The Benefits and Challenges of Research Centers and Institutes in Academic Medicine: Findings from Six Universities and Their Medical Schools
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Abstract

Purpose
To understand the benefits and challenges of using centers and institutes in the academic research enterprise, and to explore institutional strategies that capitalize on the strengths and ameliorate the weaknesses of the center/institute structure.

Method
Using a qualitative research design, the author and associates interviewed over 150 faculty members and administrators at six medical schools and their parent universities in 2004. Interview data were transcribed, coded, and analyzed using a grounded theory approach. This methodology generated rich descriptions and explanations of the six institutions, which can produce extrapolations to, but not necessarily findings that are generalizable to, other institutions and settings.

Results
Centers and institutes offer a number of benefits to academic institutions. Centers can aid in faculty recruitment and retention, facilitate collaboration in research, secure research resources, offer a sense of community and promote continued learning, afford organizational flexibility, and focus on societal problems and raise funds. Despite their many benefits, centers can also create tensions and present management challenges to institutional leaders. Centers can compete with departments over resources, complicate faculty recruitment, contribute to a fragmented mission, resist effective evaluation, pose governance problems, and impede junior faculty development.

Conclusions
Institutional leaders might capitalize on the strengths of centers through three strategies: (1) reward leaders who embrace a collaborative point of view and develop a culture that frowns upon empire building; (2) distinguish among the many entities that share the “center” or “institute” labels; and (3) acknowledge that departments must maintain their place in the organizational milieu.

Big science changes things. The older style of an individual PI with a couple of R01’s doing a particular project over a 20-year period is gone, or at least going, because of the tremendous resources, both in terms of expertise and in terms of equipment. At one time, you could have a person sitting in the basement in some little lab crank out incredibly great research. Not anymore.

—Associate dean of research at a top-20 research-intensive medical school

In the current era of scientific research, biology, medicine, engineering, and other disciplines are converging, often in surprising ways. Recent studies and reports have concluded that the science environment, academic leaders, scientists, and policymakers have adopted a mantra of interdisciplinary research and team science.

Traditionally, biomedical research has been structured as a “little science,” a “small family business,” or a “cottage industry” in which an individual faculty member leads a small group of graduate students, post-docs, and technicians in conducting hypothesis-driven experiments at the lab bench. With the development of methods to clone and sequence DNA, however, biology has become an information science, producing massive quantities of data, giving rise to new disciplines such as computational biology, and demanding the expertise and input of mathematicians, physicists, computer scientists, engineers, and others. These scientific and technological advancements require collaborative, team-based approaches to research to complement the traditional small-scale paradigm in which many researchers operate. As an example, the National Institute of Health’s (NIH’s) recent Roadmap for Medical Research states that medical schools and universities need to develop collaborative teams in addition to fostering the work of individual scientists.

Most medical schools and universities across the spectrum of research intensity increasingly use biomedical research centers and institutes to organize and facilitate scientific investigations. A previous study demonstrated that while research centers and institutes vary widely in their organization, resources, and functions, they are more interdisciplinary than a generation ago, as measured both by the number of departments involved in center activities and the ways in which investigators interact.

While academic medicine may turn to research centers and institutes as a means to facilitate interdisciplinary work and team science, recent scholarship on these units, in biomedical settings or elsewhere, has not examined how they actually operate. What are the benefits of using centers and institutes in the academic research enterprise? What management challenges do they inspire? This report focuses on these important concerns.

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**Method**

This study used a qualitative research design to understand the benefits and challenges of research centers and institutes in academic medicine settings. Qualitative methods are appropriate for exploratory studies that require in-depth analysis to answer "how" and "why" questions. Qualitative research assumes that there are multiple realities of human phenomena that require interpretation rather than measurement.

**Participants**

Six universities and their medical schools were studied: Case Western Reserve University; Stanford University; University of Alabama at Birmingham; University of California, San Francisco; University of Michigan; and University of North Carolina at Chapel Hill. The research team, which I led, selected these institutions purposely; each institution either had a large number of research centers or it had one center in particular that was especially prominent and broad-based. The medical school dean at each institution agreed to participate in the study.

A primary contact—usually the associate dean of research—assisted the research team in scheduling interviews with a range of faculty and administrators at each institution, including university presidents, provosts, medical school deans, associate deans, department chairs, center directors, and faculty members. Over 150 people participated in the site visit interviews, which occurred in Spring 2004 (Table 1). The two- or three-person research team used semistructured in-depth interviews to understand the participants' perspectives of the organizational and management issues surrounding the creation and use of centers as mechanisms to facilitate and conduct research. Interviews were audio-recorded and later transcribed for analysis.

**Analysis**

To analyze the data, I used grounded theory, an approach to build explanations and understanding as analytical categories emerge from the data. I read the 600 pages of interview data several times to develop coding strategies and categories and identify "recurring regularities." I compiled codes and categories into meta-codes, collapsing and combining data elements. These codes and meta-codes were entered into an Excel database, in which I could sort and manipulate codes by interview category or coding category.

