

Tenure in Transition: Trends in Basic Science Faculty Appointment Policies at U.S. Medical Schools

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ABSTRACT

This article—based on a 2002 survey of 125 U.S. allopathic medical schools, reviews of institutional policy documents, and interviews with medical school leaders—explores and analyzes three trends in appointment and tenure policies for basic science faculty at U.S. medical schools. First, the percentage of full-time, nontenure track basic science faculty has increased, from 12% in 1980 to 20% in 2000. More dramatically, by the late 1990s, the percentage of new basic science faculty hired on a nontenure track surpassed the percentage hired on a traditional tenure-track line. This development stems from the tendency of some schools to appoint faculty to nontenure-eligible “research scientists” faculty tracks, to hire junior faculty on 100% grant funding, and to allow nontenure-track faculty to switch to the tenure track as their research career progresses.

The second trend is an alteration to the tenure financial guarantee. Historically, at most medical schools, it was assumed that tenure guaranteed total institutional salary for basic scientists. Schools have begun to redefine that commitment to less than full salary to protect against financial vulnerabilities and to provide a means to reduce faculty salaries, if warranted.

The third trend is increased flexibility to pretenure policies. Schools have lengthened probationary periods, revised up-or-out provisions, instituted stopping-the-tenture-clock policies and less-than-full-time appointments, and permitted faculty to switch between the tenure and nontenure tracks. These policy modifications recognize the increased professional and personal demands on faculty time.

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For more than a decade, U.S. medical schools have been fighting financial battles on various fronts: reductions in clinical revenues in the era of managed care, cutbacks in Medicare payments to affiliated teaching hospitals, and decreases in state support for higher education in general and medical education programs in particular. Although many medical schools have achieved substantial gains in research funding over the last decade, they have also encountered increased competition for extramural awards and contracts. Schools have faced these situa-

tions while their costs for mounting successful education and research programs have continued to escalate.^{1–3}

These problems point to a fundamental weakness of medical school financing that Korn⁴ described as “the chronic and growing gap between academic medicine’s seemingly insatiable demand for total resources and the supply of resources that society is willing to provide.” Although medical schools have evolved into organizations highly dependent on “soft money,” until recently they continued to embrace traditional academic appointment, compensation, and governance models.⁵ However, as Nonnemaker and Griner⁶ stated, medical school organizational structures and policies that “previously served the medical school well . . . may now be viewed as inflexible.” Korn⁴ and Nonnemaker and Griner⁶ suggested that one probable solution of the tenuous underpinning of the financial model of medical schools would be a rethinking of faculty personnel policies.

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For articles on related topics, see pp. 214–218, 250–257, and 258–264.

Policymakers and institutional leaders would need to reexamine how medical schools appoint, promote, compensate, and retain their faculty in an era of diminishing resources and financial uncertainty.

The need for new models of appointment and compensation has been most apparent with clinical faculty. With the high salaries of and the demands for increased productivity on clinicians, the expectations and requirements of a traditional tenure system seemed anachronistic. Therefore, schools made adjustments to the length of probationary periods and up-or-out provisions, devised new clinical-educator tracks and expanded the use of nontenure appointments, and made attempts to define the level of salary guaranteed to clinicians with tenure. Jones and Gold recently provided a cogent analysis of institutional policies governing clinical faculty appointment, tenure, and compensation in U.S. medical schools.⁷ In that report, the authors described a number of changes and trends, including an increasing differentiation of faculty roles into researchers and clinicians, the tightening of restrictions on tenure eligibility, a decline in the proportion of tenure-track appointments, and new limits on the financial guarantee associated with tenure.

Although scholars have attended to changes in policies and practices of clinical faculty appointment and compensation, we know less about trends for basic science faculty members. Historically, the policies regarding basic scientists did not greatly deviate from traditional practices as defined by the American Association of University Professors (AAUP). Basic science faculty typically encountered a tenure-track appointment, which, after seven years, led to an up-or-out tenure decision. It was assumed that tenure guaranteed the total salary of basic scientists, a modest figure compared with clinical faculty. In contradistinction to the salary support for clinicians, the majority of funding support for basic science faculty salaries was not dependent on external income but came from school funds.

