeks to publish protocols that have formal ethical approval and funding from a recognized, research-funding body (such as those listed by the JULIET project). Please provide information about ethical approval and research funding source when uploading your protocol. Any
protocols meeting these criteria might or might not be subject to peer review. Those not meeting these criteria will be sent for external peer review, particularly to properly contextualize papers for RSAPs stylistic considerations and to maximize its impact for RSAPs audience. The intention of peer review is not to alter the study design. Reviewers will be instructed to check that the study is scientifically credible and ethically sound in its scope and methods, and that there is sufficient detail to instill confidence that the study will be conducted and analyzed properly. RSAP does not guarantee publication of Study Protocol manuscripts. It is expected that the study will have undergone appropriate ethics review prior to submission to RSAP, regardless of funding source. Further, it is expected that protocol manuscripts be submitted prior to completion of data collection and preparation of additional papers.

Manuscript Quality/Reporting Guidelines

The guidelines listed below should be followed, as appropriate, depending on the type of study/manuscript, when submitting manuscripts to RSAP. Please use these guidelines to structure your article. You should reference use of these guidelines in the execution of your project or review and in preparation of your manuscript so as to assist yourself, editors, reviewers, and readers (upon acceptance) with inferences of quality and in obviating any ambiguity about the procedures undertaken. It is highly expected that should you cite or list one of the below guidelines then indeed you will have comported with their recommendations. If you have a question about whether an alternate guideline would be acceptable, please contact the editor.

**CONSORT Statement**
For reporting of randomized controlled trials: please use the appropriate extension to the CONSORT statement, including the extension for writing abstracts

**SRQR**
For reporting qualitative research

**COREQ**
For reporting qualitative research

**STARD**
For reporting of diagnostic accuracy studies

**STROBE**
For reporting of observational studies in epidemiology
- Checklist for cohort, case-control, and cross-sectional studies (combined)
- Checklist for cohort studies
- Checklist for case-control studies
- Checklist for cross-sectional studies

**PRISMA**
For reporting of systematic reviews

**PRISMA-P**
For reporting of systematic review and meta-analysis protocols

**PRISMA-ScR**
For reporting of scoping reviews
MOOSE
For reporting of meta-analyses of observational studies

SPIRIT
For reporting protocols for RCTs

STREGA
For reporting of gene-disease association studies

TRIPOD
For reporting of studies developing, validating, or updating a prediction model, whether for diagnostic or prognostic purposes.

CHEERS
For reporting of health economic evaluations

The Equator Network (Enhancing the Quality and Transparency Of health Research) provides a

**Stylistic considerations**

The style specifications for RSAP must be followed. Below are general guidelines for manuscript format and style. If in doubt about style, authors should refer to the American Medical Association (AMA) Manual of Style, 9th ed, or consult a recent issue of RSAP.

**Title.** RSAP is a truly international journal whose submissions come from and whose published articles are read by persons all over the world. In keeping with that spirit, we believe it unnecessary to identify a place of origin in the manuscript's title, as this only 'regionalizes' the paper. **PLEASE AVOID LISTING THE NAME OF A COUNTRY, REGION, AREA, OR CITY WHERE THE STUDY WAS CONDUCTED OR TO WHERE IT PERTAINS IN THE TITLE OF THE MANUSCRIPT.** Exceptions are made when including or describing the implications of an official national program such as Australia's Home Medicines Review or the U.K.'s Health Living Champions programs.

**Text.** The text should be scholarly, readable, clear, and concise. Standard nomenclature should be used. RSAP prefers avoiding the use of first-person language to the extent possible, eg, "We studied...", "Our results showed that...", etc. Unfamiliar terms and acronyms should be defined at first mention. Manuscripts that were prepared for oral presentation must be rewritten for print. Authors of research papers are discouraged from writing excessively long introduction or discussion sections.

**Word style.** Consult a current edition of Webster's dictionary for guidance on spelling, compounding, and word separation. Foreign words, not in general use, should be italicized. For proper use of chemical and biochemical terms, mathematical equations, mathematical expressions, special symbols, subscripts, superscripts, or Greek letters, please refer to the AMA Manual of Style.

**Numbers.** Numbers must be written as Arabic numerals unless they occur at the beginning of a sentence, in which case the number should be spelled out. The exception to this rule is when the number "one" is used in isolation within the text and substituting an Arabic number would seem awkward (eg, "there was only one logical solution to the problem"). A number containing a decimal must be styled as an Arabic number. All fractions must be written as decimal equivalents.