**Trustworthiness**

Qualitative research does not produce generalizable findings that are statistical and probabilistic, as do quantitative methods. Rather, the purpose of this study is to offer rich descriptions and explanations, which can produce extrapolations to other institutions and settings. Whether this study’s findings apply to other medical schools and universities is up to the people in those institutions. This article uses quotations from the interviews to illustrate and explicate research findings, but participants are not identified by name or institution to protect their confidentiality.

**Results**

The benefits of research centers in academic medicine

We have a lot of them, so they must perform some function.

—Medical school dean

An analysis of the extensive interviews conducted for this study identified several common reasons why medical schools and universities create research centers and institutes:

- to aid in faculty recruitment and retention,

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**Table 1**

**Number of Participants in a Study of Research Centers and Institutes at Six U.S. Universities and their Medical Schools, by Institutional Position, 2004**

<table>
<thead>
<tr>
<th>Position</th>
<th>Case Western Reserve University</th>
<th>University of Michigan</th>
<th>Stanford University</th>
<th>University of Alabama</th>
<th>University of California, San Francisco</th>
<th>Univ. of North Carolina at Chapel Hill</th>
</tr>
</thead>
<tbody>
<tr>
<td>President/Chancellor</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Provost/University vice president</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Medical school dean</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Principal business officer/staff</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Vice/Associate dean, research</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Other vice or associate dean</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Other administrators</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Clinical department chairs</td>
<td>2</td>
<td>3</td>
<td>7</td>
<td>3</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>Basic science department chairs</td>
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<td>4</td>
<td>4</td>
<td>7</td>
<td>4</td>
<td>3</td>
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<tr>
<td>Center directors or designees</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>14</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>Faculty members</td>
<td>12</td>
<td>14</td>
<td>1</td>
<td>5</td>
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<td>Total</td>
<td>25</td>
<td>31</td>
<td>22</td>
<td>35</td>
<td>26</td>
<td>24</td>
</tr>
</tbody>
</table>
Centers aid in faculty recruitment and retention. Of the many benefits of research centers, faculty recruitment was among the most cited by participants in this study. In most cases, faculty members were appointed through academic departments, not research centers. Nevertheless, centers played an active and important role in the recruitment process in several ways. First, research centers provided new recruits with a ready-made affinity group, a community of researchers interested in a common topic. Second, a recruitment effort involving multiple departments and centers signaled to the applicant that the process was campus-wide rather than limited to one department. A center director noted both of these advantages:

"[A search involving departments and the center] means the person being recruited sees that the whole community is involved. Once they’re recruited, they are immediately accepted into the community...I think you end up doing better recruitments."

Third, centers and institutes benefited the faculty recruitment process by combining resources with departments to grow the number of faculty members, to provide faculty members with more resources than the academic department could by itself, and to “sweeten the pot” to meet the needs of competitive candidates. This concept of joint recruitment pervaded many of the interview discussions:

The whole name of the game is having good faculty. No department or center has the resources or space to bring them all in. The only way you can do it is to convince others in other departments or centers that it’s in their best interest to bring in people who can have an impact on their program. (From a center director.)

Centers are very important in recruiting. If a department chair is looking to recruit a hot shot, if that hot shot is tied to one or more centers, then the center directors can be very important players in putting together one-time [start-up] funds. (From an associate dean for research.)

In terms of joint recruiting, centers are very important to help leverage resources. The very presence of centers is a useful recruiting tool. (From a clinical department chair.)

In some cases, centers and departments jointly recruited so well that the process appeared seamless to applicants. One junior faculty member said, “[When I came in to interview,] I didn’t even know who I was talking to, what department was running the recruitment.”

According to the participants at several institutions in this study, an ancillary benefit of joint recruitment between centers and departments was the perception that they were able to recruit higher-quality faculty. Pooling resources meant more competitive offers. A center director claimed: “Chairs started to understand that co-recruiting with centers was to their advantage, that the type of faculty that we were able to bring in—resources combined from department and center—improved their faculty.” This comment might have been self-serving, but both clinical and basic science department chairs at this medical school agreed with the center director’s sentiment. A basic science department chair said, “The reality is that... centers are recruiting outstanding people. As a chair, am I going to say no to an outstanding person who has several Cell papers? No, I’m not. I’m usually pretty darn happy to get them on my faculty. I don’t really see any downside to it.”

Centers can also help retain prized faculty members contemplating moves to other academic institutions. While some study participants criticized the creation of centers for the purposes of faculty retention (discussed later in this report), medical schools and universities sometimes formed centers as a means to placate, retain, or reward faculty stars.

Centers facilitate collaboration in research. The idea that research centers and institutes foster collaboration among investigators from a variety of disciplines pervaded interviews with participants in this study. Most faculty and administrators believed that centers facilitate scholarly exchange in ways different from the informal networking that occurs among individual faculty or the formal interactions that exist through academic departments. For example, the dean of a medical school said:

The nature of scientific investigation in biomedical research is evolving in a way that requires different skill sets. It’s not just that medicine and surgery are collaborating or that pediatrics and psychiatry are collaborating, but the medical school and the school of engineering are collaborating. You cannot solve the most salient programs in academic medicine by relying on faculty who are solely involved in the medical school. It needs a different kind of structure.