In recent years, however, the external environment surrounding the basic sciences has been transformed, leading institutional leaders and policymakers to reexamine basic science faculty appointment policies. For many medical schools, the biomedical research enterprise is no longer a genteel academic pursuit but an underdeveloped strategic market opportunity. Biomedical research is considered a vast potential driver of economic development, entrepreneurial opportunities, and increased income streams. Most institutional leaders and department chairs are pursuing growth tactics for the biomedical enterprise in similar fashion to the unprecedented growth of the clinical arena after the passage of Medicare in the 1960s. As a result of increased extramural funding and changing institutional priorities, basic science faculty are under greater pressure to spend more time on

research, win more extramural support, and recover higher percentages of their salaries.

Therefore, medical schools have also begun to alter many aspects of employment policies in an effort to mitigate their financial vulnerabilities yet still preserve tenure for the majority of basic science faculty in this new research environment. In this article, we describe three major trends for faculty in basic science departments at U.S. medical schools. First, nontenure-track appointments among basic scientists have grown over the last decade. Second, medical schools have been in the process of limiting the financial guarantee associated with tenure for basic science faculty. Third, schools have undertaken efforts to provide flexibility in some key areas of the tenure system to respond to the needs of their faculty members, especially junior and women faculty.

Data presented in this report come from the following sources: (1) results of the Faculty Personnel Policies Survey conducted by the Association of American Medical Colleges (AAMC) in Summer 2002, to which all 125 U.S. allopathic medical schools responded; (2) the AAMC Faculty Roster, a data system with key employment characteristics of approximately 95% of the full-time faculty in U.S. medical schools; (3) institutional faculty handbooks, bylaws, and other policies and procedures; and (4) telephone interviews and e-mail exchanges with medical school faculty affairs deans, deans of research, key faculty members, and principal business officers.

TRENDS IN BASIC SCIENCE FACULTY APPOINTMENT POLICIES

Trend #1: Increased Use of Nontenure-Track Appointments

The first compelling trend in basic science faculty appointment policies is the growth of the nontenure track. Less than 20% of full-time medical school faculty members have appointments in basic science departments, and compared with the massive expansion of the clinical faculty, the growth of basic science faculty in U.S. medical schools over the past two decades has been relatively modest. Full-time faculty in basic science departments increased from 12,816 in 1980–81 to 17,530 in 2000–01, a 37% rise over the two decades (see Figure 1).⁸

Historically, the appointment and tenure practices for medical school basic science faculty mirrored their counterparts in the arts and sciences at research universities, with the vast majority of faculty appointed to a tenured or tenure-track line. But the use of traditional tenure-track appointments has been declining throughout the academy. Colleges and universities began to use full-time nontenure track appointments much more prevalently in the last two decades of

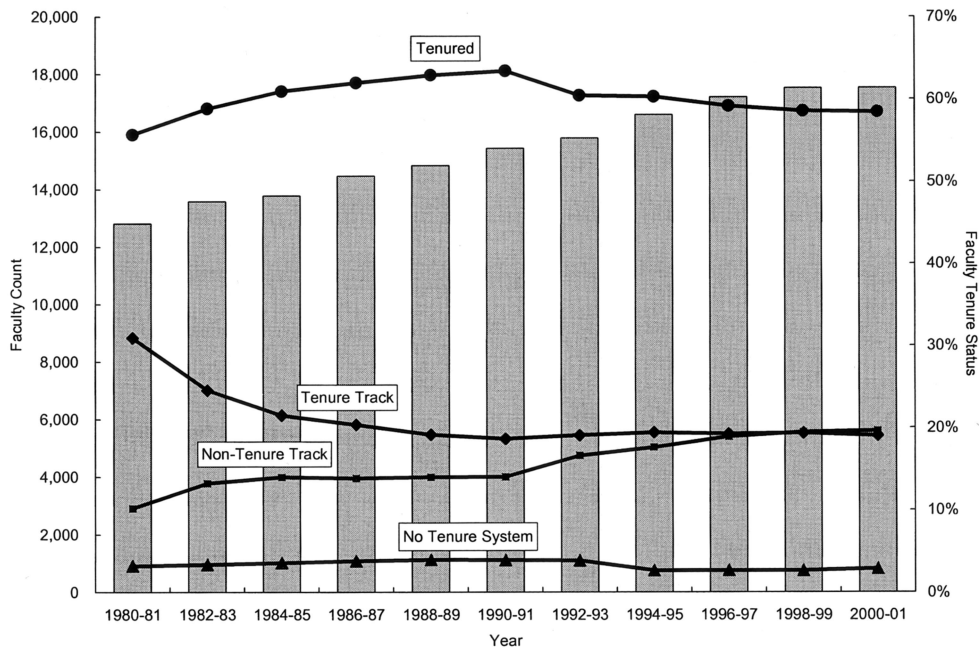


Figure 1. Faculty count and tenure status of full-time faculty with PhDs in basic science departments at U.S. medical schools, 1980–2001. Faculty tenure status data include only faculty members with ranks of assistant professor or above and those whose tenure status were known. Sources: Faculty count from AAMC Data Book⁸; faculty tenure status from AAMC Faculty Roster.