**Measurements.** The metric system will be used for all measurements; however, conventional units should be used instead of SI units. Do not use periods when abbreviating units of measure.

**Submission checklist**

You can use this list to carry out a final check of your submission before you send it to the journal for review. Please check the relevant section in this Guide for Authors for more details.
Ensure that the following items are present:

One author has been designated as the corresponding author with contact details:
- E-mail address
- Full postal address

All necessary files have been uploaded: Manuscript; Abstract Page; Title Page; Figures & Tables (if any); Other files
- Include abstract - abstract must be provided twice: once in the first step of submission process in EVISE ("Enter Manuscript Information" page) and once during "Upload Files" page in which a word doc containing abstract must be uploaded under the file type "Abstract".
- Include keywords in submission page and also the manuscript
- All figures (include relevant captions)
- All tables (including titles, description, footnotes)
- Ensure all figure and table citations in the text match the files provided
- Indicate clearly if color should be used for any figures in print
- Please provide line numbering beginning with the Abstract and continuous throughout the entire document.

Further considerations
- Manuscript has been 'spell checked' and 'grammar checked'
- All references mentioned in the Reference List are cited in the text, and vice versa
- Permission has been obtained for use of copyrighted material from other sources (including the Internet)
- A competing interests statement is provided, even if the authors have no competing interests to declare
- Journal policies detailed in this guide have been reviewed
- Referee suggestions and contact details provided, based on journal requirements

For further information, visit our Support Center.

BEFORE YOU BEGIN

Ethics in publishing
Please see our information pages on Ethics in publishing and Ethical guidelines for journal publication.

Declaration of interest
All authors must disclose any financial and personal relationships with other people or organizations that could inappropriately influence (bias) their work. Examples of potential competing interests include employment, consultancies, stock ownership, honoraria, paid expert testimony, patent applications/registrations, and grants or other funding. Authors must disclose any interests in two places: 1. A summary declaration of interest statement in the title page file (if double-blind) or the manuscript file (if single-blind). If there are no interests to declare then please state this: 'Declarations of interest: none'. This summary statement will be ultimately published if the article is accepted. 2. Detailed disclosures as part of a separate Declaration of Interest form, which forms part of the journal's official records. It is important for potential interests to be declared in both places and that the information matches. More information.

Submission declaration and verification
Submission of an article implies that the work described has not been published previously (except in the form of an abstract, a published lecture or academic thesis, see 'Multiple, redundant or concurrent publication' for more information), that it is not under consideration for publication elsewhere, that its publication is approved by all authors and tacitly or explicitly by the responsible authorities where the work was carried out, and that, if accepted, it will not be published elsewhere in the same form, in English or in any other language, including electronically without the written consent of the copyright-holder. To verify originality, your article may be checked by the originality detection service Crossref Similarity Check.

Use of inclusive language
Inclusive language acknowledges diversity, conveys respect to all people, is sensitive to differences, and promotes equal opportunities. Articles should make no assumptions about the beliefs or commitments of any reader, should contain nothing which might imply that one individual is superior
to another on the grounds of race, sex, culture or any other characteristic, and should use inclusive language throughout. Authors should ensure that writing is free from bias, for instance by using 'he or she', 'his/her' instead of 'he' or 'his', and by making use of job titles that are free of stereotyping (e.g. 'chairperson' instead of 'chairman' and 'flight attendant' instead of 'stewardess').

**Copyright**

Upon acceptance of an article, authors will be asked to complete a 'Journal Publishing Agreement' (see [more information](#) on this). An e-mail will be sent to the corresponding author confirming receipt of the manuscript together with a 'Journal Publishing Agreement' form or a link to the online version of this agreement.

Subscribers may reproduce tables of contents or prepare lists of articles including abstracts for internal circulation within their institutions. Permission of the Publisher is required for resale or distribution outside the institution and for all other derivative works, including compilations and translations. If excerpts from other copyrighted works are included, the author(s) must obtain written permission from the copyright owners and credit the source(s) in the article. Elsevier has [preprinted forms](#) for use by authors in these cases.

For gold open access articles: Upon acceptance of an article, authors will be asked to complete an 'Exclusive License Agreement' ([more information](#)). Permitted third party reuse of gold open access articles is determined by the author's choice of [user license](#).