Many examples were offered of the ways in which centers and institutes foster collaboration, including journal clubs, symposia, seminars, retreats, and seed grants for graduate students and junior faculty. Such mechanisms enabled researchers to meet one another, discuss interests, and develop research ideas outside their traditional methodologies and approaches. By harnessing the diverse expertise of investigators from a variety of disciplines and by offering formal and informal opportunities to ruminate, discuss, and exchange, centers and institutes may accelerate new investigations. In most cases, this center-driven interaction was viewed in a positive light. “Centers grow out of the interests of the faculty,” explained a basic science department chair, “so rarely are they out of alignment with what departments want.”

Despite the assertion that research centers enhance collaboration and interdisciplinarity, the fact remains that centers in some medical schools operate more collaboratively than in others. The institutions in this study exhibited, to varying degrees, four organizational habits or behaviors that contributed to collaborative research environments. First, a positive organizational culture demanded that people “play nice in the sandbox.” In several situations, centers and institutes had control over significant financial and physical resources, but center directors had to use their resources to promote institutional goals and not build individual empires. In these
To be successful, center directors have to bring people together. On the other hand, the lessons gained from centers carry over to how we optimally ought to function at the department level. We really aren’t autonomous. The success of one department is really the success of all departments, and the problems in one department ultimately come back to affect many departments. It’s the interrelatedness of things. Centers drive that home. (From a clinical department chair.)

A second organizational behavior was a healthy respect for tradition. Most participants noted the importance of academic departments from social, cultural, structural, historical, economic, and political points of view. Although research centers offered advantages in organizing broad-based interdisciplinary research projects, faculty and administrators argued that centers must work in conjunction with departments:

You have to do it in a way that chairs feel respected and partner [with them] from the beginning so they aren’t having something shoved down their throats. Rather, they’re seeing it as an opportunity that’s good for both sides. (From an associate dean of research.)

Many center directors realized, therefore, that some academic responsibilities were best left to departments. The vast majority of the participants in this study strongly believed that centers should not appoint faculty, as the views of an associate director of a center illustrate:

We have to be very careful in not competing with departments. . . . That means everyone who is part of [our center] is also a member of a home department. The department makes the hiring decisions, that department pays salary, that department makes promotion and tenure decisions. [The center] doesn’t do any of those things, and I’m not sure it would work if it did.

Many center directors also emphasized their desire to “keep the peace.” For example, one center director who had the ability to pay his faculty affiliates at a higher scale than the scale for other faculty chose not to: “We can have our own compensation plan under university policy but we opted not to do that . . . because it ends up making two classes of citizens; that’s exactly what we don’t want to have.”

A third organizational habit to help facilitate collaborative research in the center–department milieu was the broad sharing of intellectual credit. For example, when a faculty investigator received an extramural grant, an associate dean of research said,

We double-count and triple-count all over the place.

Question: So there’s not competition for claiming grants?

Right. Centers and departments take credit for the PI’s grants. So I don’t ever see competition. The goals of the center aren’t at odds with the goals of the department. You don’t have to say where you’re dividing your time because every hour you put into your research is good for everyone.

Not all the institutions in this study permitted this approach. Some department chairs were very concerned about their departmental ranking in the annual NIH listing of research awards and insisted that they receive sole credit for their faculty members’ work. But others claimed to be less interested in the “horse-race” mentality, letting the caliber of their faculty’s reputations and achievements speak for itself.

A fourth organizational behavior that promoted collaboration through research centers was the limitation of centers’ authority and scope. This strategy forced centers to work with departments because they did not have all the resources to achieve their goals on their own. A department chair noted the importance of faculty appointments residing with the academic department:

Question: Centers can’t directly appoint faculty. What if they did?

For the most part, that would be a bad thing. One of the reasons they work so well here is because the structure has been established to promote interactions with departments . . . to try to build partnerships. The fact that centers recruit through departments, while it has its challenges for department chairs, is a good thing . . . . The situation here promotes interaction and good will between centers and departments.

At universities and medical schools where centers and departments worked together for common purposes, the collaboration produced a pooling of resources to help each unit maximize its efforts. One center director explained:

[The center director] has to do everything he can to nurture relationships with appropriate academic departments. . . . No center can do it alone, because the academic home is in the department. In many cases, the department can’t do it alone because it’s really important to have cross-fertilization and collaborative relationships across units. So, a couple of departments and the center or research unit usually pool resources. Maybe one provides the space, one provides graduate students, one provides the state dollars, and one provides clinical income or startup dollars or something else. That’s a pretty common way of doing business.

In this regard, centers and institutes were “levers” or “resource extenders.” By combining resources with academic departments, centers enabled institutional resources—especially space and money—to stretch and grow.

While most study participants at all levels of the institution described research centers and institutes as enhancing collaboration, not everyone claimed that these benefits were unique to centers:

The question I want to know is, what do centers bring to the table? Rumor has it that they bring people together to collaborate.

Question: Do you see that?