the 20th century. Between 1975 and 1993, nontenure-track faculty appointments across all higher education institutions increased from less than 19% to over 27% of full-time faculty.⁹ By 1999, national data indicated that 55% of all new full-time faculty were hired into nontenure-eligible term or contract appointments.¹⁰ Nowhere have these appointment trends been more visible than in medical school clinical departments, where less than half of all MD faculty members have tenured or tenure-track appointments.⁷

Similar changes have occurred to medical school basic science faculty. The majority of basic science faculty members still have “traditional” faculty appointments (tenured or tenure-track). However, nontenure track appointments have increased, from 12% to 13% in the 1980s to 20% in 2001 (see Figure 1). Driving these trends in the overall tenure status of basic science faculty are the appointments of new hires. Since the 1980s, new faculty members with the ranks of assistant professor or above have increasingly been appointed to nontenure-track lines (see Figure 2). In the early 1980s, approximately 65% of full-time new hires in basic science departments were appointed to the tenure track, but this percentage dropped to 45% by the late 1990s. By the turn of the century, then, U.S. medical schools were appointing the majority of new basic science faculty members to a nontenure track.

Why are medical schools more frequently appointing basic science faculty to the nontenure track? We suggest several reasons. First, some schools are hiring larger numbers of junior faculty on 100% grant funding. Because these faculty members are supported entirely on soft money, schools desire flexibility to end the appointments should funding sources disappear. In many cases, these faculty members are designated as nontenure-eligible “research scientists” to reflect that they have all research and no teaching responsibilities. These appointment types have been fueled by the expansion of the research enterprise in analogous fashion to full-time clinician tracks being developed to support patient services. Another explanation for the increased use of the nontenure track for new faculty is that schools have become more flexible in permitting faculty members to switch appointment tracks. Some schools allow faculty to be hired to a nontenure track but convert to a tenure track at a later date, once they have successfully developed their research programs. (We further discuss track transfers later in this article.)

Do these trends in the increased use of nontenure tracks and a decrease in traditional appointment types signal the beginning of the end of the tenure system for basic science faculty? We think not. In discussing similar trends for faculty members nationwide at all types of institutions, Baldwin and Chronister¹¹ asserted that increases in the use of the non-

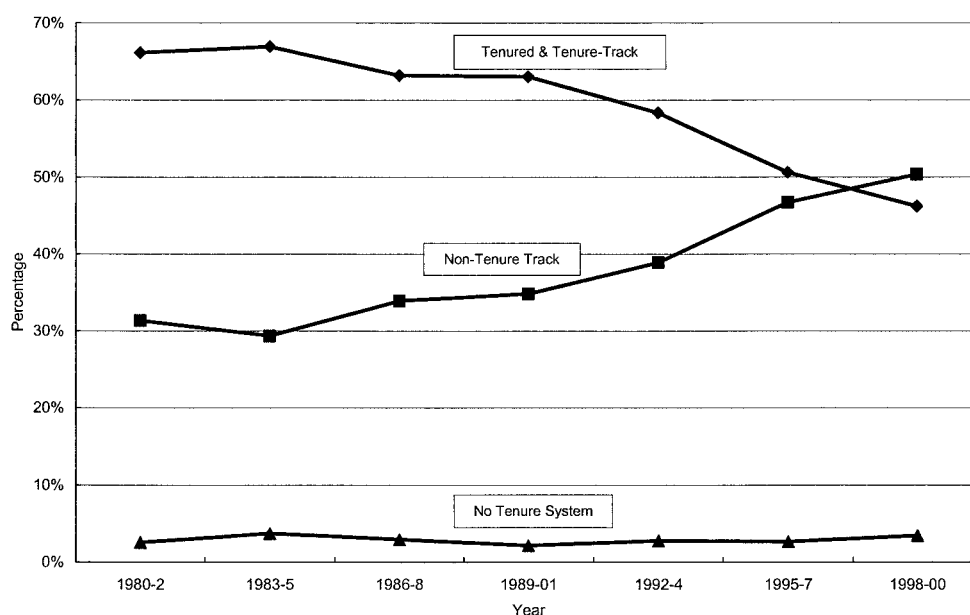


Figure 2. Tenure status of full-time new hires with PhDs in basic science departments at U.S. medical schools, 1981–2000. Data include only faculty members with ranks of assistant professor or above and those whose tenure status were known. Source: AAMC Faculty Roster.

