

New & noteworthy

Updates on activities in the profession

Research development at the University of Health Sciences College of Osteopathic Medicine

Breathing life into osteopathic research

Over the years, several articles in this journal have called on faculty at colleges of osteopathic medicine to conduct more clinical research. Among the authors who have expressed such sentiments are Gilbert E. D'Alonzo, DO (1987), Douglas L. Wood, DO, PhD (1997), Thomas Yorio, PhD (1999), and Felix J. Rogers, DO, and Michael J. Dyer, JD (2000).

Their concerns about the dearth of osteopathic medical research have been justified. Moreover, rapid advances in technology and medicine are making the need for clinical research at academic medical centers even more profound, as the Task Force on Clinical Research of the Association of American Medical Colleges (AAMC) noted in a 1999 report, "For the Health of the Public: Ensuring the Future of Clinical Research."

The University of Health Sciences College of Osteopathic Medicine (UHS-COM) in Kansas City, Missouri, has been developing research infrastructure and research programs over the past 2 years to help address this issue. This has been a systematic effort, made possible by establishing research as a priority through university-wide strategic planning. Research development has focused on development of administrative infrastructure, faculty development in research, and obtaining external (extramural) funding.

As a result of this effort, UHS-COM has recruited two National Institutes of Health-funded basic science researchers and obtained grant funding from the Centers for Disease Control and Prevention for clinical research. Since beginning the process of research development, UHS-COM has brought in external funding totaling more than \$1.5 million. This funding has increased institutional revenue from salary recapture and indirect funds. These funds serve as a valuable source of additional revenue in a time of constrained resources.

It is to be hoped that the process we have undergone will serve as a model that can be used to aid other colleges of osteopathic medicine that want to increase research activities.

Creating the research game plan

The University of Health Sciences began university-wide strategic planning in 1996. The university undertook this process to determine the fundamental underpinnings of the institution, such as its mission and its goals, and to create a roadmap to the future. Faculty and administration prioritized strategic initiatives that would determine funding priorities for the upcoming years. As a result, research development was given new and increased emphasis at UHS-COM, and President Karen L. Pletz, JD, appointed the



From left to right: Keith Roberts, PhD, Director of Sponsored Programs, UHS; Glynnda M. Sharp, MHA, Director of Operations, UHS; V. James Guillory, DO, MPH, Associate Dean of Research, UHS

Research and Scholarly Activities Task Force to address the research needs of the university.

The task force was composed of faculty members from several departments to ensure broad-based consensus regarding the needs for research development at the university. The chairman of the task force was chosen because he was a champion of research and because of his ability to develop group consensus—he played a critical role in the process. The task force used Bland and Ruffin's article, "Characteristics of a Productive Research Environment: Literature Review" (*Acad Med* 1992; 67:385-397), as a model for establishing the university's needs. The article lists 12 essential components of a productive research environment (Figure 1). The task force determined which of these components were already in place and which ones were needed, then made recommendations to the president of the university. The first priority was to establish an administrative unit capable of developing research infrastructure.

Building bridges to success

The Division of Research was established as an administrative

unit in UHS-COM. This unit required a leader in the university who could ensure adequate allocation of resources to achieve the goals and objectives necessary to develop research. To this end, the university chose an associate dean of research to be responsible for all activities related to development of research and research infrastructure at the university.

- Clear coordinating goals
- Research emphasis
- Distinctive culture
- Positive group climate
- Assertive participative governance
- Decentralized organization
- Frequent communication
- Accessible resources, particularly human
- Sufficient age, size, and diversity of the research group
- Appropriate rewards
- Concentration on recruitment and selection
- Leadership with research expertise and appropriate skills in organizational leadership

Adapted from Bland CJ, Ruffin MT. Characteristics of a productive research environment: literature review. *Acad Med* 1992;67:385-397.

Figure 1. Characteristics of a productive research environment

In addition, the university hired a director of sponsored programs to oversee all activities related to grant funding—choosing an individual with more than 10 years of research experience and a history of extensive National Science Foundation funding and grant peer review experience. This director's role is an extremely important one, as the person in this position monitors all grant activity and acts as a liaison between the Division of Research and the Division of Finance—as well as all other departments—in all grant-related activities.

Other new positions included a director of operations and a director of clinical research. The former was charged with managing day-to-day operations and administrative staff of the Division of Research, while the latter was charged with educating faculty and overseeing the development of clinical trials.