I don’t know if centers do that or not. I collaborate heavily with the school of public health, and they don’t have centers. I collaborate with people I want to collaborate with. The centers don’t guide me in that direction. I just find them.

As this faculty member asserted, a medical school or university can have a very collaborative environment without organized research units. Faculty need not necessarily rely on research centers to engage in interdisciplinary activities. The issue facing medical schools in 2006 and beyond, however, is whether such ad-hoc interaction is sufficient to maintain momentum and make progress in an increasingly complex and competitive scientific research environment. Many observers argue that medical schools must make more coordinated and sustained interdisciplinary efforts; centers and institutes often become the mechanism to do so.

Centers secure research resources and provide research support. Another benefit of research centers is their ability to obtain specialized services and
Centers offer a sense of community and tremendous importance for new faculty.”

You don’t have in your lab. I found that’s helpful to have centers that will train your people or will provide expertise that you don’t think I would have chosen systems biology otherwise.”

This intellectual vitality within centers can promote scholarly exchange and development of new skills and understanding, both through structured activities such as retreats and symposia and through informal dialogue between faculty in different disciplines. One junior faculty member asserted: “I don’t think some [research] would occur without the center. There has been this cross-talk between computer science and genetics [which has] piqued my interest. I don’t think I would have chosen systems biology otherwise.”

Centers afford organizational flexibility. In a competitive and fast-paced biomedical research environment, centers enabled universities and medical schools to be nimble and to react quickly to new opportunities, characteristics that academic departments are not designed to have:

Bringing disciplines together to solve complex issues are so important that the traditional academic structures are not well equipped to deal with that. Centers have a way of being able to shift, to change direction. They are less tied to roots, whereas it’s very difficult for departments to make those 90-degree turns. Centers can adapt to change very rapidly. They can innovate. They can bring in new technology, working with departments. (From a clinical department chair.)

The world is changing so rapidly, especially science, [centers and institutes] give us flexibility to attack the really interesting, tough questions of the days without being bound to a particular discipline. (From an associate vice chancellor for research.)

In many cases, centers demonstrate their flexibility when reacting to new funding prospects or scientific proposals. Center directors noted their ability to quickly draw together a team of diverse researchers to respond to requests for proposals or applications, especially to cutting-edge interdisciplinary requests.

Centers also are flexible through their ease of creation, as opposed to the lengthy departmental vetting process with its multiple levels of review and approval. By design, centers can come about quickly and responsively. They allow the institution to be adaptive to new opportunities without committing long-term resources required for formal departments. This adaptive nature of research centers, however, can have a downside: centers, it is often argued, rarely have formal exit plans; they may linger beyond their usefulness. A recent report found that 73% of research centers were created with undefined or indefinite lengths of term.17

Centers focus on societal problems and raise funds. Many research centers focus on applied, utilitarian problems of importance.18,19 Cancer centers are an apt example. This type of research center contributes to the university’s mission of stimulating scientific, technological, economic, and social innovation in society.20,21 In the words of a university provost, “[Through research centers,] universities are responding to the drive for the very best intellectuals who want to tackle hard problems, complex problems, that are important to society.”

A related reason that medical schools create and use research centers is to respond to opportunistic funding.19,22 Centers have been developed proactively—in order to draw public, corporate, and private foundation support—or reactively, in response to implicit or explicit expectations from sponsors. In this regard, “centers are sexier and do a better job in fundraising,” said a medical school dean. “It’s hard for
the chair of medicine to go out and raise money. The department gets the payoff when the cancer center uses the money it raises to recruit someone or create some space.” As medical schools and universities seek additional funding through private gifts and bequests, the use of centers for purposes of fundraising and institutional development may become more popular.

The challenges of managing centers in the academic environment

Despite their many benefits, centers can create tensions and present management challenges to institutional leaders. Participants in this study noted many concerns and problems that arise with centers and institutes in the academic research environment, including (1) competition with departments, (2) challenges in faculty recruitment, (3) fragmented mission, (4) evaluation, (5) governance and authority, (6) tenure and promotion, and (7) junior faculty development. This section reviews these themes.

Competition with departments. In the best of circumstances, centers foster collaboration. In the worst cases, centers add to the competition over scarce institutional resources such as funding, space, and faculty effort and allegiance. As research centers become more prevalent in the biomedical research enterprise, department chairs “are concerned about the increasing role and importance of centers,” said one chair. “While they see the tremendous value, they are sometimes concerned about the stature and power of centers to do things that departments traditionally do.” The most common concern that study participants articulated was competition and control over space. Many department chairs did not want centers to have control over space for several reasons: first, space typically was tightly limited, so they viewed an allocation of space to centers as a loss of space for departments. Second, a portion of indirect costs was typically assigned to the unit that has responsibility for an investigator’s space, so chairs viewed the allocation of space to centers as a loss of revenue to departments. Third, chairs were worried about “donating” space to help a center get off the ground only to lose control over that space in the long run, should the center shift its focus. One department chair gave an example of this concern:

The centers want space to be assigned to centers, which I’m in very much against, for several reasons. One is that it shifts where the indirects go. The other is that many of these centers have arisen out of interests that are fostered by many departments. It’s possible that, if the department took a lot of its research space and gave it to the center, or it was reassigned to the center, when the center director left, it’s quite conceivable that the next center director would have interests totally different than what the department’s interests are.

