

**Annual Spring Conference 2011
Call for Papers
Completed Projects and Papers Submission Requirements**

This document provides instructions on how to complete an online submission for the 2011 Annual Spring Conference. Included are the general instructions, copies of the online forms, review criteria for the category, and an example of a completed submission.

Category General Instruction:

Description: We encourage research submissions on education, process of care, patient-oriented outcomes, and quality of care studies. All content and methods will be considered. Submissions must be original work with data collection and analysis that is **completed at the time of submission**. Please do not submit work that has been published prior to submission deadlines.

Requirements: Submission will require two abstracts:

1. 125-word abstract that will be published in the final conference program (including objective, method, results, conclusions.)
2. 300-word abstract that will be used for the Research Committee Review (be sure to follow all instructions as outlined.)

Time: 22 minutes (14 minutes for presentation, 8 minutes for discussion facilitated by a moderator with research expertise selected by the Research Committee.)

Distinguished Papers - 45 minutes (30 minutes for presentation and 15 minutes for questions and discussion.)

This is an example only. Read through this file to see what information you must provide when submitting your presentation on-line.

If you have any questions, please contact Kay Frank, 1-800-274-7928, ext 5402, or email kfrank@stfm.org.

The first several web pages that you fill in are the same for all submission categories. When using the online submission application, please remember the following:

1. If the lead presenter is NOT a current STFM member, there will be a \$25 charge for submitting to the conference. This fee covers the administrative costs of processing the submission and maintaining our online submission program. STFM members may submit to the conference for free.
2. Each screen of the online submission process must be completed within 20 minutes of loading that web page. If you do not complete entering your data for that page within 20 minutes, you may “time out.” If you time out, you will have to start over.

3. You will need to know the full name, mailing address, phone number, and email for each additional presenter or author. If the additional presenter is a member of STFM our system will pre-fill-in his/her information for you.

4. You will need to know a brief biographical sketch for the main presenter. The bio sketch includes: Degree Granting Institution; Residency/Fellowship; Licensure/Certification (eg Social Worker, Psychologist); State/Province where licensed.

5. Titles may be a maximum of 15 words and 255 characters (including spaces). Abstracts may be a maximum of 125 words. Please note that some words that contain a hyphen or apostrophe will be counted as two words. There is a 5,000 character limit (including spaces, roughly 500-800 words) for each multi-line field in the detailed proposal portion of the submission.

6. STFM recommends you copy and paste your abstract and other lengthy information from another program such as Microsoft Word. If you do copy and paste, remember that formatting commands (table, bold, paragraph indent, auto numbering, etc) and symbols (for example TM Σ ≤) are not transferred. The best approach is to save your information as plain text, edit it for appearance and then copy and paste the plain text into our online submission fields.

7. After you completed all the fields on these web pages, STFM will send a confirmation email to the email address provided for the principal presenter. If the principal presenter does NOT receive a confirming email within 24 hours, STFM has NOT successfully recorded the submission. If the principal presenter does NOT receive a confirming email, please contact Kay Frank, 1-800-274-7928, ext 5402, or email kfrank@stfm.org.

8. Check your input carefully. We do not modify, edit, spell check or otherwise change your input prior to sending your submission to our reviewers. If you notice something significant that must be changed after you have completed the submission process, please contact Ray Rosetta.

9. As part of the submission process, you will complete our online presenter disclosure form. If your submission is accepted, we will contact your additional presenters to have them also complete the online presenter disclosure form.

10. All presenters should be available to present during all dates of the conference.

11. Submissions must be entered on-line at www.stfm.org no later than September 13, 2010.

12. Presenters are limited to a maximum of three submissions to increase the number of individuals able to participate in the conference. Do not submit the same proposal for different session formats.

13. At least three Research Committee members will review each research submission. The number of submissions accepted is determined by quality, duplication of topic, and meeting space availability. All presentations will be evaluated on the following criteria:

- Originality
- Quality and clarity
- Organization (including timeline and objectives)
- Appropriateness to category
- Relevance to family medicine
- Creativity of presentation
- Project track record (duration and evaluation)
- Successful implementation

14. Proposals should use language that is listener sensitive, including gender neutral terms and avoidance of expressions that degrade participants and/or patients and families.

