How To Write A Manuscript

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Writing research paper for Journals

- What is your research?
- Who are your intended readers?
- Which journal do you intend to publish?
- What is the format for the journal?

Authors vs. Readers

- Authors are journal focused
- Readers are article focused

Key Elements of Publishing

- Ethical Issues
- Style and language
- Structure of paper
- Components of paper
- Article submission/journal selection
- Publisher's process/peer review

Ethical issues

Scientific Misconduct

- Gift Authorship
- Redundant Publication
- Plagiarism
- Fabrication
- Falsification
- Conflict of Interest

Style and Language

- Refer to the journal's author guide for notes on style
  - Some authors write their paper with a specific journal in mind
  - Others write the paper and then adapt it to fit the style of a journal they subsequently choose
- Objective is to report your findings and conclusions clearly and concisely as possible

Style and Language

- Ask a native English speaker to review the content and language of the paper before submitting it
- Get a colleague/editor to review the content and language of the paper

Uniform Requirements for Manuscripts Submitted to Biomedical Journals: Writing and Editing for Biomedical Publication

http://www.icmje.org/

Structure of a Paper

Scientific writing follows a rigid structure –

Readers may read a paper at several levels:

- Only the title
- Only the title and abstract
- Others will read the paper for a deeper understanding

Manuscript Structure

- Abstract
- Key words (some journals)
- Introduction
- Body of Article
- Results
- Discussion and Conclusions
- Acknowledgements
- References
- Figures and Tables

Components of a Paper

Section	Purpose
Title	Clearly describes contents
Authors	Ensures recognition for the writer(s)
Abstract	Describes what was done
Key Words (some journals)	Ensures the article is correctly identified in abstracting and indexing services
Introduction	Explains the problem
Methods	Explains how the data were collected
Results	Describes what was discovered
Discussion	Discusses the implications of the findings
Acknowledgements	Ensures those who helped in the research are recognised
References	Ensures previously published work is recognised
Appendices (some journals)	Provides supplemental data for the expert reader

Title

- Describes the paper's content clearly and precisely including keywords
- Is the advertisement for the article
- Do not use abbreviations and jargon

Authors Listing

- ONLY include those who have made an intellectual contribution to the research
- OR those who will publicly defend the data and conclusions, and who have approved the final version
- Order of the names of the authors can vary from discipline to discipline
  - In some fields, the corresponding author's name appears first

Abstract

- **Briefly** summarize - the problem, purpose, the method, the results, and the conclusions
  - The reader can decide whether or not to read the whole article
- Write the abstract last so that it accurately reflects the content of the paper

See: The Structured Abstract: An Essential Tool for Research
http://research.mlanet.org/structured_abstract.html

Introduction

- Broad information on topic
  - Previous research
- Narrower background information
  - Need for study
- Focus of paper
  - Hypothesis
- Summary of problem (selling point)
- Overall 300-500 words

Introduction

- Common Mistakes
  - Too much or not enough information
  - Unclear purpose
  - Lists
  - Confusing structure
  - First-Person anecdotes

Methods

- Give adequate details for readers to understand and can replicate your research
- Explain the study procedures step by steps
- Explain new methodology in detail; **otherwise name the method and cite the previously published work**
- Describe all data, types, frequency of observations recorded, etc.
- Be precise in describing measurements and include errors of measurement or research design limits

Methods and Materials

- Explain each step clearly
  - Subjects
  - Sample preparation techniques
  - Sample origins
  - Field site description
  - Data collection protocol
  - Data analysis techniques
  - Any computer programs used
  - Description of equipment and its use

Reviewer's Assessment

Checklist for various study types

- RCT: CONSORT= The Consolidated Standards of Reporting Trials
- Diagnostic: STARD = Standards for Reporting Diagnostic accuracy studies
- Meta analysis: PRISMA = **Preferred Reporting Items for Systematic Reviews and Meta-Analyses**

Materials and Methods

- Common Mistakes
  - Too little information
  - Repeat content from Introduction
  - Add unnecessary words
  - Results/sources of error reported

Results

- Describe your findings objectively, and explain what was found
- Demonstrate that your results are contributing to new scientific knowledge
- Follow a logical sequence based on the tables and figures presenting the findings to answer the question or hypothesis
- Figures should have a brief description (a legend), providing the reader sufficient information to know how the data were produced

Results

- Common mistakes
  - Raw data
  - Redundancy
  - Discussion and interpretation of data
  - No figures or tables
  - Methods/materials reported

Discussion

- Interpret results
  - Did the study confirm/deny the hypothesis?
  - If not, did the results provide an alternative hypothesis? What interpretation can be made?
  - Do results agree with other research? Sources of error/anomalous data?
  - Implications of study for field
  - Suggestions for improvement and future research?
  - Relate to previous research

Discussion

- Common Mistakes
  - Combined with Results
  - New results discussed
  - Broad statements
  - Incorrectly discussing inconclusive results
  - Ambiguous data sources
  - Missing information