Many chairs argued that their departments fostered the initial development of centers and provided the space and resources for that growth. While they were pleased with centers’ success (because the department benefited in faculty recruitment), they also deplored the shift of control and authority of space from department to center.

Faculty loyalty, allegiance, effort, and grantmanship are other commodities over which centers and departments can compete. Examples of centers “stealing” or “cherry-picking” faculty from departments were occasionally noted. For example:

A faculty member was recruited by a department, which put up major resources—start-up funds, space, all kinds of financial support. The individual became enormously successful, and then the cancer center said, “Why don’t you come here, and bring all your grants with you.” That only has happened a small number of times, but when it does happen, it creates real ill will. (From an associate dean for administration.)

Medical schools have addressed these concerns through a variety of structural arrangements, such as requiring faculty appointment in departments and articulating policies for the distribution of indirect costs to both departments and centers based on an agreed-upon formula. Perhaps more important, though, are leaders who can work together for the good of the institution, not just their own unit. One administrator noted, “It’s a balancing act. [Center directors] have to invest in the center but also have to remember that, when the day is done, the department chairs really call the shots. They have to be able to maintain good, effective working relationships.”

Challenges in faculty recruitment and retention. Study participants, most notably department chairs, expressed several downsides to centers’ involvement in faculty recruitment. First was the worry that if centers are being used to recruit and retain faculty members, then financial and human resources will be directed toward centers and away from departments. Second was a concern that a faculty member recruited by a center could be a poor fit for a department, which could negatively affect promotion and tenure decisions. A basic science department chair gave an example:

When a center identifies a person they want to hire, sometimes that person is a good fit for the department. But in some cases, the fit has been very bad. I have a person in my department who fits that bill exactly. He’s a wonderful scientist, but he’s a fish out of water in the department. The problem is that decisions about promotion and tenure, and teaching activities all are at the level of the department. If someone is not a good fit with the department, they might not have an opportunity to participate in some of these activities. So it’s not that they’ve performed badly as a faculty member but the fit with the department isn’t good.

Why do these poor fits occur? In some cases, an aggressive center director may not adequately involve the department chair in the early stages of the search process; in other cases, a passive chair may take a laissez-faire approach to the type of faculty member the department accepts.

Both center directors and department chairs indicated these problems can be ameliorated through principled decision making and coordinated recruitment. One basic science department chair described how he sometimes says “No”:

Sometimes [centers] will come to the department and say, “This person looks like a pharmacologist.” Even though we would in many ways be glad to have them be a part of the department, we [also might] say, “No, they don’t look like a pharmacologist; you really need to look somewhere else.” There are many young people out there who we would like to see recruited to the medical school; they are really outstanding, but they are not a fit for several of the basic science departments.

A third concern about faculty recruitment was the concept of “retreating,” the process by which center-affiliated faculty members would be
typically explore a focused line of investigation. There is an assumption that faculty members affiliated with centers will conduct research consonant with the center’s goals and missions. This situation poses potential challenges to academic freedom, as one department chair noted:

Why not have institutes appoint faculty? The whole thing about being an academic is the freedom to follow your nose, to go anywhere you want, to change your mind. That’s what we’re about. That’s our mission. By appointing someone to an institute, with a certain theme, where you have to comply with [their mission], you erode that freedom. That’s a major barrier.

Universities and medical schools may avoid this scenario by maintaining faculty appointments in departments, where faculty members have greater flexibility and freedom in pursuing their intellectual interests. However infrequently it may occur, a center is under no obligation to provide long-term financial support and other resources to a faculty member whose interests shift away from the center’s goals. An understanding should exist, though, between the center director and department chair for how to transition an investigator to the department should this situation ever arise.

The creation and use of centers for the purposes of retaining faculty members also can present challenges and tension. Retention centers may be narrow in mandate, concerned with an individual’s career satisfaction rather than the mission and goals of the institution, even if the outcome of their creation—retaining highly accomplished faculty members—is an admirable end result. As one clinical department chair contemplated, institutions must grapple with whether the ends justify the means:

My impression is that centers arise as a way of retaining a very strong faculty member. I see that as very shortsighted. When centers arise this way, they aren’t very interdisciplinary. They arise around an individual. It’s a turf issue, a way of keeping them and broadening their sphere of influence. But that’s not a strong interdisciplinary center. What’s driving that program is often very selfish, even though it’s coincident with what the institution sees as being laudable—that the person’s success ends up being good for the institution.

Sustaining long-term focus and mission can be a challenge with many different types of centers but especially resonates with critics of retention centers. These tensions can be ameliorated through institutional policy and practice that prohibits the creation of a center solely to retain an individual faculty member and that acknowledges the need for institution-wide goals and focus. The reality of the competitive nature of academic medicine, however, means that this solution may be too simplistic. Nevertheless, institutional leaders should aim to create research centers with purposes and goals that are integrated into multiple mission areas, that extend across disciplines, and that serve broad organizational needs.