15. All presenters will be required to register for the conference and pay the applicable registration fee. Please advise co-presenters of this policy.



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44th STFM Annual Spring Conference Category: Completed Projects and Papers

Below is your personal information retrieved from our database. If any of this information is incorrect, please provide valid information.

Lead Presenter Information

(All correspondence will go to the lead presenter.)

****If your institution is not listed, please enter the correct name in the Program/Department text box.**

Please provide the following information. Required items are marked with an asterisk*.

In what order should this person's name be listed in the *Family Medicine* conference supplement issue?* ([Why Do We Need This?](#))

First Name:*

Middle Initial:

Last Name:*

Name Suffix:

Degree (no periods, eg MD):*

State Where You Work:

Company/Institution:

***If your Company/Institution is not in this list, please enter the correct name*

in the Program/Department box below.

Program/Department:

Street:*

City:*

State:*

Zip:*

Country:*

Phone (999-999-9999):*

Fax (999-999-9999):

E-mail:*

Have you submitted to this conference before?

Presenter Status:*

Presenter Bio Sketch:*

Max 125 words

Include Degree Granting

Institution;

Residency/Fellowship;

Licensure/Certification

(eg Social Worker, Psychologist);

State/Province where licensed

Are there additional presenters or authors?

YES

NO

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**44th STFM Annual Spring Conference
Category: Completed Projects and Papers**

Submission Information

Title of
Presentation:

(Maximum of 15 words and 255 characters, including spaces)

STFM will provide the following audio-visual equipment for each presentation (not including poster or breakfast presentations).

1. Laptop computer with Microsoft Office 2007 (includes a DVD drive)
2. Data projector
3. Projection Package (includes screen, projection cart and extension cord)

NOTE: If you have a video (VHS format), please plan to convert your presentation materials to DVD format. If you have 35-mm slides, please plan to convert your presentation materials to a PowerPoint presentation. If you have any questions or need additional information, please contact Ray Rosetta at STFM, 800-274-7928, ext. 5412, rosetta@stfm.org.

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44th STFM Annual Spring Conference Category: Completed Projects and Papers

Abstract Information

Abstract: (Maximum of 125 words)

You may cut and paste this information from any text document.

For instructions on how to cut and paste, [click here](#).

Organize your abstract as follows:

- Brief statement of the **objective** of the study
- Statement of the **methods** used; include number of subjects and other pertinent data; report the values and probabilities of statistical methods used;
- Summary of the **results** presented in sufficient detail to support your conclusions;
- Statement of the **conclusions** reached; it is not satisfactory to state, "The results will be discussed" or "Other data will be presented"

NOTE: Brand names of specific products cannot be used in presentation titles/abstracts. Substitute with generic references where needed.

Optional information if applicable

Should the attendance at this presentation be limited, what is the maximum number?

How long has this project or activity been in place?

Has this project or activity been evaluated?

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44th STFM Annual Spring Conference Category: Completed Projects and Papers

This conference requires that you match your submission to topics.

To assist the STFM Research Committee in determining and providing adequate coverage of information at the STFM Annual Spring Conference, please select a maximum of 3 of the following topic areas that relate most to your presentation.

CLINICAL

<input type="checkbox"/>	Adolescent Medicine
<input type="checkbox"/>	Behavioral Science
<input type="checkbox"/>	Chronic Illness
<input type="checkbox"/>	Community Medicine/COPC/Advocacy
<input type="checkbox"/>	Cross-cultural Issues
<input type="checkbox"/>	Death and Dying
<input type="checkbox"/>	Decision Making/Clinical
<input type="checkbox"/>	Dermatology
<input type="checkbox"/>	Disaster Medicine
<input type="checkbox"/>	Doctor-Patient Relationship
<input type="checkbox"/>	Ethics
<input type="checkbox"/>	Evidence-based Medicine/Informatics
<input type="checkbox"/>	Family Systems
<input type="checkbox"/>	Gay/Lesbian/Transexual Issues
<input type="checkbox"/>	Gender Issues
<input type="checkbox"/>	Geriatrics
<input type="checkbox"/>	HIV/AIDS
<input type="checkbox"/>	Home Visits/Nursing Home
<input type="checkbox"/>	Humanities
<input type="checkbox"/>	Inpatient Education
<input type="checkbox"/>	Integrative/Complementary/Alternative Medicine
<input type="checkbox"/>	International Issues
<input type="checkbox"/>	Leadership Development for Residents
<input type="checkbox"/>	Medical Errors
<input type="checkbox"/>	Medications

