UNIVERSITY OF CALGARY

CUMMING SCHOOL OF MEDICINE
DEPARTMENT OF FAMILY MEDICINE
Scholarship Handbook for Residents Graduating in **2018**

Table of Contents

Introduction

"A strong research base is as fundamental to family medicine, as to any academic discipline. Research and education are not different kinds of academic activity, but complementary: two sides of one coin. Research is organized curiosity."

Charles Bridge-Webb, from the George McQuitty Memorial Lecture, University of Calgary, *Canadian Family Physician*, 1983, 29(52).

This handbook informs you of the Research Domain in Family Medicine. Here, you will learn about research, systematic reviews, and the R2 projects you can choose to do within this domain. Every resident in the University of Calgary Family Medicine program will complete an R2 project, present it at Resident Scholarship Day, and submit a final report. Therefore, for each of these projects, we describe and give you advice for successfully completing them.

Since the focus of this handbook is research, you will not find information about the resident QI project. For that, consult the Resident QI Handbook, which can be found on the DFM Resident Research Webpage.

Research

Research is a process characterized by the skillful use of theory and methods to develop and contribute to generalizable knowledge.

What are the key principles and approaches of research?

The principles of research vary from researcher to researcher and possibly, from *project to project*. Here are some principles that every researcher should be aware of:

1. Research must be ethical
2. Research involves the use, contribution, and generation of knowledge
3. Research takes time and persistence to complete; it is not always a straight-forward process
4. Research requires a certain mindset. You have to constantly reflect on the rigor of your research design and be open to the idea that your research could be proven wrong. In other words, the critical appraisal skills you learned in medical school should be a part of your approach to research.

The Need for Research in Family Medicine

So, why are we talking about research? Well, "with its focus on the person's health and effective delivery of care," family medicine research "has a key role to play in bridging the gap between the laboratory and practice" (Lam, 2004:552). Research in family medicine is important because it improves your understanding of patients and helps you reflect on your clinical practice (Stewart et al., 2000). Additionally, medications and practice guidelines are constantly evolving, so research is needed to put them to the test. What we take for granted today may not be valid tomorrow, so research allows Not only that, but Family medicine research can also facilitate an improved understanding of physician well-being (Firth-Cozens, 2001; Shanafelt, Sloan, and Habermann, 2003) and stress management (Spickard, Gabbe and Christensen, 2002), which are valuable topics for a self-regulating profession.

How is Family Medicine Research Different?

Research in family medicine is different from research in other medical specialties for a number of reasons:

1. **Undifferentiated Patients** - Family medicine patients are undifferentiated and different than those seen in other specialties. The undifferentiated patients mean that family medicine researchers must draw on the knowledge of all of the medical disciplines to address early signs of disease and comorbidity. Furthermore, the family physician sees his or her patients over a long period of time, which requires being a generalist.

   An example of this situation comes from Dr. Lee Green, MD, the current head of family medicine at the University of Alberta. In the early 1990s, Dr. Green contributed to a clinical practice guideline (CPG) on unstable angina with a group of cardiologists in Michigan. Up until that point, the guidelines recommended that all patients presenting with cardiac pain be referred to a catheterization laboratory. Several of the physicians working with Dr. Green on the new clinical practice guideline were jokingly referring to the "cath lab" box in the algorithm they drew as "General Custer" because all of the arrows pointed to it. However, one of Green's colleagues did some research with family physicians in a practice-based research network (Klinkman, Stevens, and Gorenflo, 1994) and found that only about 10% of chest pain in primary care is of cardiac origin and that only 1.5% is acute coronary syndromes. These findings led the cardiologists working on the CPG to a few realizations: they did not see most patients with chest pain, did not have the capacity to see them, and that referring them to the catheterization lab was undesirable. Ultimately, family medicine research changed the team's CPG.

2. **Dynamic Research Questions –** The research questions asked in family medicine can be addressed using quantitative and qualitative methods. Since new research questions walk into the clinic each day, there is no "be-all-and-end-all" approach; family medicine researchers must draw on skills used by epidemiologists and social scientists alike. This situation leads one to take a dynamic approach to answering research questions by drawing on the hard and soft sciences.

3. **Complexity –** Primary care is complex. Family medicine research requires a "big picture" view of what is being studied. Research done in the context of family medicine strives to not only answer "the what," but the "who," "where," "why," "how," and "when." This big picture includes differing patient needs and demographics, changing policies, and the economics of family medicine.

