



The 'Every Doc Can Do A Case Report' Workbook

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and the USAFP Research Judges

INTRODUCTION - An old saying goes something like this: "Prior Planning Prevents Poor Performance." Planning is essential to ensure a successful research project. A common reason an academic project fails is inadequate pre-project planning and organization.

The purpose of this workbook is to provide you with a practical approach to planning and organizing your scholarly case report. Hopefully we can get you started thinking about the major steps that need to be accomplished in the planning phase. We encourage you to use this workbook as a starting point. As you make your way through this workbook, we have made recommendations at various spots on who you should contact for assistance. You may find the article by McCarthy from the March 2000 issue of Family Medicine helpful as well.

We intend for you to write in this workbook. However, we realize that in some areas the space may be insufficient to fill in all of the details. If this happens to you, having a few extra sheets of paper to write on may decrease some of your frustration. You might also want to keep a separate notebook or diary in which you write anecdotes, remarks or subjects, comments by others involved in the project, or any other facts or observations which might help you to make sense out of the study.

It is also important that you finish this workbook entirely before you begin writing your paper. Using this workbook as a guide will get you well on your way toward completing that academic project or research requirement.

OTHER RESOURCES - Four books that you might find helpful in becoming more knowledgeable about research include:

- Canada Academy of Family Physicians – *What We Want*
- *Guidebook to Better Medical Writing*, Iles
- *Publishing Your Medical Research Paper: What They Didn't Teach You in Medical School*, Byrne
- *Essentials of Writing Biomedical Research Papers*, Zeiger, McGraw Hill

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This workbook was modified by the 2000 USAFP Research Judges:

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Step #1 – Choose Your Topic Carefully

An essential ingredient in any quality scholarly case report is a well-defined topic. The topic should be simple and specific - a small, clearly defined project is always preferable to one that is large and vague.

Begin By Asking “What Do I Have to Say”?:

(Be able to state it succinctly, clearly and meaningfully in a single sentence)

Is the paper worth writing?

(Apply the “so-what” test. Is your topic new, true and important?)

There are four types of **major case reports**. If your case fits into one of these, then continuing your project is appropriate. The four types are

1. Unique, previously undescribed syndrome or disease.
2. Unexpected association of diseases that may represent causal relationship.
3. An important variation from an expected pattern.
4. Unexpected evolution suggesting a therapeutic or adverse drug reaction.

There are also so-called **minor case reports**. If your project falls into one of these categories, publication may be challenging.

1. The “Everyone-Should-Remember” case. Uncommon features in a common case.
2. The “Grand-Rounds” case. A complex case that leads to an exhaustive literature review but nothing new or different.
3. The “I-Am-A-Clever-Chap case. A lucky clinician stumbles onto a valuable clue to diagnosis or treatment by accident.
4. The “Variations-on-a-Well-Known-Theme” case. A class of drugs has a certain side effect. The same adverse effect occurs in a new drug.
5. The “Goodness!-Book-of-Medical-World-Records” case. Your case is the oldest patient with fungal endocarditis by 5 years. New? Not!

Determine which category of case reports your project falls into.

Determine the appropriate audience and journal.

(Ask “who will care”? Determine the scope of the journal and ask the editor)

As you complete this workbook, you may find it useful to rewrite (refine) your topic several times. Each revision should have greater precision and narrower scope in your search for a workable topic.

Step #2 - Hit the Library (Lit Search)

The next step is to learn as much as you can about what others have done (literature search and review). A good literature review lets you find out what is out there, helps you define your topic, and updates your knowledge about the subject in which you are interested (makes you an “expert” in that area). To get the most out of your search, you need an effective plan.



Begin your search by looking at the references cited in recent textbooks and the articles in your personal library. You should also browse the current issues of pertinent journals in your medical library, and ask other providers for a chance to look at their journals and textbooks. You should next use a computerized bibliographic database from the National Library of Medicine (NLM, MEDLARS). The NLM has several databases dealing with ethics, chemistry, toxicology, cancer, medical history, AIDS, and health planning

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and administration. Probably the most-often used database from the NLM is MEDLINE, which contains most of the medical journal articles from 1966 onward. Another useful NLM database is CATLINE, which contains lists of books, monographs, government documents, statistical sources, and historical material. Finally, don't forget to look at non-medical databases such as Science Citation Index and others dealing with subjects such as biology, psychology, sociology, and education.

A medical librarian has the expertise to help you with searching these databases and is a valuable resource you should not overlook. However, if you do not have immediate access to a librarian, you can do the search yourself using a personal computer and modem. You can now do your Medline searches for free by going straight to the home page of the National Library of Medicine (<http://igm.nlm.nih.gov/>); simple on-line instructions guide you through the process of using on-line Internet Grateful Med. Another useful home page of the National Library of Medicine uses PubMed (<http://www.ncbi.nlm.nih.gov/PubMed/>); using this search mechanism requires a bit more expertise. Both of these home pages have a link to Loansome Doc, a feature that allows users to order full-text copies of articles from a local medical library (local fees and delivery methods vary); users must register to use this service.

Although searching the NLM databases is extremely important, you will probably not find all of the important articles you will need. Studies have shown that only half of the relevant articles are typically retrieved at the beginning. As such, it is important for you to look for additional references in the bibliographies of the articles you initially find. Another useful search method is the *invisible college*, which is the collection of "experts" in the field you are studying. Your search for the invisible college begins by asking the authors of the articles obtained in your initial search who they consider to be the experts in that field. You then ask those experts the same question, and repeat the process until you get to a handful of authorities, each of whom is aware of and refers to the others in that group as experts. This invisible college is probably the best source of unpublished and ongoing research in your area.

