



## **Identifying Published Family Medicine Research: Search Methods, Lessons Learned and Recommendations for the Future**

Report to the Committee on Building Research Capacity and AFMO Research Subcommittee

See companion report:

Report on Research Productivity in Family Medicine, 1999 & 2000

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This project—to identify family medicine’s published research on behalf of the NAPCRG Committee on Building Research Capacity—presented some real challenges. Family medicine has innumerable researchers working in numerous organizations of a variety of types, studying issues in diverse fields and publishing in many journals; and no prior information or compendia existed to inform this project as to who family medicine’s researchers were, what they published and where it could be found.

We used a variety of approaches to identify and confirm the eligibility of family medicine’s published research and authors. All approaches were useful, some more than others but all also had their weaknesses. **This document outlines the strengths and weaknesses of each method we used to identify eligible articles and researcher-authors and suggests how a similar future effort might best be conducted.**

[N.B. This document says little about the approaches used to maintain the integrity of this project. Let us only note here the importance of (1) maintaining uniform operational definitions, (2) using two coders to double-check author and article eligibility, (3) following meticulous file maintenance procedures, including continuous quality checks, (4) using multiple sources of information to verify eligibility of authors, (5) actively involving senior project personnel who are familiar with the field of family medicine research and with many of its individuals and organizations, and (6) remaining patient and maintaining good humor.]

## **A. Strengths, Weaknesses and Lessons Learned from the Various Approaches to Identifying Family Medicine’s Eligible Research Authors and Articles**

### 1. Searching print copies of journals.

#### a. Strengths

- i. Author affiliations are included on each published paper in virtually every journal.
- ii. Print copy searches identify many authors who would not be found through electronic searches, like non-faculty whose names often don’t appear on department web sites or on lists of family medicine organizations.
- iii. At the time a potentially eligible paper is found one can retrieve a printed copy (this requires an additional trip to the library or journal web sites for papers identified through electronic searches).

#### b. Weaknesses

- i. This search process is very labor intensive up front (but does save time later since print copies will be needed to verify article eligibility).
- ii. These searches require access to a comprehensive medical library. It would have been prohibitively expensive to use library retrieval services to obtain hard copies of even a portion of the roughly 10,000 articles reviewed for this project.
- iii. There was no preexisting information telling us in which journals family medicine’s researchers publish and where we should focus our hard-copy search. We had to use a “best-guess” approach to identify journals to be searched.
- iv. The presentation of authors’ affiliations is sometimes hard to locate on print copies (e.g., in a couple of journals it is located at the end of each issue) and can be ambiguous as to which author works in each of the listed organizations. Sometimes only university names are provided without identifying specific departments, and some articles are noted to be “from the Department of XX” without explicitly indicating that all authors are affiliated with this one organization (we did not assume they were). Frequently only initials are provided, complicating efforts to electronically search for other research articles by these individuals.

### 2. Searching NLM databases under names of authors identified as eligible.

#### a. Strengths

- i. NLM databases are readily accessible.
- ii. NLM searches are familiar to those in the discipline of family medicine.

#### b. Weaknesses:

- i. One can only search names of those who have been previously identified as eligible; no complete list of eligible individuals exists.
- ii. Names can be searched only one at a time which requires significant search time for the many family physician researcher-authors. The citation lists retrieved through searches are also often lengthy and therefore time-consuming to review

when identifying other eligible research papers from eligible authors and separating out papers from other individuals with the same, or similar, names.

- iii. Many authors have common names and the vast majority of the citations retrieved through searches of their names are not from the intended individuals. Some names are so common that they cannot be usefully searched.
- iv. Article eligibility very often cannot be verified through information available through the NLM. One must retrieve a hard copy of these articles to adequately assess eligibility.