What do you have to do?

If you elect to do a research project as your R2 project, you will:

1. Choose a topic and Project Supervisor
2. Submit a proposal for a research project
3. Design a research project
4. Conduct your research
5. Present your findings at Resident Scholarship Day
6. Submit your final report

Choose a Topic and Project Supervisor ("Scholarship/Project Preceptors")

You can choose a topic on anything that falls under the category of family medicine: patients, family physicians, or whatever interests you – as long as it is easy to see it relates to family medicine. From this topic, you will have to come up with a research question and carry out a research project. Along the way, you will interact with a project supervisor.

Project Supervisors

All Family Medicine residents are required to identify a faculty member or clinical preceptor who agrees to supervise all of their scholarly work. We encourage residents to identify a supervisor with a background in Family Medicine. However, depending on the nature of the scholarly project, residents may find a supervisor from a different discipline or a multidisciplinary team. Depending on your proposed topic and approach, the DFM research director or RRTC may suggest preceptors to supervise and/or co-supervise your work.

Have your project preceptor sign the resident- scholarship preceptor agreement. This form can be found on the DFM Resident Research Webpage.

Role of Supervisors

Supervisors may provide mentorship and support to students in the following areas:

- Identifying research topics relevant to Family Medicine.
- Helping to design research projects.
- Providing feedback on outlines, proposals, progress reports, presentations, or final reports.
- Suggesting appropriate venues for disseminating the results of completed work (e.g., academic seminars, professional meetings, conferences, or medical journals).

Identifying a Supervisor

When investigating potential supervisors, the two most important things to consider are:

- How well your interests align with your supervisor's.
- How well your working style aligns with that of your supervisor (e.g., are you able to agree upon and fulfill expectations and openly communicate with each other?).

If you wish to work with a faculty member you are not familiar with, you can do the following:

1. View their online profile on the Department of Family Medicine Faculty and Staff Directory
2. Read a few of their publications to familiarize yourself with their work.
3. Send them an email that indicates: (a) your awareness of their research and how it fits with your interests, (b) the topic you plan to study and your intention to work with them on a project related to this topic, and (c) a few key points about your experience related to research in general or the proposed research topic.
4. Talk to your RRTC – (s)he may be able to facilitate connecting with the potential supervisor.

Submitting a Proposal

Once you have your topic and your project supervisor, you will have to submit a proposal for your project, so here is a guide that describes what you should include in each section of your research proposal. The exact specifications for your research proposal can be found at the DFM Resident Research webpage: http://goo.gl/mja88d

1) Introduction

The first section of your research proposal is your introduction and it describes your research question. It explains the topic you are interested in studying and why it is important to family medicine.

2) Background/Review of the literature

In this section, you provide readers with a literature review where you review and summarize the current literature relevant to your topic. A literature review is absolutely crucial. Keep in mind:

- Journal articles will be helpful in refining your research question.
- Your literature review helps you select statistics to use and sources of data.
- Avoid duplication of study; do something new[1].
- Read each source and take note of important points related to your project.
- The information that you collect in your literature review is used to refine your research question, so you can address knowledge gaps and produce new research.
- This section ends with a description of the gap in the current literature that you will be addressing with your work.
- A thorough review of the literature is the most important step to any research endeavor. It provides the information necessary to clearly map the entire project.

Developing a research question?

Research ideas can come from non-systematic and systematic sources. Non-systematic research idea generation refers to the seemingly random generation of ideas through:

a) The observation of people and surroundings; e.g., "My patients seem more at ease when I sit to speak with them. I wonder how a physician's body language might impact the doctor-patient relationship"

b) Serendipity - you look for one thing and you find something else; e.g., Alexander Fleming's accidental discovery of penicillin

c) Inspiration – questions that arise from something that really interests you, e.g., a hobby, an issue, a specific population

In contrast, systematic research idea generation refers to the derivation of research ideas through careful consideration and review of current knowledge in a topic area.

Past Research:

-identify a gap in our current knowledge on a topic
-use previous research findings to make novel predictions

[1] Doing something "new" can take on many forms and does not preclude one from replicating a study in a new context or taking a topic that has already been studied and looking at it from a new methodological lens. Remember, research requires creativity!