TEACHING

<input type="checkbox"/>	Adolescent Medicine
<input type="checkbox"/>	Behavioral Medicine
<input type="checkbox"/>	Chronic Illness
<input type="checkbox"/>	Community Medicine/COPC/Advocacy
<input type="checkbox"/>	Cross-cultural Issues
<input type="checkbox"/>	Death and Dying
<input type="checkbox"/>	Decision Making/Clinical
<input type="checkbox"/>	Dermatology
<input type="checkbox"/>	Disaster Medicine
<input type="checkbox"/>	Doctor-Patient Relationship
<input type="checkbox"/>	Ethics
<input type="checkbox"/>	Evidence-based Medicine/Informatics
<input type="checkbox"/>	Family Systems
<input type="checkbox"/>	Gay/Lesbian/Transexual Issues
<input type="checkbox"/>	Gender Issues
<input type="checkbox"/>	Geriatrics
<input type="checkbox"/>	HIV/AIDS
<input type="checkbox"/>	Home Visits/Nursing Home
<input type="checkbox"/>	Humanities
<input type="checkbox"/>	Inpatient Education
<input type="checkbox"/>	Integrative/Complementary/Alternative Medicine
<input type="checkbox"/>	International Issues
<input type="checkbox"/>	Leadership Development for Residents
<input type="checkbox"/>	Medical Errors
<input type="checkbox"/>	Medications

- Men's Health
- Minority Issues
- Nutrition
- Orientation to Residency
- Patient Education
- Perinatal Care
- Practice Management
- Practice-based Improvement (CQI)
- Preventive Health/Public Education
- Procedures
- Reproductive Health
- Research Methods
- Rural Medicine
- Sexuality
- Spirituality
- Sports Medicine
- Substance Abuse
- Teaching Skills for Residents
- Underserved Care
- Violence
- Well-being
- Women's Health

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- Reproductive Health
- Research Methods
- Rural Medicine
- Sexuality
- Spirituality
- Sports Medicine
- Substance Abuse
- Teaching Skills for Residents
- Underserved Care
- Violence
- Well-being
- Women's Health

FACULTY AND PROGRAM ISSUES

Administration/Leadership Skills

- Budget Development/Management
- Career Planning/Promotion
- Evaluation of Faculty/Staff
- Faculty Recruitment/Retention
- Funding (eg, Title VII)
- Impaired/Difficult Learners
- Leadership Skills
- Managed Care
- Program Evaluation
- Residency Program Administration
- Strategic Planning/Program Design
- Student Recruitment/Match Issues
- Team Building
- Time Management

RESEARCH SKILLS

Teaching/Evaluation

- Advising and Mentoring
- Community Preceptor Training
- Competency Assessment (ACGME, Procedures)

Use of Technology

- Electronic Medical Records
- PDA/Handhelds
- Web Use/Internet

RESEARCH TOPICS

Teaching/Evaluation

- Advising and Mentoring
- Community Preceptor Training
- Competency Assessment (ACGME, procedures)
- Curriculum Development
- Evaluation Skills/Giving Feedback
- Teaching Skills (eg, lecturing, small groups)

Curriculum Development

Evaluation Skills/Giving Feedback

Written Communication

Grant Writing/Reviewing

Writing a Successful Submission

Writing for Publication/Presentation

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Proposal Information

Please note there is a limit of 5,000 characters (including spaces) for each input field below.
This category requires a proposal. Please fill out the following form:

Enter below a 300-word or less extended abstract. This extended abstract will be used by the reviewers to evaluate your proposal. The previous shorter abstract you provided will be published in the conference brochure should your proposal be accepted.