3. Searching the institution field of NLM databases under the word “family.”

a. Strengths

- i. This is generally an easy and time-efficient process.

b. Weaknesses:

- i. Each article is listed with only one organization, even if the various authors are affiliated with different departments and universities and are so identified on the print copy of the article. Similarly the NLM lists only one organization for each article even when print copies of the article name two or more organizations for the referenced individual; eligible individuals who work in two or more organizations are overlooked if the NLM lists the non-family practice organization in the organization field.
- ii. The organizations listed are usually, but not always, that of the lead authors. There is no indication to which author the listed organization relates, necessitating follow-up verification steps for every paper. Institution searches generally do not identify articles co-authored by family practice researchers (i.e., as non-lead authors).
- iii. Overall, this is a specific but not very sensitive approach to locating eligible family medicine researchers.

4. Verifying eligibility of authors through on-line sources.

a. Strengths

- i. This is generally a very efficient process. The best sites to verify that an individual listed with an “M.D.” degree is a family physician were: [www.abfp.org](http://www.abfp.org) and [www.ama-assn.org/aps/amahg.htm](http://www.ama-assn.org/aps/amahg.htm). (N.B. Family practice specialty confirmation conferred eligibility for an author.)
- ii. Some department web sites were easily searchable, intuitive in their layout, and make faculty and staff affiliations clear.

b. Weaknesses

- i. Some department and organization web sites make information hard to find. Some don’t list names of individual faculty and staff. Some require passwords to access the information we needed.

5. Surveying chairs of joint departments (e.g., “Department of *Family and Community Medicine* at XX”) to identify which authors listed in their organizations were eligible authors.

- a. Strengths
  - i. This was generally easy to carry out. It was simple to prepare and mail a list of names of individuals whose eligibility needed confirmation from each department.
  - ii. Chairs responded readily (66% responded with one mailing) and appeared to follow with the author eligibility criteria we suggested to them. The information they returned appeared credible.
- b. Weaknesses
  - i. Because the process of identifying eligible authors continued throughout this project, there was no single point when input from chairs would have been helpful. We wished we could have contacted chairs two or three times as new names of uncertain eligibility were identified from their departments.
  - ii. Some departments did not respond, which forced project staff to rely upon other less reliable means for clarifying the eligibility of non-family physician authors of joint departments.

## **B. Suggestions for the Future**

Should the Committee or discipline decide to document family medicine's research output again in the future, we make the following suggestions:

1. Information should be gathered on the research output for a single year. The volume of research produced in one year is sufficient for analysis.
2. Multiple methods should again be used to identify eligible authors and articles. No one or even few methods are adequate and the products of each method by itself are biased.
3. The list of eligible authors assembled from this first effort can be used as a starting point for any subsequent effort.
4. If print copies of journals are to be searched, the process should target journals found here to have published the most family medicine research articles.
5. The membership lists of NAPCRG and STFM should be e-searched as other sources of potential authors.
6. To add to the completeness and accuracy of the author and article compendia, we suggest electronically posting searchable but read-only interim drafts of these files and asking chairs and researchers to suggest corrections. Broad input can be solicited through the Chair's list serve, NAPCRG's list of research directors, and the NAPCRG Newsletter. These steps will also help build visibility of this project and use of the compendia of authors and articles it builds.
7. Family medicine's journal editors can make the work of this project easier with simple changes in how authors' affiliations are shown on the first page of each published article. Most importantly, it would help not to reference an article as from a single institution (e.g., "From the Department of Family Medicine at Southeast University") when authors are from several departments and universities. When all authors are indeed from the same department, this should be stated clearly ("All authors are from the Department of . . ."). It would also help for authors' first names to be written out completely along with middle initials and academic degrees listed.

8. Plan for a second and perhaps third mailing of the questionnaire to chairs of joint departments. Their input was very useful in determining the otherwise uncertain eligibility of non-family physician faculty in joint departments.
9. This project required a clear definition of “research” which should be reconsidered before any future efforts to document family medicine’s research productivity. We suggest using this need as an opportunity to stimulate a discipline-wide discussion of what constitutes “research” as opposed to other forms of scholarship. This will help focus the discipline’s goals as it works to expand the evidence base of family practice.
10. The group that next undertakes this project should be provided with the financial resources necessary to complete it thoroughly and in a timely fashion. We estimate the costs of an effort to document the research output of a single year to be \$65,000.