Theory:

-test an existing theory or develop a new one
-e.g., Goal Setting Theory

When we set our own goals, we are much more likely to be motivated to achieve those goals than when others set goals for us without our input.

In thinking of a research question, it is important to consider the following;

a) Will the knowledge gained by asking this question be useful and meaningful?
b) Is this question testable?

Note that your research question should be as narrow (i.e., simple) as possible. The specificity of your research question can be determined by how much you read for your literature review: if you're reading too many articles, your research question is likely too broad – tighten it up. If you need assistance in formulating your research question, please consult your Resident Research Training Coordinators.

Designing a Research Project

3) Method and Design

Types of Research

How you collect data and analyze it depends on your research question. As you formulate your research question, ask yourself, "How am I going to measure this?" and "Is this question best answered with words or numbers?" These questions are important because they have implications for designing your research project.

Your research question and your stance on what counts as evidence drives the type of data your collect. The type of data you collect, in turn, directs the methods you use. There are two major methodological approaches to research: **quantitative methods**, which explain phenomena using numbers and statistics, and **qualitative methods**, which focus on words and people's perspectives. The following table outlines some of the characteristics associated with qualitative and quantitative research.

Qualitative	Quantitative
The aim of this work is a complete detailed description	The aim is to classify features, count them, and construct statistical models to explain what is observed
The researcher roughly knows what to look for	The researcher knows clearly what to look for
Qualitative methods can be used to improve surveys or questions for a quantitative study	Quantitative methods can be used to verify or quantify a finding from a qualitative study
Design emerges as study unfolds or aspects of study are carefully designed before data is collected	All aspects of study are carefully designed before data is collected
The researcher is data gathering instrument	Researcher uses tools, such as questionnaires or equipment to collect numerical data
Data comes in the form of words, pictures, or objects	Data is in the form of numbers and statistics
Subjective – individual's interpretation of events is important, e.g. in-depth interviews.	Objective – seeks precise measurement & analysis of target concepts, e.g. uses surveys, questionnaires, etc.
Qualitative data is more 'rich', time consuming, and less able to be generalized.	Quantitative data is more efficient, able to test hypotheses, but may miss contextual data
Researcher tends to become subjectively immersed in the subject matter	Researcher tends to remain objectively separated from the subject matter

Adapted from Wilderdom.com/research/qualitativeversusquantitativeresearch.html

Although this table above provides a side-by-side comparison of qualitative and quantitative characteristics, it is important not to mistake the two approaches as dichotomous, but to view them as occurring on a spectrum. The advent of mixed method research designs illustrates that the division between the quantitative and qualitative spheres is not always distinct and some research entails study designs that draw on both approaches (McWhinney, 1991:1).

How to write a methods section

This section is an overview of the methods you will use to answer your research question; it demonstrates to the reader that you have an idea for a study and you know how to research it. Depending on the type of study you do – quantitative, qualitative, or mixed-methods – you will have a different set of things to cover. The methods section of a quantitative study describes the sampling technique, variables involved in the study, the statistical tests being used, ethical considerations, and units of measurement. A qualitative methods section states your research method, the kind of data you will collect (textual data, observation, etc.), how you will collect and analyze your data, and how you will address the ethical considerations of your study.

Here is list of questions that can stimulate the writing of your methods section:

- How will you acquire data?
- Are you acquiring data by records/charts, interviews or other methods?
- Who is included/excluded from your study and why?
- Are you collecting too many variables? Focus on your main research question(s).
- Do you have to clean your data?
- What methods will you use to analyze your raw data?
- How will you know if you have obtained enough information?
- Is there a more efficient way of acquiring data?
- Identify the independent and dependent variables.
- Ethical issues- need to address privacy/anonymous vs. confidential data, etc.

4) Funding

Research sometimes costs money, so this section of your proposal provides readers with a detailed description of how money will be spent. Items listed in your budget include funding for transcriptionists for interview or focus groups, stationary, postage, and whatever else is required to complete your project. Funding opportunities can be found at the end of this handbook.

5) References

This section of your research proposal contains a list of works you used to write your proposal. Your references may include materials that you can refer to when writing the discussion section of your research paper or provide you with guidance while conducting your research.

When it comes to all resident deliverables, we occasionally conduct a Google search on portions of residents' writing to curb plagiarism and uphold academic integrity at the University of Calgary.