[Follow these instructions for how to format the abstract.](#)

Extended Abstract 300-word or 5,000 character limit (whichever comes first)

0 / 5000 Max Chars

References to support presentation (optional, up to 10)

Format:

Journal: Author, Title, Journal, Year, Volume, Issue and Pages

Book: Author, Title, Year, City, Publisher, [page-optional]

0 / 5000 Max Chars

You have the option to submit a full paper to be considered for the honor of Distinguished Paper—for this option, submit a paper that is four single-spaced pages, not including figures, tables, and references.

SUBMISSION OF PROPOSAL

Upload your proposal here (Word or PDF format ONLY) using the Browse button below. Then press "Complete Disclosure" to upload the proposal and finish your submission.

Click on the Complete Disclosure button to go to the on-line disclosure form. All presenters are required to complete a disclosure form. Your submission will not be processed if you do not complete the disclosure form.

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ABSTRACT FORMAT FOR RESEARCH PAPERS AND POSTERS

Context: The abstract should begin with a sentence or two summarizing the rationale for the study, providing the clinical (or other) reason for the study question. In addition, the author should give a sentence or two about the importance of this work to family medicine/primary care.

Objective: State the objective or study question addressed (eg, to determine whether...). If more than one objective is addressed, the main objective should be indicated and only key secondary objectives stated.

Design: Describe the basic design of the study. Use descriptors such as double blind, placebo controlled RCT, cohort, case control, survey, case series, cost-effectiveness analysis, or qualitative study. For new analyses of existing data sets (secondary data analysis), the data set should be named and the basic study design disclosed.

Setting: Describe the study setting(s) such as general community, a primary care or referral center, private or institutional practice, or ambulatory or hospitalized care.

Patients or Other Participants: State the important eligibility (inclusion and exclusion) criteria and key sociodemographic features of patients. Provide numbers of participants and how they were selected.

Intervention/Instrument (as pertinent): Describe the essential features of any interventions. The intervention should be named by its most common clinical name (eg, the nonproprietary drug name propranolol).

Main and Secondary Outcome Measures (if any): Give the primary study outcome measurements. Measurements that require explanation for a general medical readership should be defined.

Results: Give the main results of the study. The results should be quantified, including confidence intervals (eg, 95%) or *P* values where appropriate. If research is in progress, state anticipated results.

Conclusions: Report only those conclusions of the study that are directly supported by the evidence, along with any implications for clinical practice. Avoid speculation and overgeneralization. Equal emphasis should be given to positive and negative findings of equal scientific merit. If research is in progress, state methodological or conceptual problem that is being posed.

Note: For brevity, parts of the abstract should be written in phrases rather than complete sentences. (eg, "Design: Double-blind randomized trial," rather than "Design: The study was conducted as a double-blind, randomized trial.")

Review Criteria

Review Criteria: At least three STFM Committee members will review each submission. Submissions will be evaluated on one or more of the following criteria (depending on the submission category), using a 5-point Likert scale where 1 =Poor, 3=Good, and 5 = Outstanding.

Importance: the rationale or background statement makes clear the usefulness of the content to family medicine education.

Clarity and Organization: the proposal contains well-structured sentences and paragraphs that clearly and logically relate to the proposed session's purpose; the proposal follows recommended guidelines; the proposal avoids the use of jargon.

Quality of Assessment Methods: evaluation is outcome-oriented, i.e., reports impact of the program or intervention on the knowledge, attitudes and/or skills of program participants; or, conveys a well thought-out evaluation approach, if the project is still in progress.

Interactive Format: the proposal describes how session participants will discuss, try out or test ideas presented.

Skill-Oriented: the proposal describes, in behavioral terms, specific skills to be acquired by session participants.

Innovation/ Originality: the proposal adds to or expands existing knowledge or skills.