**Author rights**

As an author you (or your employer or institution) have certain rights to reuse your work. [More information](#).

*Elsevier supports responsible sharing*

Find out how you can [share your research](#) published in Elsevier journals.

**Role of the funding source**

You are requested to identify who provided financial support for the conduct of the research and/or preparation of the article and to briefly describe the role of the sponsor(s), if any, in study design; in the collection, analysis and interpretation of data; in the writing of the report; and in the decision to submit the article for publication. If the funding source(s) had no such involvement then this should be stated.

*Funding body agreements and policies*

Elsevier has established a number of agreements with funding bodies which allow authors to comply with their funder's open access policies. Some funding bodies will reimburse the author for the gold open access publication fee. Details of [existing agreements](#) are available online. After acceptance, open access papers will be published under a noncommercial license. For authors requiring a commercial CC BY license, you can apply after your manuscript is accepted for publication.

**Open access**

This journal offers authors a choice in publishing their research:

**Subscription**

- Articles are made available to subscribers as well as developing countries and patient groups through our [universal access programs](#).
- No open access publication fee payable by authors.
- The Author is entitled to post the [accepted manuscript](#) in their institution's repository and make this public after an embargo period (known as green Open Access). The [published journal article](#) cannot be shared publicly, for example on ResearchGate or Academia.edu, to ensure the sustainability of peer-reviewed research in journal publications. The embargo period for this journal can be found below.

**Gold open access**

- Articles are freely available to both subscribers and the wider public with permitted reuse.
- A gold open access publication fee is payable by authors or on their behalf, e.g. by their research funder or institution.

Regardless of how you choose to publish your article, the journal will apply the same peer review criteria and acceptance standards.
For gold open access articles, permitted third party (re)use is defined by the following Creative Commons user licenses:

**Creative Commons Attribution-NonCommercial-NoDerivs (CC BY-NC-ND)**
For non-commercial purposes, let others distribute and copy the article, and to include in a collective work (such as an anthology), as long as they credit the author(s) and provided they do not alter or modify the article.

The gold open access publication fee for this journal is **USD 2700**, excluding taxes. Learn more about Elsevier’s pricing policy: [https://www.elsevier.com/openaccesspricing](https://www.elsevier.com/openaccesspricing).

**Green open access**
Authors can share their research in a variety of different ways and Elsevier has a number of green open access options available. We recommend authors see our open access page for further information. Authors can also self-archive their manuscripts immediately and enable public access from their institution’s repository after an embargo period. This is the version that has been accepted for publication and which typically includes author-incorporated changes suggested during submission, peer review and in editor-author communications. Embargo period: For subscription articles, an appropriate amount of time is needed for journals to deliver value to subscribing customers before an article becomes freely available to the public. This is the embargo period and it begins from the date the article is formally published online in its final and fully citable form. **Find out more.**

This journal has an embargo period of 12 months.

**Elsevier Researcher Academy**
**Researcher Academy** is a free e-learning platform designed to support early and mid-career researchers throughout their research journey. The "Learn" environment at Researcher Academy offers several interactive modules, webinars, downloadable guides and resources to guide you through the process of writing for research and going through peer review. Feel free to use these free resources to improve your submission and navigate the publication process with ease.

**Language (usage and editing services)**
Please write your text in good English (American or British usage is accepted, but not a mixture of these). Authors who feel their English language manuscript may require editing to eliminate possible grammatical or spelling errors and to conform to correct scientific English may wish to use the English Language Editing service available from Elsevier’s Author Services.

**Submission**
Our online submission system guides you stepwise through the process of entering your article details and uploading your files. The system converts your article files to a single PDF file used in the peer-review process. Editable files (e.g., Word, LaTeX) are required to typeset your article for final publication. All correspondence, including notification of the Editor’s decision and requests for revision, is sent by e-mail.

**Submit your article**
Please submit your article via [https://www.evise.com/profile/api/navigate/RSAP](https://www.evise.com/profile/api/navigate/RSAP).

**Assurances**
For all research manuscripts (including educational research), the author should indicate in the cover letter that the research has been reviewed and approved by the appropriate human research or ethics review committee, or that it has been determined to be exempt from such review. For research that has undergone such review and approval, a statement to that effect should be included in the methods section.