Figures and Tables

- Tables
  - Presents lists of numbers/ text in columns
- Figures
  - Visual representation of results or illustration of concepts/methods (graphs, images, diagrams, etc.)
- Captions
  - Must be stand-alone

Figures and Tables

- Guidelines for Figures and Tables
  - High resolution
  - Neat, legible labels
  - Simple
  - Clearly formatted
  - Indicate error
  - Detailed captions

References

- Check specific referencing style of journal
- Should reference:
  - Peer-reviewed journal articles, abstracts, books
- Should not reference:
  - Non-peer-reviewed works, textbooks, personal communications

References

- Acknowledge the source when you mention previously published work
- Avoid references that are difficult to find
- Do not add references that were not important to the study

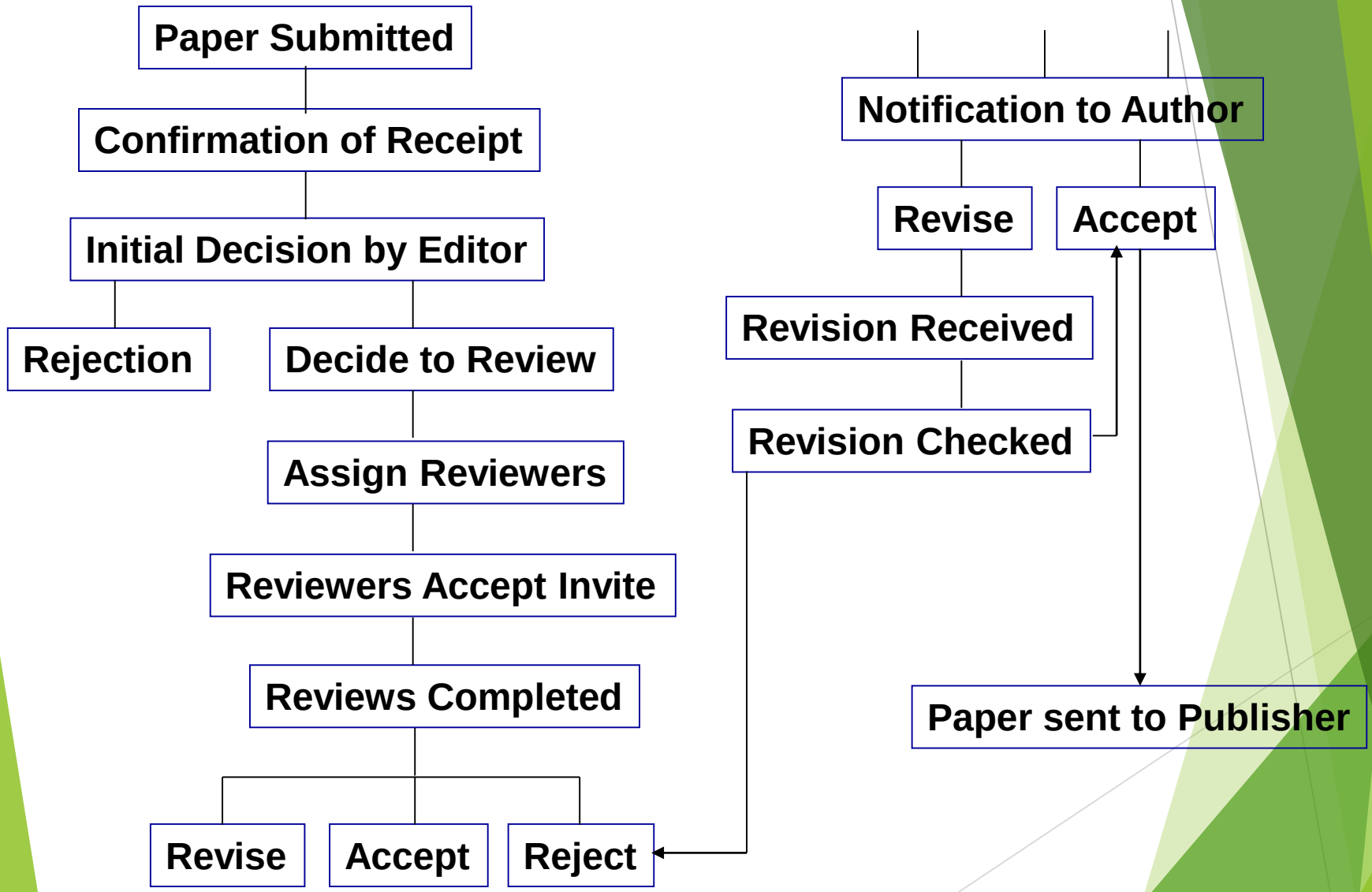
Article Submission

- Select your journal carefully
- Read the aims and scope
- Think about your target audience and the level of your work – do you have a realistic chance of being accepted?
- **Follow the guidelines** in the notes for authors and include everything they ask – it makes the editor's job easier…
- Articles should **not** be submitted to more than one journal at a time

Instructions to Authors in Health Sciences

http://mulford.mco.edu/instr/

Overview of Peer Review Process



Thank you for your attention