**Roadmap to Publication**

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**Objectives**

- Discuss characteristics of a quality manuscript
- Structure a manuscript appropriately
- Identify common issues of publication ethics
- Describe the submission process

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**Characteristics of a Quality Manuscript**

- Relevant to journal's audience
- Original
- Important
- Uses high quality design and methods
- Uses high quality analysis and interpretation

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**Planning to Write**

- Select a journal
  - Target the right audience
  - Check the journal's mission
  - Consider the impact factor
    - ISI Web of Knowledge, Journal Citation Reports
    - Consider need for online elements

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**Planning to Write**

- Obtain the Guide to Authors
  - Use the headings and subheadings to outline
  - Stay within the page limit
  - Use proper citation style
  - Use published guidelines

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**EQUATOR**

http://www.equator-network.org/home/
## EQUATOR

Library for health research reporting

- About EQUATOR
  - New EQUATOR sessions share current content
- Reporting guidelines
  - Adherence to International Best Practices
- Reporting guidelines: checklists and templates
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Quick links to reporting guidelines:
- PRISMA checklist and flow diagram
- CONSORT checklist
- TRIPLE checklist
- CARE checklist and flow diagram
- EQUATOR checklist and flow diagram
- PARD checklist
- PRECIS-2 checklist

## Writing

- Write clearly and well
- Use grammatically correct language
- Avoid passive voice, jargon, abbreviations
- Be consistent with language
- Explain the unfamiliar
- Keep sections distinct
- Use subheadings within sections
- Check for logical flow

## Finding Time and Focus

Ethical Issues

- Avoid ethical issues associated with manuscript preparation
  - Plagiarism
  - Image modification
  - Citation errors

## When You Think You Are Done

When You Think You Are Done

- PROOFREAD
- Solicit feedback from readers with varying expertise
  - Content expert
  - Researcher
  - Statistician
  - Grammar and writing expert
  - Outsider
- Be open to suggestion
- Present at conference
- Will never be perfect
- Make it as good as you can and submit

## Ethical Issues

- Duplicate submission
- Conflict of interest
- Authorship
  - Substantial contribution to concept/design or data acquisition/analysis/interpretation
  - Drafting or revising manuscript critically
  - Final approval of version to be published
Review Process

- Submit online or hard copy
- Include cover letter assuring that paper is unpublished and describe type of paper
- Editor assigns reviewers
  - Blinded or masked – reviewers or authors
- Decision
  - Accept
  - Revise
  - No decision
  - Reject

Revising

- Be prepared to revise
- View revisions as necessary for clarity and precision
- In a letter, detail reviewers’ comments/your responses
- Highlight changes in text
- Explain when changes cannot be made
- Be polite
- May need to
  - Read more literature
  - Do more analyses
  - Reframe argument
  - Add or cut sections
  - Separate into more than one paper

Final Product

- Make it the best it can be
- Submit it
- Celebrate
Components of Manuscripts
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Refer to the appropriate journal guidelines for types of articles. Check EQUATOR network (http://www.equator-network.org/home) for guidelines, tips for writing, etc. This outline is for experimental studies.

Title page
- Authors
- Title
- Institutional affiliation and department
- Disclaimers
- Contact info
- Source of funding
- Running head – short version of the title
- Word counts – helps editors plan for space
  o Text
  o Abstract
  o Figure legends
  o References
- Number of tables and figures – helps know whether manuscript received is complete

Title
- Title is what attracts readers.
- Should
  o sound meaningful.
  o contain all of the crucial elements of the study without being too wordy. Some journals limit to 150 characters or 15 words.¹
  o contain the type of subject, independent variable and outcome variable.
  o use words that relate to Medline search terms.
  o state the results as a sentence, rather than asking question or using general topical titles.¹
  o avoid jargon and abbreviations.

Keywords
- Check headings for appropriate databases such as Medline, and choose keywords that would be typical search terms²

Abstract
- Helps readers determine whether to read an article.
• Write last and make sure that agrees with text in manuscript.
• Often limited to about 250-300 words.
• Write in past tense. Some journals expect use of passive voice.
• Many journals use structured abstracts; that is, subheadings in the abstracts.
• Include
  o Background –gives framework for the study, demonstrates relevance, importance and originality – 1 or 2 sentences
  o Objective - clear statement of the primary and secondary questions study was planned to address, including specific hypotheses
    ▪ 30-40 words, 2-3 sentences
  o Design - type of study using the appropriate terms; length of follow-up if any, whether evaluators were blinded
  o Setting –type of facility
  o Sample/Patients - number, eligibility criteria, type of disorder, key sociodemographic characteristics, how selected, number who refused, characteristics for matching, proportion who completed study, number withdrawn for adverse effects
  o Methods/Intervention –common clinical name, including method, duration
  o Measurements – primary outcome measures
  o Results –main findings, statistics with confidence intervals and significance, between group differences if appropriate
  o Limitations –things that did not go as expected, limits to generalizability
  o Conclusions –those directly supported by evidence; realistic and precise clinical application; need for additional study; equal emphasis on positive and negative findings of equal scientific merit
    ▪ 30-40 words, 2-3 sentences
• Trial registration number at end