**PREPARATION**

**Peer review**
This journal operates a double blind review process. All contributions will be initially assessed by the editor for suitability for the journal. Papers deemed suitable are then typically sent to a minimum of two independent expert reviewers to assess the scientific quality of the paper. The Editor is responsible for the final decision regarding acceptance or rejection of articles. The Editor’s decision is final. **More information on types of peer review.**
**Double-blind review**
This journal uses double-blind review, which means the identities of the authors are concealed from the reviewers, and vice versa. More information is available on our website. To facilitate this, please include the following separately:

*Title page (with author details):* This should include the title, authors' names, affiliations, acknowledgements and any Declaration of Interest statement, and a complete address for the corresponding author including an e-mail address.

*Blindened manuscript (no author details):* The main body of the paper (including the references, figures, tables and any acknowledgements) should not include any identifying information, such as the authors' names or affiliations.

**Use of word processing software**
It is important that the file be saved in the native format of the word processor used. The text should be in single-column format. Papers should be given line numbers starting with the first page all the way through the manuscript. Keep the layout of the text as simple as possible. Most formatting codes will be removed and replaced on processing the article. In particular, do not use the word processor's options to justify text or to hyphenate words. However, do use bold face, italics, subscripts, superscripts etc. When preparing tables, if you are using a table grid, use only one grid for each individual table and not a grid for each row. If no grid is used, use tabs, not spaces, to align columns. The electronic text should be prepared in a way very similar to that of conventional manuscripts (see also the Guide to Publishing with Elsevier). Note that source files of figures, tables and text graphics will be required whether or not you embed your figures in the text. See also the section on Electronic artwork.

To avoid unnecessary errors you are strongly advised to use the 'spell-check' and 'grammar-check' functions of your word processor.

**Article structure**

*Subdivision - unnumbered sections*
Divide your article into clearly defined sections. Each subsection is given a brief heading. Each heading should appear on its own separate line. Subsections should be used as much as possible when cross-referencing text: refer to the subsection by heading as opposed to simply 'the text'.

*Introduction*
State the objectives of the work and provide an adequate background, avoiding a detailed literature survey or a summary of the results.

*Methods*
Provide sufficient detail to allow the work to be reproduced. Methods already published should be indicated by a reference: only relevant modifications should be described.

*Results*
Results should be clear and concise.

*Discussion*
This should explore the significance of the results of the work, not repeat them. A combined Results and Discussion section is often appropriate. Avoid extensive citations and discussion of published literature.

*Conclusions*
The main conclusions of the study may be presented in a short Conclusions section, which may stand alone or form a subsection of a Discussion or Results and Discussion section.

**Essential title page information**
- **Title.** Concise and informative. Titles are often used in information-retrieval systems. Avoid abbreviations and formulae where possible.
- **Author names and affiliations.** Please clearly indicate the given name(s) and family name(s) of each author and check that all names are accurately spelled. You can add your name between parentheses in your own script behind the English transliteration. Present the authors' affiliation addresses (where the actual work was done) below the names. Indicate all affiliations with a lower-case superscript letter immediately after the author's name and in front of the appropriate address. Provide the full postal address of each affiliation, including the country name and, if available, the e-mail address of each author.
• **Corresponding author.** Clearly indicate who will handle correspondence at all stages of refereeing and publication, also post-publication. This responsibility includes answering any future queries about Methodology and Materials. **Ensure that the e-mail address is given and that contact details are kept up to date by the corresponding author.**

• **Present/permanent address.** If an author has moved since the work described in the article was done, or was visiting at the time, a 'Present address' (or 'Permanent address') may be indicated as a footnote to that author's name. The address at which the author actually did the work must be retained as the main, affiliation address. Superscript Arabic numerals are used for such footnotes.

**Highlights**

Highlights are optional yet highly encouraged for this journal, as they increase the discoverability of your article via search engines. They consist of a short collection of bullet points that capture the novel results of your research as well as new methods that were used during the study (if any). Please have a look at the examples here: example Highlights.

Highlights should be submitted in a separate editable file in the online submission system. Please use 'Highlights' in the file name and include 3 to 5 bullet points (maximum 85 characters, including spaces, per bullet point).

**Structured Abstract**

A structured abstract accompanies Review, Proposed Model, and Original Research submissions. It should have the following sections: Background, Objective(s), Methods, Results, Conclusions. Commentary papers are accompanied by a prose abstract serving as an executive summary. Abstracts should not exceed 300 words.