Fragmented mission and departmental integrity. While evidence demonstrates that research centers and institutes devote effort to multiple missions, including research, education, service, and patient care,24 their primary purpose is research. Most centers have less interest in, and are not expected to equally contribute to, the missions of teaching, service, or clinical care. As one administrator said, “In the final analysis, somebody has to be responsible for keeping the mission of the institution moving forward. Centers, as great as they are, have a uni-focus approach to life.” Centers and their faculty affiliates, therefore, can become isolated from the whole mission of the institution. Their portfolio, and the influence in university affairs that derive from that portfolio, can become skewed. One clinical department chair noted:

Centers tend to be focused on only one mission. They don’t span the three missions like departments do. Consequently, their influence is very heavy in the research mission, but they have much less influence in the clinical and education side. Their influence resides where their activities are.

This problem of fragmented mission is not unique to research centers and institutes; it is endemic of academic medicine as a whole. With a business model predicated on revenues from clinical and research productivity, the economics of academic medicine produces incentives for faculty members to spend more effort on some (financially remunerative) activities and less on others.24 The unique concern here is whether research centers and institutes...
While some department chairs lamented the effect of center-oriented recruiting on their departmental teaching responsibilities, others seemed indifferent to this concern. Three reasons may explain why. First, teaching responsibilities for medical school academic departments are fairly light on the whole, especially compared with those in departments in other university divisions; some chairs may not consider covering their (relatively) light teaching requirements as a management challenge. Second, many medical schools have centralized the responsibility and governance of medical student and graduate student curricula in school-wide committees, so chairs may feel less pressure for these responsibilities. Third, some department chairs accepted the reality that not all faculty members equally contribute to the educational mission of their departments. When a faculty star or research rainmaker does not teach for their department, some chairs accept the situation as the normal course of business because of the perceived benefit to the departmental research mission.

Evaluation. A common challenge in the management of research centers and institutes is their effective evaluation. “The problem with centers,” said a department chair, “is that once they are instituted, they are almost impossible to get rid of, even if they haven’t done anything for a decade.” These concerns have been around for a long time. “Once born, the hope is often expressed that the institute will self-destruct when its mission is accomplished, but that rarely happens,” claimed Dressel and colleagues in 1969.25 Recent scholarship found, however, that the majority of research centers are subject to periodic program review and have advisory committees.17 Far fewer have term limits; their contract length is typically indefinite or not clearly defined.

Center directors in this study indicated that “the best evaluation is the renewal of grants” and “the ultimate evaluation process is getting [our] core grant.” Rather than allow the funding marketplace to solely make evaluation decisions, however, universities and medical schools should be more active in reviewing all organizational units—centers, institutes, departments, and others—to ensure a continual fit with mission and goals.

Governance, influence, and authority. Critics have argued that as centers and institutes grow, they may challenge the traditional role of departments by creating leadership conflicts, usurping power and influence, and creating divided faculty loyalties.26–28 Recent research has shown, however, that departments have not ceded control to research centers over functional roles such as faculty appointment and compensation authority.17 Moreover, according to participants in this study, departments remain the locus of faculty status and scholarly legitimacy. One provost noted, “Faculty gain their legitimacy, gain their peer approval, primarily through their departments.” Faculty also share this view because of the key resources, such as access to graduate students, that they receive only through their department. “The graduate student association is really important,” explained one assistant professor. “Access to PhD students is strictly through my academic department.” Junior faculty also viewed their departmental affiliations as a “safety net,” where other faculty members spoke the same disciplinary language, where they often were guaranteed a certain amount of research space regardless of funding status, and where the ultimate authority for their career advancement rested.

While most research centers do not have a significant role in institutional affairs, some of the centers in this study—those that tended to have considerable institutional funds or a highly prominent director—defied traditional governance and decision-making norms. These situations created tension with departments. First, these center directors were consulted by academic leaders on matters of importance and were able to shape decision outcomes. One center director explained: “I interact with the various deans [about] where they’re heading and what they’re doing, what kind of decisions they’re making, what kind of hires should be done . . . I’m on various groups that the vice chancellor, chancellor, and provost put together.” Second, these center directors were able to secure institutional resources quite readily, often in informal ways that aren’t afforded to many others in the academic community. Said one center director,
"The provost’s door is always open. I’ve been over there several times, saying ‘More money, please,’ and he’s been great about that.” Third, their position in the university gives them constant access to decisionmakers outside traditional channels:

The center directors who report to the vice chancellor have a lot of influence on him because they meet with him, lay out their agenda, and he reckons with it. I know he listens to them very carefully and does things in response to what they said, but it’s not formal—it’s outside the governance or policy-making system.

**Question: They have informal influence?**

Yes. One center that just landed a $70 million grant has huge influence. Many of the faculty associated with that center have huge influence. The vice chancellor would not be long for this world if he was not listening to the needs to those centers. (From an associate vice chancellor for research.)