Research Ethics

As you may recall, our first principle of research is that research is ethical. At the University of Calgary, the DFM uses the Conjoint Health Research Ethics Board (CHREB) to assess the ethics of its research projects.

URL: http://www.ucalgary.ca/research/compliance/chreb/ - This website also contains links to all of the forms necessary for completing an ethics application and templates for consent forms.

Just as family physicians must consider the best interests of their patients, the researchers must look out for the best interests of their study participants. For the sake of playing it safe, any research that involves humans should be vetted by a Research Ethics Board (REB). REBs do not grant retroactive approval and research that required ethics approval but did not seek cannot be ethically published.

With regards to research participants, here are some ethical risks you should keep in mind:

- The anxiety and distress of participants
- Confusion of the research process
- Coercion
- Misrepresentation

Researchers can minimize each of these risks by being clear about the boundaries of their study and properly training study administrators. As part of your ethics application, REBs will scrutinize your application to ensure you mitigate the above risks and address the following considerations:

- Is the research valid?
- Can the question be answered?
- Is the welfare of the participant at risk? If so, how?
- What is required of the participant?
- Is the dignity of the participant being maintained?
- Are the risks necessary and acceptable?
- Will consent be sought? If so, will the participant be notified of potential risks?
- Is the **privacy** of the participants protected?
- Will confidentially be respected?
- Have you considered data security measures for transporting, storing and eliminating sensitive data?
- What are your plans to inform participants of the findings?

What needs ethics approval? Ethical review is required for all research involving human subjects. For the most part, quality improvement projects and program evaluation projects do not require review by an REB. Sometimes the line between each of these projects is blurry and project types are difficult to distinguish. If you are unsure whether or not your project requires review by an REB, use the ARECCI tools found at: http://www.aihealthsolutions.ca/arecci/screening/

Timing: Gaining ethics approval takes time and there is no hard and fast rule as to how long it will take (one month, two months, sometimes three months…). Because of this uncertain time frame, you should submit your application as soon as your proposal is approved.

The Sections of Your Research Paper?

Introduction – what are you interested in and why is it important? Here, you should sell your paper to your readers and get them hooked – otherwise, they will get bored of your topic before they get to the good stuff.

Literature review – In this section, you identify the gap in the literature that you are trying to fill. Some questions you ask yourself include: What work has been done on your topic? What is missing? What questions are left unanswered?

Hypothesis/research question – You should end your literature review with your research question or a set of hypotheses. Here, identify your predictions and the questions you are trying to answer?

Methods – how did you answer your research question? This section should be written in past-tense.

Results – objectively describe the results of your research; do not interpret your results. This section should also be written in past-tense[2].

Limitations/sources of error- this section can be summed up by asking what is wrong with your study? Where did you run into problems and what are the implications of these problems? What is the scope of your research? What's not covered by your research? This section gives you an opportunity to anticipate critiques of your research and defend your work.