Once you have the list of articles from your search, your next step is to obtain and then review those articles. Reading the abstract will let you know if the article is pertinent to your study, or irrelevant (and thus thrown out). Once you have the articles you feel are pertinent to your study, you should then use a systematic way to read them.

Step #2 - The Literature Search (continued)

As you critically read each article, ask the following....

- what was the purpose(s) of the study?,
- what did the author(s) find from their literature review?,
- are the hypothesis and question(s) relative to your topic?,
- is the methodology of the study sound?,
- what problems were encountered, and what were the limitations of the study?, and
- do the conclusions and recommendations follow logically from their results?

You may want to make notes on the article itself, or on a separate sheet of paper. When you are done reading these articles, you should have a good idea of what has been accomplished, how it was done, the problems that others have had in their studies, and how the results of your study can add to the existing field of knowledge. At this time you may also want to write a summary of your literature search, which would later serve as a basis for the introduction and discussion sections of your paper.

For additional information on how to conduct a literature search, we recommend the following articles:

- Wallingford KT et al: Bibliographic retrieval: a survey of individual users of MEDLINE. *MD Computing* 7(3):166-71, 1990.
- Fox RN, Ventura MR: Efficiency of automated literature search mechanisms. *Nursing Research* 33(3):174-7, 1984.
- Williams HA: Searching the literature creatively: updating your skills in reviewing the literature. *J Ped Oncology Nursing* 10(1):33-6, 1993.
- Schira MG: Conducting the literature review. *J Neuroscience Nursing* 24(1):54-8, 1992.
- **The Users' Guide to the Medical Literature** - superb JAMA series.....
 - How to get started. 270(17):2093-5, 1993.
 - How to use an article about therapy or prevention: are the results or the study valid? 270(21):2598-601, 1993; what were the results and will they help me in caring for my patients? 271(1):59-63, 1994.
 - How to use an article about a diagnostic test: are the results of the study valid? 271(5):389-91, 1994; what are the results and will they help me in caring for my patients? 271(9):703-7, 1994.
 - How to use an article about harm. 271(20):1615-9, 1994.
 - How to use an article about prognosis. 272(3):234-7, 1994.

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Based on refining the topic in step #6, you should know determine whether to proceed with your project. If no, stop here. If yes, continue with step #7.

Step #6 - Begin Writing

Organizing your thoughts before writing may help keep you focussed. However, other authors find that inspiration occurs while sitting at the computer terminal. Whatever your style, be sure your article includes the following components in order:

Introduction Why is this case important? Include:

- Statement of goal or purpose
- Justification or why the case is unique
- Relevant background to introduce the topic.

Case An account of the case with relevant data. It is:

- Brief!
- Chronological.
- Relevant. Only include data important to the case.
- Clearly written avoiding jargon.

Discussion Present evidence regarding uniqueness of your case. Contains:

- Arguments regarding uniqueness or unexpectedness.
- Additional evidence to support your arguments.
- Review of the medical literature. Summarize extent of search.
- Declare and deal with contradictory evidence.

Conclusion What are the implications? It has:

- Conciseness.
- Possibilities for further study.
- Implications for clinical practice –not “Every family physician must be aware of the features of

Step #7 - Stop Writing

After you have finished your first draft, set aside for a few weeks before beginning critical revision. Such time renews interest and encourages detachment and objectivity. You are then more likely to read what was actually written and not what you intended to write.

Step #8 - Begin Review

A comprehensive review of the style and form of medical writing is beyond the scope of this workbook. The reader is referred to the references at the beginning and end of the workbook. However, during the critical revision, there are some general principles to follow.

A five part review may be helpful.

Initial review

The first review is for originality, accuracy and validity. Be sure what you wrote is the truth.

Organizational review Next review your manuscript for logical organization and coherent development.

Grammar review This review looks at the grammatical integrity of your paper. Make sure it is clear and concise.

Style review Focus on the stylistic grace, cadence and rhythm and how the paper flows from once section to the next.

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Readability review Your last critique should look at the overall readability of the text.

Attention to the specific criteria on each reading helps to detect flaws in the writing. Reading aloud may also uncover awkward phrases or lapses in logic that are not found with silent reading. Finally, it is wise to invite a discriminating associate to criticize your manuscript honestly.

Step #9 - Submit Manuscript

Following the information for authors section in the journal you previously picked, prepare your manuscript, cover letters and any other forms necessary.

A last minute check of your manuscript answering the following questions may encourage acceptance.

Introduction

- Is the rationale for reporting the case adequately explained?
- Is the rationale for reporting the case adequately substantiated by references?

Case

- Is the case described adequately?
- Is the case described briefly?
- Is the case described clearly?
- Are results of investigations described adequately?
- Are the results of lab investigations accompanied by normal values?

Discussion

- Is the evidence to support the author’s diagnosis presented adequately?
- Is the evidence to support the author’s recommendations presented adequately?
- Are there other plausible explanations considered and refuted?

Conclusion

- Are the implications and relevance of the case discussed?

- Do authors indicate directions for future investigation or management of similar cases?

Step #10 - Sit Back and Relax

Congratulations! If you have carefully followed this workbook, you have completed an academic project that may be worthy of publication or presentation. Well done!

Bibliography

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