**Keywords**

Immediately after the abstract, provide a maximum of 6 keywords, using American spelling and avoiding general and plural terms and multiple concepts (avoid, for example, 'and', 'of'). Be sparing with abbreviations: only abbreviations firmly established in the field may be eligible. These keywords will be used for indexing purposes.

**Abbreviations**

Define abbreviations that are not standard in this field in a footnote to be placed on the first page of the article. Such abbreviations that are unavoidable in the abstract must be defined at their first mention there, as well as in the footnote. Ensure consistency of abbreviations throughout the article.

**Acknowledgements**

Collate acknowledgements in a separate section at the end of the article before the references and do not, therefore, include them on the title page, as a footnote to the title or otherwise. List here those individuals who provided help during the research (e.g., providing language help, writing assistance or proof reading the article, etc.).

**Formatting of funding sources**

List funding sources in this standard way to facilitate compliance to funder's requirements:

Funding: This work was supported by the National Institutes of Health [grant numbers xxxx, yyyy]; the Bill & Melinda Gates Foundation, Seattle, WA [grant number zzzz]; and the United States Institutes of Peace [grant number aaaa].

It is not necessary to include detailed descriptions on the program or type of grants and awards. When funding is from a block grant or other resources available to a university, college, or other research institution, submit the name of the institute or organization that provided the funding.

If no funding has been provided for the research, please include the following sentence:

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

**Embedded math equations**

If you are submitting an article prepared with Microsoft Word containing embedded math equations then please read this (related support information).

**Artwork**
Electronic artwork

General points
• Make sure you use uniform lettering and sizing of your original artwork.
• Embed the used fonts if the application provides that option.
• Aim to use the following fonts in your illustrations: Arial, Courier, Times New Roman, Symbol, or use fonts that look similar.
• Number the illustrations according to their sequence in the text.
• Use a logical naming convention for your artwork files.
• Provide captions to illustrations separately.
• Size the illustrations close to the desired dimensions of the published version.
• Submit each illustration as a separate file.
• Ensure that color images are accessible to all, including those with impaired color vision.
A detailed guide on electronic artwork is available.

You are urged to visit this site; some excerpts from the detailed information are given here.

Formats
If your electronic artwork is created in a Microsoft Office application (Word, PowerPoint, Excel) then please supply 'as is' in the native document format. Regardless of the application used other than Microsoft Office, when your electronic artwork is finalized, please 'Save as' or convert the images to one of the following formats (note the resolution requirements for line drawings, halftones, and line/halftone combinations given below):
EPS (or PDF): Vector drawings, embed all used fonts.
TIFF (or JPEG): Color or grayscale photographs (halftones), keep to a minimum of 300 dpi.
TIFF (or JPEG): Bitmapped (pure black & white pixels) line drawings, keep to a minimum of 1000 dpi.
TIFF (or JPEG): Combinations bitmapped line/half-tone (color or grayscale), keep to a minimum of 500 dpi.

Please do not:
• Supply files that are optimized for screen use (e.g., GIF, BMP, PICT, WPG); these typically have a low number of pixels and limited set of colors;
• Supply files that are too low in resolution;
• Submit graphics that are disproportionally large for the content.

Color artwork
Please make sure that artwork files are in an acceptable format (TIFF (or JPEG), EPS (or PDF), or MS Office files) and with the correct resolution. If, together with your accepted article, you submit usable color figures then Elsevier will ensure, at no additional charge, that these figures will appear in color online (e.g., ScienceDirect and other sites) regardless of whether or not these illustrations are reproduced in color in the printed version. For color reproduction in print, you will receive information regarding the costs from Elsevier after receipt of your accepted article. Please indicate your preference for color: in print or online only. Further information on the preparation of electronic artwork.

Illustration services
Elsevier's Author Services offers Illustration Services to authors preparing to submit a manuscript but concerned about the quality of the images accompanying their article. Elsevier's expert illustrators can produce scientific, technical and medical-style images, as well as a full range of charts, tables and graphs. Image 'polishing' is also available, where our illustrators take your image(s) and improve them to a professional standard. Please visit the website to find out more.

Figure captions
Ensure that each illustration has a caption. Supply captions separately, not attached to the figure. A caption should comprise a brief title (not on the figure itself) and a description of the illustration. Keep text in the illustrations themselves to a minimum but explain all symbols and abbreviations used.

