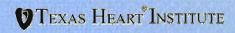
The Form and Function of Scientific Articles: Plan for Variations and Commonalities

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Planning a Project, Manuscript, or Grant

Begin planning when you get the idea

- Complete a comprehensive pre-publication worksheet
- Make an outline
- Consider writing a "zeroth" draft: more than an outline, less than a first draft
- Use your worksheet and zeroth draft to get co-authors and collaborators to commit to the plan



Pre-publication Worksheet Clinical and Animal Studies

- Title
- Principal author/investigator
- Departments and Institution(s)
- Co-author(s)/Co-investigator(s) in order of their level of participation
- Database of interest
- If for manuscript, proposed journal
- Have you received IRB (human trials) or IACUC (animal trials) approval?
- Completed all necessary forms?
- Deadline



Pre-publication Worksheet

- Audience
- Hypothesis/research question
- Background: How will this study fill a gap in the scientific literature?
- Study Design
 - Type of study
 - Observational (prospective or retrospective), ie, case series, case control, cohort; or randomized controlled clinical trial
 - Key messages
 - Number of patients? Animals (species)?
 - Eligibility Criteria (inclusion and exclusion)
 - Outcome (dependent) variables
 - Predictor (independent) variables
 - Method of randomization or blinding, if applicable



Pre-publication Worksheet

- Statistics
 - Which tests will you use? Which variables will you test? How will you account for bias in a non-randomized trial? What is the probability of detecting a result if the result really exists (power calculation)?
- Limitations
- Significance/potential impact on practice or research
- Anticipated diagrams, tables, graphs
- Key references
 - Check for appropriate guidelines, ie, CONSORT,
 MOOSE, STROBE, QUORUOM, STARD, TREND,
 CLEAR NPT
- Budget or funding source
- Approvals



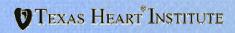
Pre-publication Worksheet Basic Science Studies

- Administration
- Target audience
- Hypotheses/research questions*
- Key messages
- Background
- Study design (in vitro/in vivo); sequential studies
- Types of cells; number of animals (species)
- Describe the model; why was it chosen
- Interventions: in vitro studies (types of treatments); animal studies (experimental and comparison)
- Clearly outline steps in research protocol
- Outcome variables

^{*} Red font = heading differences from clinical, pre-publication worksheet

Pre-publication Worksheet Basic Science Studies

- Methodology (cellular or molecular techniques)
- Statistics
- Anticipated limitations (inaccurate measurements, absence of certain necessary variables, methodology problems, inability to extrapolate data to clinical situations, etc.
- Significance/potential impact on practice or research
- Anticipated diagrams, tables, charts
- Key references
- Budget or funding source, disclosures, author participation



Outline

Include

- Thesis, headers, relevant points, information that supports your thesis
- Possible tables and figures

Remember

- Audience (readers, peer reviewers, peers)
- You can write if you can outline

Zeroth Draft*

- Write a fairly complete introduction
 - Background
 - Gap
 - Study question (hypothesis)
 - Literature review
 - Is the question an important one?
 - Has the study question already been answered?
- Turn your protocol into the Methods section before you begin collecting data
 - Include subheadings
 - Statistical analysis

^{*} Babbs CF, Tacker MM. Writing a scientific paper prior to the research. Am J Emerg Med 1985;3(4):360-63



Zeroth Draft*

- Write a hypothetical Results section
 - Construct tables and graphs
 - Include possible figures
 - Are the results convincing?
 - Are the statistical tests appropriate?
- Sketch out a potential Discussion
 - Consider all possible conclusions
 - Draft comparison/contrast paragraphs
 - Ensure that any possible conclusion will be worthy of publication

*Babbs CF, Tacker MM. Writing a scientific paper prior to the research. Am J Emerg Med 1985;3(4):360-63



Plan for Variations and Commonalities

- Save time and decrease headaches
 - Pre-publication worksheets
 - Outlines
 - Zeroth drafts