Likelihood of Acceptance: Moderate

REVIEW CRITERIA

Key: 1=lowest score, minimal; 10=highest score, maximum

Quality of the research question	1-	2-	3-	4-	5-	6-	7-	8-	9-	10-
Appropriateness of study design	1-	2-	3-	4-	5-	6-	7-	8-	9-	10-
Strength of analytic methods	1-	2-	3-	4-	5-	6-	7-	8-	9-	10-
Validity and appropriateness of conclusions	1-	2-	3-	4-	5-	6-	7-	8-	9-	10-
Level of innovation	1-	2-	3-	4-	5-	6-	7-	8-	9-	10-
Relevance to family medicine	1-	2-	3-	4-	5-	6-	7-	8-	9-	10-
How well written?	1-	2-	3-	4-	5-	6-	7-	8-	9-	10-

1- 2- 3- 4- 5- 6- 7- 8- 9- 10-
Addresses Meeting Priority Area _____ Yes

Submission Example

Presentation Title: NIH Funding in Family Medicine: An Analysis of 2003 Awards

Current Category: Research Forum

Abstract:

Objectives: This study's objective was to analyze National Institutes of Health (NIH) awards in family medicine. **Methods:** We analyzed the 2003 NIH awards in family medicine, including information from the Internet regarding each PI and whether or not they primarily worked in a core (central) organizational structure within family medicine. **Results:** Most awards (61%, 89/146) went to PIs who were not full-time family medicine faculty primarily working in family medicine departments or were not in core family medicine structures. Few awards to physician PIs in these non-core areas were to family physicians (4/37, 11%), while most awards to physician PIs in core areas went to family physicians (40/45, 89%). **Conclusions:** Most NIH awards to family medicine departments went to PIs in atypical administrative structures, where most physician PIs were not family physicians.

[Purpose: To provide a format for podium presentation and discussion of completed original research. Research forums are reviewed by the STFM Research Committee. We encourage research submissions on education, process of care, and patient-oriented outcomes. All content and methods will be considered. Selection is based on quality and on content clusters. Please do not submit works in progress or work that has been published prior to submission deadlines. The Research Committee will select two especially outstanding research forum proposals for presentation as Distinguished Papers. They will be grouped together in a special highlighted session with additional time allocated for their presentation and discussion.]

[Time: 20 minutes (12 minutes for presentation, 8 minutes for discussion facilitated by a moderator with research expertise selected by the Research Committee)]

[Research forum proposal is limited to four single-spaced pages, not including figures, tables, and references. Use "IMRAD" paper format (introduction, methods, results, and discussion).]

NIH Funding in Family Medicine: An Analysis of 2003 Awards. Howard K. Rabinowitz MD, Julie A. Becker PhD, MPH, Naomi D. Gregory BA, Richard C. Wender MD

INTRODUCTION

During the past 3 decades, departments of family medicine have made substantial contributions within US medical schools, especially in the areas of clinical care and education. However, family medicine has yet to achieve parity with many other academic departments regarding research.¹⁻⁶ This is especially true regarding NIH funded research, which remains the major research yardstick for most schools.⁷ Currently, the major data source reporting NIH funding to family medicine departments is the yearly report, "NIH Extramural Awards to Medical School Departments" – which

ranks all academic departments. However, data in this report, which ranks medical school departments by dollar amount awarded, are minimal.

Similar to most other clinical academic departments, the central or core structure of family medicine departments consists of full time faculty working in family medicine educational, clinical, and research areas (which may or may not be organized into formal sections or divisions). Perhaps more than in many other departments, however, research in family medicine is also done by faculty with relationships, and in administrative structures, that vary widely and take place outside these essential core areas. This is often related to the distinctive history of the department, faculty interests, and the local environment – and includes: faculty who are not full-time or work outside the university; those who work in areas outside of the family medicine department but whose academic faculty appointment is in family medicine; and those who work in an area which is located within a department of family medicine in their own medical school, but which is not administratively located within family medicine at most other schools. As these atypical relationships and structures are generally considered not to be part of the essential core component of an academic family medicine department, we have described them as non-core.