Initial planning focused on the administrative structure and personnel needs of the Division of Research. After hiring appropriate personnel, the planning focus shifted to the needs of the university. Among the priorities addressed were methods to enable existing and new faculty to enhance their research knowledge and skills, ways to ensure adequate patients and data for research purposes, means of recruiting new research-oriented faculty, and mechanisms to sustain funding for research activities. A time line was developed to address these issues (Figure 2). The long-term goal is to have at least half of the faculty spending at least half of their time doing extramurally funded research.

Faculty, funding, and beyond

For research efforts to be successful, of course, faculty must have the knowledge, attitudes, and skills necessary to conduct meaningful research. In our current environment of constrained

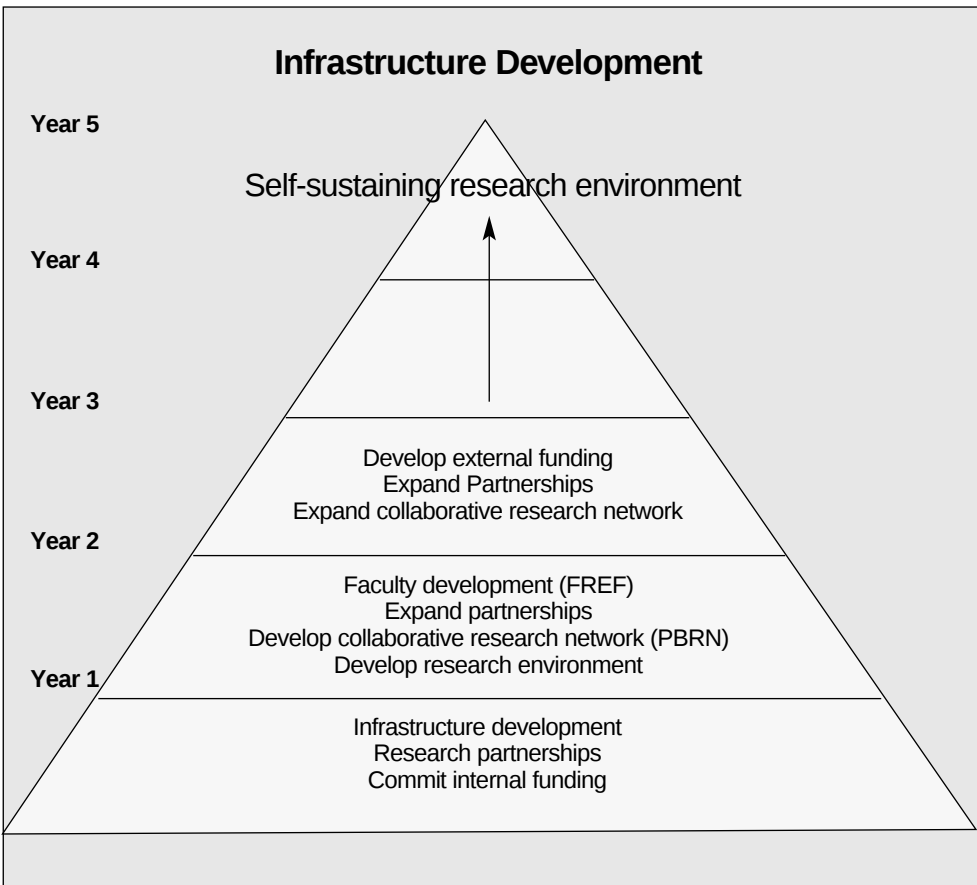


Figure 2. Infrastructure development time line

resources, however, *meaningful* is often synonymous with *fundable*. Thus, faculty must be able to identify research agendas that are important to funding agencies.

Therefore, faculty members who are to be involved in research must have knowledge of current research methodologies and need to understand current trends in fundable research. Such faculty knowledge can be increased through faculty development related to research. The Division of Research established three faculty development activities, including research grand rounds, a faculty research enrichment fellowship (Figure 3), and a faculty seminar and workshop series in research.