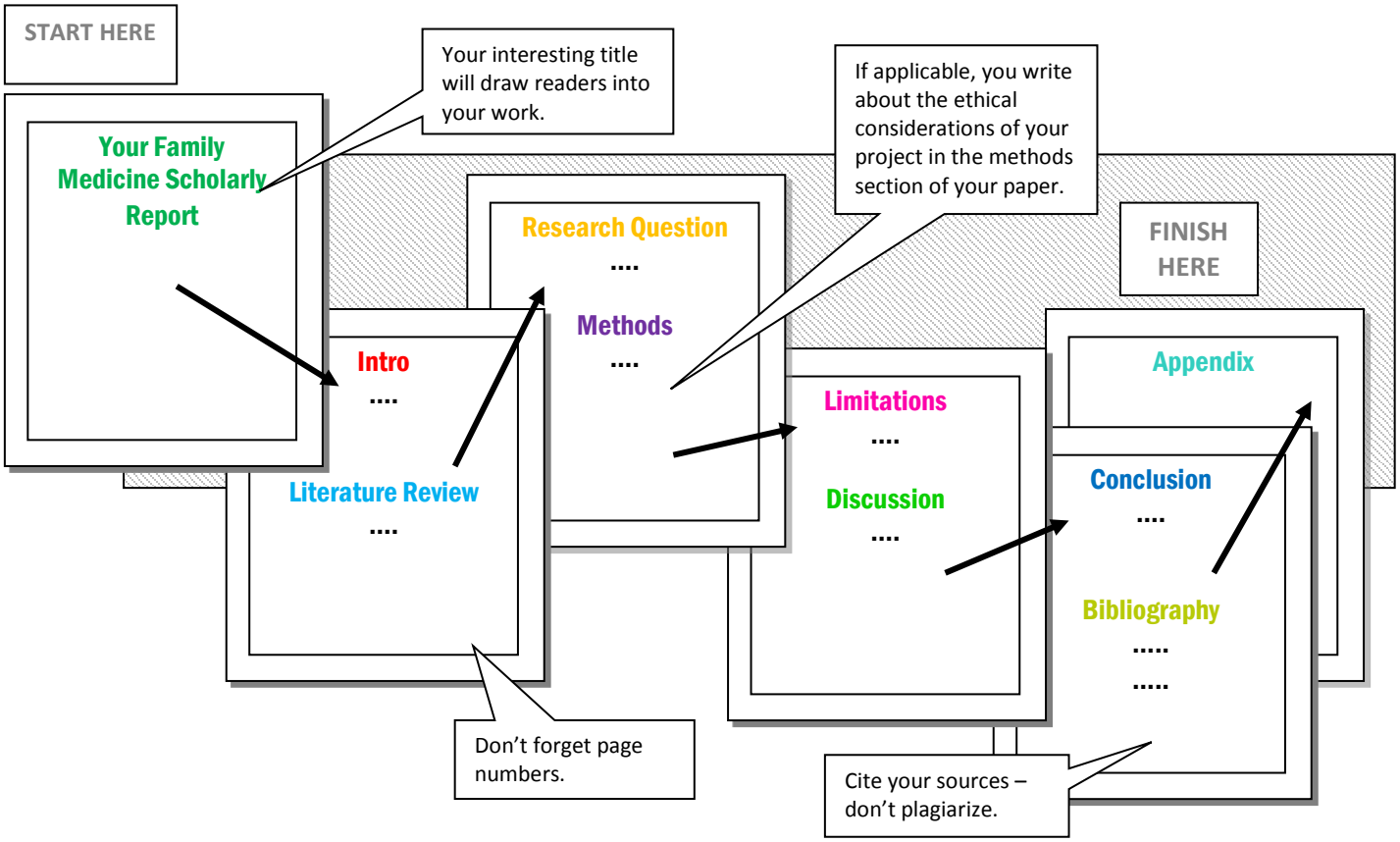
[2] If you complete a stats project and you want to learn what not to write in your results section, see: Streiner, D. L. (2007). A shortcut to rejection: how not to write the results section of a paper. *The Canadian Journal of Psychiatry*, *52*(6), 385-389.

Discussion – in this section, take your results and frame them within a real world context and your literature review. Describe why your results are important and propose explanations for your results; unlike the results section, your discussion section is characterized by subjectivity and interpretation. You can write in an active voice for this section (see https://goo.gl/Cu4Xxe).

Conclusion – this section summarizes your project. It draws on your research question, your literature review, your findings, and tells your reader why your research and findings are important.

Bibliography – lists all of the papers used in your literature review and the rest of your paper. You must give credit where credit is due to avoid plagiarism[3].

Appendix – in this section, you provide the reader with supplementary items pertaining to your research project. These items may be charts or figures, interview guides, your consent form, your recruitment poster – basically anything that you feel the reader should know about, but it would be cumbersome or inappropriate to include in the main body of your research paper.



[3] If you are curious as to what needs to be cited, please refer to the University of Calgary's "Honesty in Academics" webpage: http://www.ucalgary.ca/honesty/plagiarism

Once you have completed all of the above sections, you have written the first draft of a research paper. Before you submit it, be sure to edit it and confirm that it meets program expectations.

Systematic Review "Plus" Projects

Residents can opt to do a Systematic Review Plus (SR+) Project for their PGY-2 scholarly project. This project has two parts: a systematic literature review and a "plus component," which is something residents build using the results of their systematic literature review. The goal of this project is to learn about a topic of your choice, appraise the relevant literature, and communicate one's findings.

What is a Systematic Literature Review?