In order to learn more about NIH funding awarded to departments of family medicine, including the degree to which NIH family medicine research is carried out in core or non-core administrative structures, we undertook a study to analyze the 2003 annual report of “NIH Extramural Awards to Medical School Departments.” We also felt that learning more about recent NIH funding of family medicine departments could provide important information for all family medicine academic departments that are interested in increasing their NIH funded research.

METHODS

We obtained from the NIH a list of all 127 individual awards to departments of family medicine in 2003. For each grant, data included the: name, city, and state of the medical school; grant number; NIH funding institute; name of the principal investigator (PI); grant project title; and dollar amount of the award (which we then rounded to the nearest thousand dollar).

As a result of discussions with other family medicine researchers, we became aware that a small number of medical schools had a policy of reporting their research awards for family medicine departments under the NIH listing for ‘Departments of Public Health and Preventive Medicine.’ As a result, we also obtained from the NIH the list of similar data for all NIH awards for these departments. In order to determine which of these awards might more appropriately be classified with departments of family medicine, we reviewed all 501 grants and searched their respective medical school internet sites to determine the faculty appointments for each PI listed. We identified 23 grants where the PI had a faculty appointment in a department with the words “family medicine” in its name. We then determined if any of these PIs had their primary faculty appointment in either a Department of Preventive Medicine or a Department or School of Public Health. Having identified and excluded 1 such individual with such an appointment, we then added all of the available data for the remaining 22 awards to our original list of 127 NIH awards to departments of family medicine.

Next, 2 of the authors (HKR and NDG) independently searched the Internet to obtain additional information for each of the PIs listed on this revised list of 149 awards to family medicine departments. For each PI, 3 searches were conducted: first on the Internet search engine Google; second on the home page of the PI's medical school; and finally within the home page of the family medicine department in the respective medical school. Information for each PI obtained from these searches included their academic degrees, and all faculty appointments, including academic rank and departments. For each PI with a medical degree, their medical specialties were also obtained from the American Board of Medical Specialties (ABMS) web site.

In addition, for each PI, an attempt was made to identify the structural area where they appeared to primarily work, using the web sites, work address, email address, etc. We dichotomized each PI into those working in a core structural area of a family medicine department vs. a non-core location. PIs were considered to be in non-core structural areas if they were not primarily working at the medical school; or were not on the full time faculty; or did not have their primary academic appointment in the family medicine department; or primarily worked in a university center or structure that was administratively not within the department of family medicine; or primarily worked within the family medicine departmental structure, but in an administrative structure (either formal or not) that (1) was not a central component of family medicine departments (i.e. not focused on family medicine education, clinical care, or research) and not administratively located within family medicine at most other schools, (2) included multiple individuals, and (3) served as a resource for the larger medical school or university.

Conversely, PIs were deemed to be working in core structural areas if they: were full-time faculty working primarily at the medical school; had their primary academic appointment in a department of family medicine; and primarily worked within a structural component within a department of family medicine that was (1) part of the central components of family medicine departments; and which (2) primarily served as a resource for the department of family medicine. In some instances, PIs who principally worked in a core area also spent substantial time in a non-core administrative area.

All data was entered into an Excel spreadsheet and analyzed descriptively. Because we analyzed the entire dataset of NIH awards to family medicine departments in 2003, inferential statistics were not needed.

RESULTS

In 2003, there were 149 NIH grants awarded to 45 of the 113 (40%) departments of family medicine in US medical schools, for a total of \$60,085,000. The 7 medical schools with the largest amount of NIH funding in family medicine (more than \$2 million each) were awarded almost half of all grants (44%, 65/149), and 56% of all awarded dollars (\$33,771,000) (Figure 1). Overall, 8 NIH institutes were responsible for providing 82% of all awards (122); the National Cancer Institute (NCI) was the largest source of grant funding, awarding 28% of all awards (41). (Table 1). Seventy-two percent of all awards (108) were for R (research project) awards, and 15% (23) were for K (research career programs) awards (Table 2) Overall, R01 awards were the most common specific type of award, representing 44% of all awards (66).