Tables
Please submit tables as editable text and not as images. Tables can be placed either next to the relevant text in the article, or on separate page(s) at the end. Number tables consecutively in accordance with their appearance in the text and place any table notes below the table body. Be sparing in the use of tables and ensure that the data presented in them do not duplicate results described elsewhere in the article. Please avoid using vertical rules and shading in table cells.

References
Citation in text
Please ensure that every reference cited in the text is also present in the reference list (and vice versa). Any references cited in the abstract must be included in full. Unpublished results and personal communications are not recommended in the reference list, but may be mentioned in the text. If these references are included in the reference list they should follow the standard reference style of the journal and should include a substitution of the publication date with either ‘Unpublished results’ or ‘Personal communication’. Citation of a reference as 'in press' implies that the item has been accepted for publication.

Reference links
Increased discoverability of research and high quality peer review are ensured by online links to the sources cited. In order to allow us to create links to abstracting and indexing services, such as Scopus, CrossRef and PubMed, please ensure that data provided in the references are correct. Please note that incorrect surnames, journal/book titles, publication year and pagination may prevent link creation. When copying references, please be careful as they may already contain errors. Use of the DOI is highly encouraged.

A DOI is guaranteed never to change, so you can use it as a permanent link to any electronic article. An example of a citation using DOI for an article not yet in an issue is: VanDecar J.C., Russo R.M., James D.E., Ambeh W.B., Franke M. (2003). Aseismic continuation of the Lesser Antilles slab beneath northeastern Venezuela. Journal of Geophysical Research, https://doi.org/10.1029/2001JB000884. Please note the format of such citations should be in the same style as all other references in the paper.

Web references
As a minimum, the full URL should be given and the date when the reference was last accessed. Any further information, if known (DOI, author names, dates, reference to a source publication, etc.), should also be given. Web references can be listed separately (e.g., after the reference list) under a different heading if desired, or can be included in the reference list.

Data references
This journal encourages you to cite underlying or relevant datasets in your manuscript by citing them in your text and including a data reference in your Reference List. Data references should include the following elements: author name(s), dataset title, data repository, version (where available), year, and global persistent identifier. Add [dataset] immediately before the reference so we can properly identify it as a data reference. The [dataset] identifier will not appear in your published article.

References in a special issue
Please ensure that the words 'this issue' are added to any references in the list (and any citations in the text) to other articles in the same Special Issue.

Reference management software
Most Elsevier journals have their reference template available in many of the most popular reference management software products. These include all products that support Citation Style Language styles, such as Mendeley. Using citation plug-ins from these products, authors only need to select the appropriate journal template when preparing their article, after which citations and bibliographies will be automatically formatted in the journal’s style. If no template is yet available for this journal, please follow the format of the sample references and citations as shown in this Guide. If you use reference management software, please ensure that you remove all field codes before submitting the electronic manuscript. More information on how to remove field codes from different reference management software.

Users of Mendeley Desktop can easily install the reference style for this journal by clicking the following link:

When preparing your manuscript, you will then be able to select this style using the Mendeley plug-ins for Microsoft Word or LibreOffice.

Reference style
Text: Indicate references by (consecutive) superscript arabic numerals in the order in which they appear in the text. The numerals are to be used outside periods and commas, inside colons and semicolons. For further detail and examples you are referred to the AMA Manual of Style, A Guide for Authors and Editors, Tenth Edition, ISBN 0-978-0-19-517633-9.

List: Number the references in the list in the order in which they appear in the text.

Examples:
Reference to a journal publication:

Reference to a book:

Reference to a chapter in an edited book:

Reference to a website:

Reference to a dataset:

Journal abbreviations source
Journal names should be abbreviated according to the List of Title Word Abbreviations.

Video
Elsevier accepts video material and animation sequences to support and enhance your scientific research. Authors who have video or animation files that they wish to submit with their article are strongly encouraged to include links to these within the body of the article. This can be done in the same way as a figure or table by referring to the video or animation content and noting in the body text where it should be placed. All submitted files should be properly labeled so that they directly relate to the video file's content. In order to ensure that your video or animation material is directly usable, please provide the file in one of our recommended file formats with a preferred maximum size of 150 MB per file, 1 GB in total. Video and animation files supplied will be published online in the electronic version of your article in Elsevier Web products, including ScienceDirect. Please supply 'stills' with your files: you can choose any frame from the video or animation or make a separate image. These will be used instead of standard icons and will personalize the link to your video data. For more detailed instructions please visit our video instruction pages. Note: since video and animation cannot be embedded in the print version of the journal, please provide text for both the electronic and the print version for the portions of the article that refer to this content.

