

SOQIC's Approach on How to Prepare a Scientific Manuscript

Karl Bilimoria, MD MS



1. General Starting Info

- a. Use 1" margins all around
- b. Arial, size 11 font
- c. Insert page number on bottom right ("Page X of Y")
- d. Double space the whole document (Except References, Tables, and Figures)
- e. Two spaces after a period (no exceptions!)
- f. Start each new section on a new page (i.e., insert page breaks for Introduction, Methods, Results, Discussion, References, Tables, Figures). Each individual Table or Figure is on a new page of its own
- g. Order of sections (keep all in one document while writing and editing – some journals may ask to eventually separate Figures)
 - i. Title page: title, authors, author affiliations, if presented at a meeting (meeting, location, date), corresponding author contact info, funding sources (grants, contracts, institutional funds - for fellows and faculty) - all left justified. Bold Title
 - ii. Introduction
 - iii. Methods
 - iv. Results
 - v. Discussion
 - vi. Acknowledgements - list funding again as well as non-author contributors
 - vii. References
 - viii. Figure Legends (don't include Tables)
 - ix. Tables
 - x. Figures
- h. Don't add references until you have written the manuscript. You may spend a lot of time referencing a paragraph that you eventually cut. Add references on the fly that are easy and that you know already, but don't go looking for references until the end.
- i. Prepare the outline as below and vet with your senior author (or designee) before you spend a lot of time writing.
- j. Be very methodical and stick to the outline. You are basically just filling in the blanks of your outline

2. Review the Instructions to Authors from the journal

- a. Generally, if you can't follow their directions, they will think you cut corners on the research too
- b. Make your manuscript look like what they publish - they notice and means you don't read their journal regularly (e.g., if they don't use subheadings, don't put subheadings in your manuscript)

3. Search for a consensus statement or guidelines to follow for your type of paper (e.g., STROBE)

4. Order of Paper Writing

- a. Complete Figures and Tables first so you know what you have
- b. Do the Abstract to organize your thoughts and hit the main points
- c. Methods – write this as soon as you can so you don't forget what you have done. Lab notebook of sort
- d. Results
- e. Introduction
- f. Discussion

5. Components of each section

- a. Title page: title, authors, author affiliations, if presented at a meeting (meeting, location, date), corresponding author contact info, funding sources (grants, contracts, institutional funds - for fellows and faculty) - all left justified. Bold Title
- b. Title: Do not state the main result in the title. Do not ask a question in the title. Titles for manuscripts are more straightforward/objective than what you might do for a meeting abstract. Highlight important or novel aspects (e.g., national evaluation)
 - i. "National Evaluation of the Association of X with Y and Z" - don't use "effect"
- c. INTRODUCTION (~1 – 1.25 pages double spaced at the most). Start broad and then focus down to the objectives
 - i. First paragraph: overview of the problem and why it is important. Try to start where relevant for your audience and for the paper. Don't go back to describe natural history and incidence of the disease
 - ii. Second paragraph: describe what's known and then the gap in knowledge
 - iii. Third paragraph
 1. Tie the overview and gap together in the first sentence or two
 - a. Explain why the work will be significant/novel
 2. State your objectives: "The objectives of this study are (1) to examine..., (2) to assess..., and (3) to..." (make sure these are more action oriented when possible (just "characterizing" or "describing" can be one aim, but not more than one)
 3. Sometimes you need to give a hypothesis, but often the objectives are sufficient
 - iv. Don't give too much detail in the Introduction. Just what they need to read the paper. You can discuss other papers in the context of your paper in the Discussion
 1. Don't discuss specific papers in Intro unless absolutely critical. Instead describe what is known generally and reference it. You can get into the details a little in the Discussion
 - v. IMPORTANT: *Your objectives should be same in Abstract and Introduction (can have slightly different wording to accommodate Abstract word limit) and these objectives should be the organization for the rest of the paper in the Results and in the Discussion.*
- d. METHODS (use the following or some version as subheadings)
 - i. Data Source
 1. Describe where the data came from
 2. Describe quality of data a little - how validated?
 3. Typically a good spot for IRB statement
 - ii. Study Population
 1. Describe how you selected your patients (inclusion/exclusion). Give "N"s for those excluded at each step (some journals want the Ns in the Results section not here)
 - iii. Variables (use a more specific subheading title than this)
 1. Define the key variables of your study
 - iv. Outcomes
 1. Define the key outcomes of your study (i.e., mortality, survival, adherence to process measures, etc.)
 - v. Statistical analysis
 1. Univariate analysis
 2. Multivariable analysis
 3. Variables included in models
 4. Model specifications
 5. Include details
 - a. Include how you handled missing data, confounding, multiple comparisons, etc
 6. Sensitivity analyses
 7. Software (dumb but still seems it has to be done)

e. RESULTS

- i. Overview
 1. Describe the key features of the patient population
 2. Overview of a typical Table 1 (key patient demographics). Don't just convert Table 1 into text. Less is more
- ii. Objective 1 results
 1. If reporting a model, give univariate briefly but don't go into full detail. Focus on adjusted results
- iii. Objective 2 results
- iv. Objective 3 results

f. DISCUSSION

- i. First paragraph:
 1. 1 sentence: Restate the problem briefly and why it is important
 2. 1-2 sentence overview of the findings of your study
 3. Sometimes a policy implication sentence (without editorializing or grandstanding!)
- ii. Objective 1 (1-2 paragraphs, preferably 1)
 1. Describe what others have found - briefly. Only describe key studies briefly ("The landmark XXX trial found...") or give summary sentences of the literature (e.g., "most studies have demonstrated X..." or "prior studies have offered conflicting results")
 2. Describe what you have found and why it adds to what was known previously
 3. Tie together 1 and 2
 4. It also works in many cases to flip 1 and 2 - just do it consistently throughout discussion whichever way you choose
 5. Do not go on and on here - put your results in context and move on. Nobody wants to read a PhD thesis here
- iii. Objective 2 (1-2 paragraphs, preferably 1)
- iv. Objective 3 (1-2 paragraphs, preferably 1)
- v. Limitations of your study (1-2 paragraphs)
 1. State limitations that are obvious, but particularly those that could impact the results. Be sure to state how you think they could impact the results - what direction the bias is in. Particularly focus on limitations that could change your results
 2. Do not just state theoretical limitations of little to no importance
- vi. Implications of your study (one paragraph) - keep mostly to the facts and avoid being sensationalistic; this is not the place to editorialize -> leave that to someone writing the commentary/editorial to go with your paper or for you to write a subsequent Op-Ed about
- vii. Conclusion
 1. Overview of key results
 2. Why they are important
 3. General future directions (but don't say more research needed - it is always needed, otherwise you wouldn't have a job next year...)