Along with faculty needs, however, there is also the issue of finances. Medical schools have limited capacity to fund research internally. However, a substantial portion of clinical research has historically been funded through real-

location of clinical income, as Meyer and colleagues noted (*Proceedings of the Association of American Physicians* 1998;110: 513-520). Medical schools typically receive most of their external funding for research, however, from the NIH. Approximately half of all NIH research grants are awarded to medical schools, according to the report "NIH Extramural Trends: Fiscal Years 1986-1994." Successful research programs must ultimately focus on extramural funding for most research activities. However, before faculty researchers can obtain funding from extramural sources, they usually must establish a track record in research and grant management. Internal funding from the researcher's university is often used to obtain pilot data and to establish a research history.

As part of a strong commitment to developing a program of extramurally funded research, UHS-COM allocated internal research

start-up funds. This enables faculty to establish a track record of managing research funds; it also provides a mechanism to enable nascent researchers to obtain pilot data necessary for publishing in peer-reviewed journals and to leverage extramural funding. At UHS-COM, internal research start-up funds are distributed to faculty members through a competitive peer-reviewed grant proposal process conducted by the Grant Peer Review Panel (PRP).

The PRP is a committee of faculty members charged with reviewing research proposals and making suggestions to enhance a researcher's ability to obtain funding from internal and external sources. This mechanism of internal review of research proposals was recommended by Meyer and colleagues in the aforementioned article. The associate dean for research chairs the PRP. A rating system has been developed to

■ Program objectives

- ☐ Develop faculty ability to conduct epidemiologic studies.
- ☐ Develop faculty research mentors.
- ☐ Develop fundable research proposals for each participant.
- ☐ Increase research activities at UHS-COM and community training sites.

■ Training objectives

- ☐ Increase faculty knowledge and skills in research methods and design.
- ☐ Increase the research activities of UHS-COM faculty and staff, Medical Education Consortium (MEDCON) preceptors, and other community-based practitioners associated with UHS-COM and its practice-based research network.
- ☐ Develop the long-term research capacity of UHS-COM by training participants to be research investigators.
- ☐ Create a group of UHS-COM faculty who can train others in research design and methodology independently of outside consultants.

Figure 3. Objectives of the Faculty Research Enrichment Fellowship.

score grants based on NIH funding guidelines (available at: <http://grants.nih.gov/grants/guide/notice-files/not97-010>). The PRP meets regularly to review all research proposals requiring funding.

Taking it to the next level

Research activities of academic medical centers have expanded far beyond the basic biomedical sciences and include multiple areas of clinical and epidemiologic research. Clinical research has been defined in multiple journals and monographs and, as noted earlier, the need for clinical research has been comprehensively addressed in a report by the

AAMC's Task Force on Clinical Research.

To facilitate clinical research activities, UHS-COM has begun developing a practice-based research network (PBRN). PBRNs are collaborative research networks that link academic medical centers with community practitioners. These networks enable an academic medical center to accomplish its mission of education, delivery of healthcare services, and research by forming partnerships with practicing physicians. Such networks enable physicians to conduct research that addresses topics related to primary care in a systematic manner, while being supported by the infrastructure and resources of an academic medical center. The advantages of such arrangements were noted by Nutting (*J Fam Pract* 1990;31:633-635). A PBRN between UHS-COM and its affiliated training sites allows a unique opportunity to accomplish research projects in the communities in which our clinicians serve, which are predominantly rural. A PBRN will strengthen the relationship between UHS-COM and its partners and enhance the quality of osteopathic medical education, while allowing community-based preceptors to participate in research activities.

The president of the University of Health Sciences and the associate dean for research have actively worked to develop other collaborative relationships throughout the Kansas City area. The university has, for example, established formal research collaborative relationships with the Stowers Institute for Medical Research and the Midwest Research Institute. These relationships provide a formal mechanism through which resources for research can be shared among institutional partners.

Through the Department of Preventive Medicine, strong linkages have been formed with local and state health departments, enabling the university and these health departments to develop

research programs that will enhance the health of various communities.

Support from the Kansas City community has been strengthened by having an External Advisory Committee to the Division of Research. This committee uses the expertise of established researchers from other institutions in Kansas City, from the NIH, and from the University of South Carolina School of Public Health as consultants to guide research development.

These kinds of partnerships, along with a conscious commitment to research by the University of Health Sciences, will benefit not only UHS-COM but also the osteopathic medical profession and, ideally, the clinical research community

at large. The program and policies described here represent an example of what can be done. It is to be hoped that more of our osteopathic medical colleges will pursue similar—or better—means of encouraging, nourishing, and advancing research among faculty.

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