Data visualization
Include interactive data visualizations in your publication and let your readers interact and engage more closely with your research. Follow the instructions here to find out about available data visualization options and how to include them with your article.

Supplementary material
Supplementary material such as applications, images and sound clips, can be published with your article to enhance it. Submitted supplementary items are published exactly as they are received (Excel or PowerPoint files will appear as such online). Please submit your material together with the article and supply a concise, descriptive caption for each supplementary file. If you wish to make changes to supplementary material during any stage of the process, please make sure to provide an updated file. Do not annotate any corrections on a previous version. Please switch off the 'Track Changes' option in Microsoft Office files as these will appear in the published version.

Research data
This journal encourages and enables you to share data that supports your research publication where appropriate, and enables you to interlink the data with your published articles. Research data refers to the results of observations or experimentation that validate research findings. To facilitate reproducibility and data reuse, this journal also encourages you to share your software, code, models, algorithms, protocols, methods and other useful materials related to the project.

Below are a number of ways in which you can associate data with your article or make a statement about the availability of your data when submitting your manuscript. If you are sharing data in one of these ways, you are encouraged to cite the data in your manuscript and reference list. Please refer to the "References" section for more information about data citation. For more information on depositing, sharing and using research data and other relevant research materials, visit the research data page.
Data linking
If you have made your research data available in a data repository, you can link your article directly to the dataset. Elsevier collaborates with a number of repositories to link articles on ScienceDirect with relevant repositories, giving readers access to underlying data that gives them a better understanding of the research described.

There are different ways to link your datasets to your article. When available, you can directly link your dataset to your article by providing the relevant information in the submission system. For more information, visit the database linking page.

For supported data repositories a repository banner will automatically appear next to your published article on ScienceDirect.

In addition, you can link to relevant data or entities through identifiers within the text of your manuscript, using the following format: Database: xxxx (e.g., TAIR: AT1G01020; CCDC: 734053; PDB: 1XFN).

Mendeley Data
This journal supports Mendeley Data, enabling you to deposit any research data (including raw and processed data, video, code, software, algorithms, protocols, and methods) associated with your manuscript in a free-to-use, open access repository. During the submission process, after uploading your manuscript, you will have the opportunity to upload your relevant datasets directly to Mendeley Data. The datasets will be listed and directly accessible to readers next to your published article online.

For more information, visit the Mendeley Data for journals page.

Data statement
To foster transparency, we encourage you to state the availability of your data in your submission. This may be a requirement of your funding body or institution. If your data is unavailable to access or unsuitable to post, you will have the opportunity to indicate why during the submission process, for example by stating that the research data is confidential. The statement will appear with your published article on ScienceDirect. For more information, visit the Data Statement page.

AFTER ACCEPTANCE
Online proof correction
Corresponding authors will receive an e-mail with a link to our online proofing system, allowing annotation and correction of proofs online. The environment is similar to MS Word: in addition to editing text, you can also comment on figures/tables and answer questions from the Copy Editor. Web-based proofing provides a faster and less error-prone process by allowing you to directly type your corrections, eliminating the potential introduction of errors.
If preferred, you can still choose to annotate and upload your edits on the PDF version. All instructions for proofing will be given in the e-mail we send to authors, including alternative methods to the online version and PDF.
We will do everything possible to get your article published quickly and accurately. Please use this proof only for checking the typesetting, editing, completeness and correctness of the text, tables and figures. Significant changes to the article as accepted for publication will only be considered at this stage with permission from the Editor. It is important to ensure that all corrections are sent back to us in one communication. Please check carefully before replying, as inclusion of any subsequent corrections cannot be guaranteed. Proofreading is solely your responsibility.

AUTHOR INQUIRIES
Visit the Elsevier Support Center to find the answers you need. Here you will find everything from Frequently Asked Questions to ways to get in touch.
You can also check the status of your submitted article or find out when your accepted article will be published.

© Copyright 2018 Elsevier | https://www.elsevier.com