Finally, while many of these center directors did not hold seats in the typical governance bodies of an institution, they did not feel the need to. One center director dismissed the need to partake in formal governance mechanisms because, “we have the ear of the president and we’ve got a lot of attention from the deans, so that’s working just fine now.”

Most research centers and institutes, to be sure, do not have such perks and privileges. This smaller group, however, operates outside traditional governance and decision-making processes, with ready, and even immediate, access to those individuals who control both purse and policy.

**Issues of tenure and promotion.**

Another management challenge emerged around issues of tenure and promotion. First was the willingness of junior faculty to inhabit research space physically separate from their academic department, which controls the tenure process. Second was the propensity of junior faculty to embark on team-based, collaborative research under the auspices of centers if the institutional tenure review frowns on that type of work.

Each medical school in this study was in the process of developing new buildings for its biomedical research enterprise. In many cases, institutional officials planned to allocate new space based on research themes rather than department affiliations, meaning investigators from a variety of departments would be housed together. The benefit of these physical arrangements, study participants hoped, would be increased intellectual collaborations and new creative research ideas. “When you live together, things happen,” said a center director. “You talk to each other, you bump into each other, you have conversations. Ideas take space.”

But while medical schools and universities planned to allocate space by research theme rather than along departmental lines, tenure and promotion decisions would continue to be made by departments, a fact that did not escape junior faculty. “My interactions are more with the [center] than my department,” said one tenure-track assistant professor, “but my department is actually going to judge me for tenure. Being in a remote site from the department is awkward.”

Therefore, junior faculty were cautious about moving into new space not affiliated with their department, even if it might benefit their research endeavors in the long run. Their near-term career decisions were much more salient. Said one assistant professor:

> We are discussing whether it’s advantageous to move to [the new building], which would have more space and more interaction with other people who share your interest, or if it’s better to stay in the department where you are under this umbrella, a safety net, where you are very close to everybody else.

**Question: Do senior faculty give advice one way or the other?**

Yes. Their recommendation is that I should be cautious . . . [Plus,] if you are outside the department, who is going to take care of you, in terms of purchasing and all the other stuff that comes with daily life?

The challenge for academic institutions, therefore, is that the demands of modern science for cross-functional teams and interdisciplinary initiatives are interfacing with an academic promotion system that continues to be aligned along departmental lines. Junior faculty, who tend to be cautious and conservative when it comes to academic norms and culture, will not make decisions that may hurt their tenure prospects, even if those decisions would have long-term benefits for themselves, the institution, and the scientific enterprise.

The other challenge concerning promotion and tenure was the willingness of junior faculty to engage in “team science.” Historically, promotion and tenure have been based upon the demonstration of independence; tenure committees look for evidence that an investigator has made substantial independent contributions to the intellectual fabric of the discipline. In practice, this means first- and last-authored peer-reviewed scientific articles and principal investigator status on extramurally funded research.

Study participants at all six institutions noted that the traditional tenure and promotion process was a barrier to centers achieving one of their primary purposes, that of encouraging more team-based and collaborative scientific research. The comments by a vice-dean for research are illustrative: “Many young people on the tenure track are discouraged from collaborating, period, because they have to demonstrate their independence. . . . Most [department] chairs would advise their faculty members not to collaborate until they are established.” An assistant professor echoed that viewpoint: “Unless or until I hear from the top that it’s good to work across boundaries, interdisciplinary research won’t happen. I need to hear it from the department and dean level.”

While this issue is not unique to research centers and institutes, it is a far-reaching institutional challenge that certainly involves these units. Medical schools and universities must encourage a cultural shift on the part of institutional leaders and tenure review committees to embrace broader pathways of career advancement. “We’re not going away from R01-funded research,” said one faculty member, “but there are opportunities that you can’t do by yourself.” Academic leaders and promotion and tenure committees might consider expanded models to identify and recognize important contributions in team and collaborative settings, whether through research centers or elsewhere.

Several center directors and department chairs noted that, while the department has the official responsibility for the initial tenure review, these leaders collaborate on evaluating a faculty member’s performance and co-writing the letter submitted to the school promotion committee, to ensure that the
investigator’s scholarly contributions, whether department- or center-based, are identified and supported.

**Junior faculty development.** A final management challenge associated with research centers and institutes was the career development of center-affiliated junior faculty members. Some junior faculty members indicated that having both a departmental appointment and a center affiliation worked in their favor because the chair and director worked closely to insure that junior faculty members received proper counsel. Problems can arise, however, when institutional leaders have less shared interest in faculty development. The challenge is not to let these faculty members fall through the cracks, as described by a department chair:

I know a faculty member who is leaving. He was hired into the cancer center with an appointment in the Department of Medicine. He is leaving because no one was really paying attention to him, and he was very sad to leave. For a junior person hired into that situation, you can fall through the cracks. Maybe you are doing good stuff for the center, but your appointment is in a department and your tenure is going to come through [the department]. If you are trying to please two different bosses, maybe you are not making a real impact in the department. So it’s not good for you in the long run.