A systematic literature review has the following characteristics:

1. A defined question
    a. A PICO question results from breaking a clinical scenario down into four parts: the **P**atient population, **I**ntervention, **C**omparator, and **O**utcome. Check out the Oxford Centre for Evidence-Based Medicine (CEBM)'s PICO page: http://www.cebm.net/finding-the-evidence-1-using-pico-to-formulate-a-search-question/
    b. Clinical questions, however, are not limited to interventions. You can create clinical questions focused on diagnosis, prognosis, and harm/etiology. The Cincinnati Children's Hospital describes the various clinical questions here: http://goo.gl/z2ZURR

2. A search strategy aimed at answering your PICO question - your search strategy should be written so others could replicate your steps.
    a. Search terms
    b. List of databases being searched
    c. Inclusion and exclusion criteria
    d. A log of one's searches (Date, time, search terms, databases searched)

3. A PRISMA diagram of your article selection process
    a. The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) sets out expectations for detailing one's process for completing systematic reviews and meta-analyses. You can find more information on PRISMA here: http://www.prisma-statement.org/
    b. You can use this website to generate a PRISMA diagram: http://prisma.thetacollaborative.ca/

4. A critical appraisal tool
    a. There are various tools available to family physicians for critically appraising evidence, so choose one and apply it to the articles generated by your search. Here are a few options – if you prefer to use a different critical appraisal tool, describe it in your letter of intent and proposal:
        i. CEBM critical appraisal tools: http://www.cebm.net/critical-appraisal/
        ii. The Critical Appraisal Skills Programme (CASP) provides various checklists for evaluating different kinds of evidence: http://www.casp-uk.net/
        iii. The Strength of Recommendation Taxonomy (SORT): http://www.aafp.org/afp/2004/0201/p548.html
        iv. Grading of Recommendations, Assessment, Development and Evaluations (GRADE): http://www.gradeworkinggroup.org/

Critically Appraising Review Articles

- Was the review question clearly defined in terms of PICO?
- Was the search strategy adequate and appropriate? What were the inclusion and exclusion criteria overly restrictive?
- How did the authors minimize bias?
- How did the authors assess the quality of the primary studies?
- Do you understand the authors' process for finding papers?
- Do the authors adequately describe the included papers?
- How about data synthesis? Were differences between studies assessed? Were the studies pooled? Did it make sense to pool the studies?
- Do the authors' conclusions accurately reflect the evidence that was reviewed?

How do you write a proposal for a Systematic Literature Review Plus project?

As with all R2 projects, you will have to submit a proposal for your SR+ project. Since the instructions for this deliverable can be found online (http://goo.gl/mja88d), we will not go into extreme detail here. However, to give you a sense of what this document should look like, your proposal will contain the following sections:

1. An introduction
2. Background and brief literature review
3. Review question
4. Search strategy (see above)
5. Timeline and action plan
6. Preliminary bibliography

How do you do a Systematic Literature Review?

1. **Check the existing literature** – you should search the literature for reviews on your topic. If systematic reviews exist on your topic, you should check their quality: they should have a focused question and use the right methods. If the previous reviews are adequate and useful to practice, you should modify your topic so it explores something new. The box to the right describes some additional considerations for assessing the quality of existing literature[4]. If the existing reviews are not well done, you can strive for conducting a rigorous review of your topic.

Question:
Literature reviews have already been done on my topic! What do I do?

Answer: There are at least three things you can do:

1. Check the quality of the existing reviews – can you do better than these reviews? If the reviews took place several years ago, you may be able to do an updated review.
2. Look at the topic from a different angle – maybe you can explore the topic for different patient population. Consider what has already been done and put a twist on it.
3. If you cannot do 1 and 2, perhaps you should choose a new topic.

2. **Define your clinical question** using the PICO approach. Again, break your clinical scenario down into its patient population, intervention, comparator, and outcome components.

3. **Devise a search strategy and write it down**: define your search terms, your inclusion and exclusion criteria, and search databases. Your search terms are the words you use to find relevant studies; they can be MESH terms or phrases[5]. In terms of inclusion and exclusion criteria, there is much to consider. First, which types of studies will be included in your review? Should you stick to one type of study or take a broad approach and include studies which used different types of data? Is your clinical question best answered with qualitative research methods or some type of randomized control trial?

[4] The table is adapted from: Centre for reviews, & dissemination (CRD). (2009). *Systematic reviews: CRD's guidance for undertaking reviews in health care*. Centre for Reviews and Dissemination, pp. 4.