Of the 149 NIH awards, 3 which were awarded as part of the Women's Health Initiative did not list any information regarding a PI, and were not considered in any further analyses. The remaining 146 grants (\$57,107,000) were awarded to 109 different PIs. Of these awards, almost half (63, 43%) went to PIs with non-medical doctoral degrees; slightly more than half went to PIs with a medical degree (82, 56%), with more than 2/3 of these (58) going to physician PIs who also had another advanced degree (Table 3). Of awards to physician PIs, however, only about half went to family physicians (44; 54%) (Table 4).

Dichotomizing all 146 awards into whether or not the PI appeared to be working primarily in a core administrative structure of a department of family medicine showed that 57 awards (39%) went to PIs in core areas (Figure 2), accounting for 30% of awarded dollars (\$17,257,000). This included 13 awards where the PI also spent substantial time working in a university structure which was outside of the family medicine department (e.g. cancer center, health services research center). Eighty-nine awards were to PIs in non-core administrative structural areas, including 3 to PIs who were not primarily working at the university, 12 to PIs working at the university but who were not on the full-time faculty, and 37 to PIs whose primary academic appointment was either not in family medicine or they were primarily working in a structural unit not located within the department (e.g. a university cancer center, health services research center, dean's office). In addition, 37 awards were to PIs who were primarily working within a department of family medicine, but were classified as being in a non-core structure because the area they worked was not a central nor typical component of family medicine departments, included multiple people, and served the university wide community (e.g. divisions, units, or centers devoted entirely to nutrition, infection, global health, human sexuality, epidemiology, biostatistics, health services research, or an MPH program).

Of awards to PIs working in core areas, the PIs were almost twice as likely to be physicians as those in non-core areas (79%, 45/57 vs. 42%, 37/89) (Figure 3). And of awards to PIs who were physicians, the vast majority working in core structural areas of family medicine departments were family physicians (40/45, 89%), while very few awards to physician PIs in non-core areas went to family physicians (4/37, 11%) (Figure 3). Among the 7 departments with the largest amount of NIH funding, almost all of the awards went to PIs who were in non-core family medicine administrative structures (92%, 59/64). However, only 17% of those to physician PIs went to family physicians (6/35).

Looking specifically at R01 awards, which represented 57% of all dollars awarded (\$34,001,000), the pattern was similar. In almost 2/3 of awards, PIs were working in non-core areas (43/66, 65%) (Figure 2). Overall, most of the awards to PIs who were in core areas were to physicians (18/23, 78%), compared with 16/43 (37%) in non-core areas. And almost all awards to physician PIs in core areas were to family physicians (16/18, 89%), while almost none in non-core areas went to family physicians (1/16, 6%).

In contrast, the pattern regarding K awards was reversed, with most K awards going to PIs in core areas (83%, 19/23) (Figure 2). Most of these career awards (18/23, 78%) went to physicians, and 17/18 of these were to family physicians (94%). Overall, the 23 K awards were granted to family medicine departments in 16 different medical

schools, 12 of which (75%) also received another NIH award; 9 of these included at least 1 R01 grant. For the 5 departments with more than 1 K award, all had at least 1 other NIH award, and for 4 of them (80%) this included an R01 grant.

DISCUSSION

Despite a highly successful 35 year history, the academic discipline of family medicine continues to struggle with its research productivity and funding, including NIH support.^{1-3,5} This study analyzed the NIH awards to departments of family medicine in 2003. It showed that most awards are for R01 and K type grants, with the largest number funded through the National Cancer Institute. Almost one-half of all awards went to non-physicians with doctoral degrees, representing a critically important resource for family medicine research. Of physician PIs, 2/3 also had another advanced degree, usually a PhD or MPH degree. Surprisingly, however, only half of all grants to physician PIs were to family physicians. Of even greater concern, the total number of R01 grants in the entire country that were awarded to family physicians was only 17; there were another 17 K awards to PIs who were family physicians.