Introduction
• Tell the reader why the study was done or the paper was written.
• Include the theory underlying the question to be answered; make sure it is logical and sequential.
• Include a scholarly review of the literature
  o Show what is known, not known, and how the study fills the gap.
  o Establish continuity between earlier work and the study being reported.
• Focus on the content of previous studies rather than the authors; tell a story and cite the parts rather than report a litany of studies.
• Make sure the literature review is current unless referring to history or seminal papers.
• Make sure the literature cited is balanced (not just the positive studies, but the negative ones as well).
• Be clear about the relevance, originality and importance of the issue the paper addresses.
• Be concise. Begin to focus pretty quickly.
• End the introduction with a statement of the research question or the purpose of the study/paper. If there are hypotheses, state them.
Method

- Start with a statement of design. ¹
- Use subheadings.
- The methods section should include information about
  - who was in the study (subjects)
    - why chosen
    - recruitment process
    - sample size and power analysis
    - assignment to groups
  - where the data were collected (setting)
  - what was used to study them (instruments)
    - include information on the reliability and validity for the specific purpose.
  - what was done to them (procedures)
    - include pilot studies
    - If a standard method is used to collect data and it has been used elsewhere, it can be cited and summarized.
    - Modifications of a common method require additional description and reasons for changes.
    - Operationally define all variables. Most things can be represented in many ways, so define variables exactly. Include how derived variables were created or computed.
  - who administered the procedures (interventions and measurements) including blinding
  - when it was done (timetable)
  - how the data were analyzed (analysis)
    - Be descriptive in analysis section and connect each analysis to its hypothesis.
    - include how missing data were managed.
    - Use indicator of measurement error – confidence intervals
    - Cite statistical software and hardware in footnote
- Description must be sufficiently thorough so that the study could be replicated from reading the paper.
- Include information about the IRB approval process and consent. Include
  - the approving agency
  - the consenting process
  - how HIPAA requirements were addressed
  - If the IRB decided that consent was not needed, indicate that information and why the study was exempt.

Results

- Be methodical in reporting.
  - Include the number of subjects at each step; use a flow chart (e.g., CONSORT diagram).
  - Describe the subjects.
  - Work straight through the hypotheses, indicating what the result was and whether it supported or refuted the hypothesis.
• Statistics
  o Include descriptive data and results of testing; p values, confidence intervals, odds ratios, relative risk, etc.
• Tables and figures
  o Do not reproduce all of the information from tables in the text.
  o Be sure that the text and the tables and figures agree with each other.
  o Include only necessary tables and figures.
  o Tables and figures need to stand on their own. Abbreviations must be defined; columns, rows and axes labeled; units of measurement included and defined; sample size for each part listed; statistical significance indicated. Include raw and derived results.
  o Avoid using color.
  o Quality of figures is critical.
  o Titles at top of table
  o Separate page, double space
  o Figure legends on separate page before figures
• If using qualitative data, identify the “speaker” with a coded “name” and perhaps a brief description (e.g., acute care)
• Images
  o Focused
  o Sufficient brightness and exposure
  o Close-up images sufficiently close to provide detail
  o Color-corrected
  o Sufficient size
  o Correct digital format – video clips usually .mpeg or .mov
• Readers should be able to read the results and come to their own conclusions.
• Discuss the discussion, interpret the results.
  o Start with a quick summary of results and interpret them.
  o Connect the discussion to the question or hypotheses laid out in the Introduction.
    o Show what was unique in the study.
    o Put results in context with what is already known. 6
    o Point out similarities and differences between the results and the work of others. If results differed from other similar studies, explain why using relevant literature. Additional analyses may be needed.
    o Depending on the journal, the discussion is often the place for a detailed literature review, showing how the study results compared with others.
  o Be sure that any speculation is indicated as opinion. In general, avoid personal opinion and bias.
  o Talk about how the information provided by the study is relevant to the audience.
  o In the discussion, acknowledge things that did not go as anticipated and the limitations of the method and generalizability of the study. Also highlight strengths.
    o Describe what done to minimize limitations 6
    o Describe the influence limitations did or did not have on results.
• Do not go beyond the data and make statements that cannot be supported.
• Indicate areas for future study.

Conclusions
• State the core of what was found and how it should be applied. Avoid making statements that go beyond the data.
• Do not generalize beyond what the study will allow.
• Can add implications on policy or practice and suggest future research.

References
• Limit the number; usually about 75
• The reference list must be in the appropriate citation style; check the guide to authors.
• Cite primary studies or systematic reviews/meta-analyses.
• Do not use texts unless for procedures. Avoid citing abstracts or lay web pages.
• Authors’ responsibility to make sure that references are complete, accurate and appropriate.
• Check in PubMed to see whether there are retractions of your cited articles.
• Use bibliographic software and set it for the right style. Be alert that reference management software is not perfect.

References