[5] To get a deeper understanding of search terms, check out King's College London's webpage on search strategies: http://goo.gl/91itmO

Second, how about **Language:** are you just looking for studies published in English or will you include studies written in other languages? Third, which types of **Publications** will be included in your review? A multitude of publication types exist; there are peer-reviewed articles, open access journals, works of grey literature (http://www.greylit.org/about), conference proceedings, unpublished papers, theses, and dissertations, to name a few. Finally, you should identify the search databases you will be using. For example, if you plan on using PubMed, be sure to name it in your search strategy. You can use multiple search engines to find articles for your SR+ project and, since each database's scope varies, it is probably a good idea to cast a wide net.

What goes into a search strategy?	1. Search terms 2. Inclusion and exclusion criteria based on PICO question 3. Search databases

4. Now that you have a search strategy, it is time to collect data, so here are some resources for locating the articles for your review:
    a. The University of Calgary's guide on systematic reviews: http://libguides.ucalgary.ca/introSR
        i. Here is a link to their presentation on systematic reviews: http://goo.gl/YB5rLu
    b. Yale's Harvey Cushing/John Hay Whitney Medical Library has various videos and a wealth of information on doing systematic reviews. Here is the link: http://goo.gl/MA5Ocn

5. Go through your search results to make sure they are relevant to your clinical question, adhere to your search strategy, and do not contain duplicates.

6. Once you have distilled your data down to the articles that will be included in your review, you have to assess their quality. If there are two residents on your team, each of you should individually grade each of the articles and compare your scores. You can measure your level of agreement using the Kappa statistic[6], which is easy to calculate

7. Write summaries for each of the included papers and look for commonalities between them. Describe each study: what populations were included in each study? What methods did each study use to collect data? What do the studies agree on? How are the results different?

[6] McHugh, M.L. (2012). Interrater reliability: The kappa statistic. *Biochemia Medica.* 22(3):276-282.

Plus Components

The “plus component” is an opportunity for you to creatively communicate your findings. Examples of plus components include lunch-and-learn workshops, virtual patients, clinical cards, proposals for future research, and quality improvement projects. If you wish to pursue some other plus component, describe it in your letter of intent and demonstrate that it is an effective tool for communicating what you learn in your systematic review.

To ensure a reasoned approach is taken to complete this project, your proposal and final report will have a methods section for your systematic review and your “plus component.”

Assessment

Final reports will be graded as either pass or fail by Family Medicine faculty and staff. Residents must achieve a **Pass** to graduate from the postgraduate program in Family Medicine. Handing assignments in on time is important, so – unless you have made arrangements with your RRTC in advance of the due dates – late submissions will be docked marks. We define a passing grade as any score of 70% and above. You will be provided with rubrics for your two major assignments: your R1 QI project and R2 final report. Along the way, you will be given explicit instructions for what the DFM expects for each of your deliverables. For further information on expectations and specifications for deliverables, visit the DFM Resident Research Webpage at: http://bit.ly/29YhrPQ

Late assignments will be docked 5% per day. If you do not submit deliverables on time, your core preceptor will be notified. Assignment completion is necessary for graduation.

Deadlines

Here are the 2016-2018 deadlines for residents working within the Research Domain stream.

Item	Deadline
Letter of Intent	First Friday of Block 11
Proposal	Second Friday of Block 12
Progress Report	Second Friday of Block 3
Abstract	First Friday of Block 8
R2 Final Report	Third Friday of Block 9
Other Important Dates	
Resident Scholarship Day Presentation Type Notifications	Second Friday of Block 9
Resident Scholarship Day Presentation	TBA

Awards

General Information for the Resident Research Funding Award

The Department of Family Medicine has a limited amount of funding to support resident research projects. This funding covers a variety of project-related expenses, including:

- Accessing administrative data.
- Reimbursing participants for project-related expenses (e.g., parking).
- Printing project-related documents (photocopying is available through the Department).
- Hiring staff to assist with transcription or translation.

This award does not cover conference travel. Post-graduate Medical Education has funding opportunities for resident conference travel.

All residents (R1s and R2s) who require funding are encouraged to apply. On the application form, residents must describe what the funding is for and why it is needed. **Receipts will be required** for reimbursement. The Department recognizes the differences in needs and resources of rural and urban residents.

Application Process
Residents complete the application form (one per project) and submit it via email to the RRTC.