Study participants described these situations as infrequent; at several institutions, department chairs and center directors could not recollect a specific example but rather said it was a potential concern. Regardless of frequency, the challenge for medical schools and universities is to develop ways in which faculty with “two bosses” can receive mentorship and advice to successfully advance in their careers. Yet some schools put this burden on the faculty member:

[The center director] doesn’t write the promotion letter. So the faculty member has to be wise and not lose contact with their school. If they become so ingrained [in the center] and don’t go to faculty meetings, don’t go to departmental meetings, just consider themselves [part of the center], the school has a difficult time putting together the packet every two years, evaluating the teaching. (From a vice chancellor.)

Such a weight can take a heavy toll on assistant professors. Faculty members in these positions felt that “no one misses you,” and “no one assumes responsibility” for their professional development. One junior faculty member described the relationship with her academic department:

They don’t necessarily value the work I do [in the center]. One of the things I’ve done through the center is participate in the overhaul of the medical school curriculum. People in the center worked on this from conception to implementation. A huge commitment on my part. But it doesn’t serve the department at all. The chair of the department doesn’t have any ownership of the material. So although they are saying, “Oh, that’s nice. You’re doing good and important work,” it’s not serving the department. It’s not part of what their department cares about. . . . They said it looked great, they were very impressed, but it didn’t fill any of their holes. Someone with a standard department home doesn’t have to think about [this situation].

The responsibility for mentorship and career advancement for faculty with multiple appointments and affiliations should be shared among the chair, center director, and the faculty member. If medical schools have an increasing number of junior faculty with multiple allegiances and homes, then institutional leaders will need to develop programs and policies to facilitate professional development.

**Conclusion: Centers and Institutional Leadership**

Speculation by institutional leaders, administrators, and faculty members at the six medical schools and universities in this study, coupled with findings in the scholarly literature, suggest that academic medicine is likely to have more research centers and institutes in the future. As I have shown in this report, centers and institutes offer distinct advantages for collaboration, recruitment, and other areas but also pose organizational challenges. How might institutional leaders tap the best strengths of centers without the worst liabilities? I offer three insights:

First, the effective use of research centers and institutes is highly dependent on institutional leadership at all levels. Centers, institutes, departments, and other organizational units in academic medicine operate in highly interdependent environments, which demand cultures where collaboration is not just given lip service but is interwoven into the fabric of the institution, in “how we do things here.” Highly collaborative cultures emphasize a team approach and frown upon empire building. Yet, academic institutions have for decades rewarded faculty and administrators for their success as individuals. Medical schools and universities must be aware of not only structural and political factors but deep-seated cultural beliefs as they call for greater interdisciplinarity, interdependence, and team-oriented work, which may not come naturally or easily. One medical school administrator argued that the institution needs to recruit leaders differently:

With faculty appointments, who gets to make the decision? . . . Is it mine? Is it ours? As we look for new department chairs, we need to look at a different kind of individual. By that, I mean folks who have participated in an interdisciplinary approach, who have been part of a center or program so they don’t come with a silo mentality. . . . There needs to be a new model of leadership to make this effective.

While this example cites department chairs, the same can be said of center directors and others who contribute to the leadership of the institution.

Second, the type of center matters. Centers and institutes are catch-all labels that refer to many different kinds of organizational units. Some are inconsequential “letterhead” centers that exist only in the director’s mind; others are large organized research units with considerable institutional resources. In moments of decision making or general discussion, it is crucial to know what type of center is being discussed and for what purpose it was created. Moreover, administrators and faculty can learn lessons from colleagues’ experiences at other institutions as long as they can make apples-to-apples comparisons. The mantra of “when you’ve seen one medical school (or research center), you’ve seen one” inhibits organizational learning, a crucial element for competitiveness in a fast-paced, competitive research environment. Academic leaders can avoid this when—you’ve seen one myth and learn from other organizations by making meaningful comparisons of centers of similar purpose, function, and type.

Third, a latent tension naturally exists between centers and departments. These
two types of organizational units, at their best, are complementary and cooperative. At some institutions, all indications are that they exist peacefully, act for mutual benefit, and advance the research mission of the medical school—in most cases. A third rail, however, is always present. Turf battles ignite when centers usurp or are bequeathed departmental prerogatives such as faculty appointment, space, and funds-flow. While these negotiations always depend on local contexts under local circumstances, none of the study participants believed that centers could or should replace departments, in policy or in practice.

Acknowledgments

The author acknowledges the following individuals who participated as members of the research study team on the institutional site visits: Michael Friedlander (University of California, San Francisco visit), Roger Geiger (University of Alabama at Birmingham visit), Lisa Staiano-Coico (University of North Carolina at Chapel Hill visit), and Mandy Liu (all visits). Any errors, misinterpretations, or omissions in this analysis are the author’s alone. The author also thanks the many individuals from the six medical schools and universities who participated in this study. Finally, the author acknowledges Sarah Bunton, Robert Jones, and two anonymous reviewers for their helpful comments on earlier drafts of this manuscript. This research study was funded in part by the Burrowghs Welcome Fund.

This article was originally published in the June 2006 issue of *Academic Medicine*.

References