This study also showed that the large majority of NIH funding to family medicine departments (almost 2/3 of awards, representing 71% of dollars) goes to PIs who primarily work in non-core administrative structures – either those who are not working full time in departments of family medicine, or who primarily work within structural areas within family medicine that represent large, university-wide divisions, centers, or areas that are not central to most family medicine departments. PIs in these non-core areas are less likely to be physicians than those in core areas, and physician PIs in these areas are much less likely to be family physicians. This pattern was similar for grants awarded to PIs who receive the most sought after type of grant, the R01. On the other hand, most K grants were awarded to PIs in core locations, and most to family physicians. In addition, most K awards went to family medicine departments that also have another NIH grant, usually an R01, a pattern which is even stronger for those departments that have more than one K award.

This study had a number of limitations. First, using the Internet to obtain data regarding PIs might not always be accurate, nor is it always clearly defined, especially regarding the location where faculty primarily work. In addition, institutional and departmental web sites might not consistently reflect updated information. Also, our definitions of what constitutes core and non-core administrative structures might not be universally accepted. Others might also differ regarding how we dichotomized PIs into these areas, although we believe that our methodology resulted in a clear and commonly accepted designation in almost all instances. Our study also analyzed NIH grants from only 1 year, and the results may therefore not be generalizable to other time periods.

Finally, we think that the outcomes of this analysis provide family medicine chairs and faculty with 4 different patterns that could serve as important models for increasing NIH research awards to family medicine departments. First, individual family medicine faculty in core structures of family medicine departments can develop their own areas of research and obtain NIH funding. Second, young investigators working in core family medicine areas can obtain K awards, although the need for mentors will often require that departments usually have other NIH funded researchers. A third model appears to be for family medicine faculty to spend substantial amounts of time in non-core areas that can provide important research infrastructures (e.g. university based health

services research center), while maintaining their primary work location in their department. And finally, the fourth and most common model is for family medicine departments to integrate faculty or large, university wide, divisions, centers, or other structures which are not usually included in most family medicine administrative structures.

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Table 1: Number of NIH Awards and Value of Awards to Departments of Family Medicine, by NIH Institute, 2003

<u>NIH Institute*</u>	<u>Number of Awards (%)</u>		<u>Value of Awards (%)</u>	
NCI	41	(28)	\$17,230,000	(29)
NHLBI	13	(9)	4,388,000	(7)
NIDA	13	(9)	5,081,000	(8)
NIMH	13	(9)	2,950,000	(5)
NCCAM	12	(8)	4,916,000	(8)
NIDDK	11	(7)	4,937,000	(8)
NIA	10	(7)	3,341,000	(6)
NICHD	9	(6)	2,283,000	(4)
FIC	4	(3)	270,000	(<1)
NIAAA	4	(3)	1,295,000	(2)
NIAMS	4	(3)	4,013,000	(7)
NIEHS	3	(2)	938,000	(2)
WH	3	(2)	2,978,000	(5)
NCRR	2	(1)	793,000	(1)
NINDS	2	(1)	1,613,000	(3)

NLM	2	(1)	388,000	(1)
NCMHD	1	(1)	1,259,000	(2)
NHGRI	1	(1)	75,000	(<1)
<u>NIAID</u>	<u>1</u>	<u>(1)</u>	<u>1,338,000</u>	<u>(2)</u>
Total	149		\$60,085,000	

*NCI denotes the National Cancer Institute, NHLBI the National Heart, Lung, and Blood Institute, NIDA the National Institute on Drug Abuse, NIMH the National Institute of Mental Health, NCCAM the National Center for Complementary and Alternative Medicine, NIDDK the National Institute of Diabetes and Digestive and Kidney Diseases, NIA the National Institute on Aging, NICHD the National Institute of Child Health and Human Development, FIC the John E. Fogarty International Center, NIAAA the National Institute on Alcohol Abuse and Alcoholism, NIAMS the National Institute of Arthritis and Musculoskeletal and Skin Diseases, NIEHS the National Institute of Environmental Health Sciences, WH the Women's Health, NCRR the National Center for Research Resources, NINDS the National Institute of Neurological Disorders and Stroke, NLM the National Library of Medicine, NCMHD the National Center on Minority Health and Health Disparities, NHGRI the National Human Genome Research Institute, and NIAID the National Institute of Allergy and Infectious Diseases.