Review and Notification Process
All applications will be reviewed by the Resident Research Award Committee. The amount of each award will vary based on the nature of the funding request and the final amount is at the discretion of the Committee. Residents will be notified of the committee's final decisions via email.

PLEASE NOTE: Funding is not retroactive – applications must be submitted PRIOR to spending.
If you have questions about this award, please contact the RRTC.

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Additional Reading

De Maeseneer, J.M. & Sutter, A.D. (2004). Why Research in Family Medicine? A Superfluous Question. *Ann Fam Med*. 2:S17-S22.

This article provides you with more reasons for why research in family medicine is important: to improve the quality of care. The authors posit that "Primary care research questions and answers should be relevant to daily practice and comprise all domains of general practice, so that eventually most of the interventions in practice will be underpinned with medical, contextual, and policy evidence, and improvement of the quality of care through research will be finally achieved" (De Maeseneer & Sutter, 2004:522).

Greenhalgh, T. & Taylor, R. (1997). How to read a paper: Papers that go beyond numbers (qualitative research). *BMJ.* 315:740. URL: http://www.bmj.com/content/315/7110/740

In this article, Greenhalgh and Taylor discuss what counts as qualitative research, how to evaluate it, and why it is important to the clinical setting. If you are doing a qualitative project, reading this article should be part of your preparation.

Harvey, B. J., Lang, E. S., & Frank, J. R. (Eds.) (2011). The research guide: A primer for residents, other health care trainees, and practitioners. *Royal College of Physicians and Surgeons of Canada.* Ottawa, ON: Royal College of Physicians and Surgeons of Canada.

This book was published by the Royal College of Physicians and Surgeons of Canada and CANMEDS. This book discusses each step of the research process in much greater detail than what this chapter offers and frames everything within the clinical context. In addition, Dr. Eddy Lang, MDCM, CCFP(EM), CSPQ is a member of the University of Calgary community.

Herbert, CP. (2004). Future of Research in Family Medicine: Where to from Here? *Ann Fam Med.* 2:S60-S64.

This article is important because it calls for a positive attitude towards research in family medicine, fostering clinician-researchers, more funding for primary care research, practice-based research networks, and that researchers "study what matters" to family medicine (Herbert, 2004:563).

McWhinney, I. R., & Freeman, T. (2009). *The textbook of family medicine*. (3rd ed.). New York, NY: Oxford University Press, Inc.
Rohrig B, du Prel JB, & Blettner M. (2009). Study Design in Medical Research: Part 2 of a series on the Evaluation of Scientific Publications. *Deutsches Arzteblatt Int.* 106:184-189.
White, KL. (2000). Fundamental Research at Primary Care Level. *The Lancet.* 355, May: 1904-1906.

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Research Methodology

Creswell, J.W. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches* (3rd ed.). Thousand Oaks, CA: Sage Publications, Inc.

Creswell, J.W. (2013). *Qualitative inquiry & research design: Choosing among five approaches* (3rd ed.). Thousand Oaks, CA: Sage Publications, Inc.

Degu, G & Yigzaw, T. Research Methodology: Lecture notes for Health Science Students. University of Gondar. (2006). The Carter Center & Ethiopia Ministry of Education.
URL: http://www.cartercenter.org/resources/pdfs/health/ephti/library/lecture_notes/health_science_students/ln_research_method_final.pdf

This article provides readers with a deeper description of research and research methodology.

Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory: Strategies for qualitative research*. New Brunswick, NJ: Aldine Transaction.

You will often hear about grounded theory in qualitative studies. *The Discovery of Grounded Theory* is where it all began. This publication will provide you with a strong background of what grounded theory is and the process involved in doing grounded theory research.

Hulley SB, Cummings SR, Warren SB, Browner WS, Grady DG & Newman TB. (2007). *Designing Clinical Research*. 3rd Edition. Phil. PA.

Johnson, R.B. & Onwuegbuzie, A.J. (2004). Mixed methods research: A research paradigm whose time has come. *Educational Researcher.* 33(7):14-26.

Pope, C. & Mays, N. (Eds.). (2006). *Qualitative research in health care* (3rd ed.). Malden, MA: Blackwell Publishing, Inc.

Rubin, H.J. & Rubin, I.S. (2012). *Qualitative interviewing: The art of hearing data.* Thousand Oaks, CA: Sage Publications, Inc.