tenure track “reflect a major and perhaps an permanent transition in the American academic profession.” Although we concur that medical schools will continue to use the nontenure-track appointments to add to their flexibility in academic staffing, tenure and tenure-track appointments are still the coin of the realm for recruiting and retaining the best and brightest to academic science. Medical school basic science departments are infused with an academic culture that offers no substitute for the status of tenure. However, medical schools are likely to maintain and even expand new appointment types for research faculty to allow greater flexibility and innovation in staffing, to effectively expend limited resources, and to respond to changes in the external environment.

Trend #2: Limiting the Tenure Guarantee

A second trend apparent in medical school basic science faculty appointment policies is an alteration in the financial guarantee that tenure provides. The AAUP’s 1940 Statement of Principles on Academic Freedom and Tenure asserts that tenure is a means to two ends: academic freedom and economic security.¹² As practice has evolved over 60 years, many faculty members and administrators have assumed that tenure in the university provides economic security by guaranteeing a faculty member’s full salary. But legal scholars have argued that tenure does not necessarily protect the salaries of medical school faculty, especially clinicians.^{13,14}

Nevertheless, conventional wisdom about compensation of basic science faculty has been closer to traditional academic norms: tenure guarantees total salary. The most recent AAMC Faculty Personnel Policies Survey results, however, demonstrate that the financial guarantee of tenure for basic scientists has been evolving. Medical schools are rethinking and, in some cases, limiting their financial commitment to their tenured basic science faculty members.

First, the number of schools that offer some kind of a specific financial guarantee has decreased over time. In 2002, barely half of the schools with tenure systems reported a specific financial guarantee for their tenured basic science faculty (59), compared with more than 60% (74) of schools in 1999 (see Table 1). Moreover, the number of schools indicating that tenure guarantees total institutional salary for tenured basic science faculty has dropped dramatically, from 46 in 1999 to 25 in 2002.

In place of total institutional salary, schools are defining the tenure guarantee in more limited ways. Table 2 shows examples of five general types of limited financial guarantee associated with tenure for basic scientists:

1. A salary figure linked to a fixed percentage of the average basic science faculty salary by rank (e.g., University of Colorado School of Medicine);
2. A salary figure linked to the median salary of school of medicine basic science tenured faculty by rank (e.g., University of Pittsburgh School of Medicine);

Table 1

Relationship between Tenure and Financial Guarantee for Faculty in Basic Science Departments at U.S. Medical Schools, 1999 and 2002	Number (%) of medical schools	
	1999	2002
Tenure carries a specific financial guarantee	74 (62.2)	59 (49.2)
Total institutional salary/compensation	46 (38.6)	25 (21.7)
Base salary	21 (17.6)	26 (20.9)
Fixed dollar amount	3 (2.5)	3 (2.5)
Amount referenced to average salaries of basic science faculty based on internal or external standard	4 (3.4)	5 (4.2)
Tenure does not carry financial guarantee	29 (24.4)	37 (30.8)
Financial guarantee not clearly defined	16 (13.4)	24 (20.0)
Total*	119 (100)	120 (100)

*Does not include schools with no tenure system and for which data are not available.

3. A fixed percentage of total salary (e.g., University of Miami School of Medicine, University of Louisville School of Medicine, University of Michigan Medical School, University of New Mexico School of Medicine);
4. A salary figure fixed by rank (e.g., University of Maryland School of Medicine, University of Pennsylvania School of Medicine);
5. A salary figure linked to the average regional and national salaries of medical school faculty (e.g., University of Texas Medical Branch at Galveston, University of Vermont College of Medicine).

Schools have defined the financial guarantee of tenure as less than total institutional salary for a number of reasons. The most important is medical schools want to limit their financial liabilities. With medical school economic models predicated mostly on soft dollars from external sources, institutions do not have internal resources to guarantee total salary for any tenured faculty member. These revised policies explicitly acknowledge these realities. A limited financial guarantee also enables schools to reduce the salary of a tenured faculty member, at least in theory. Schools could potentially reduce salaries across the board during a financial crisis (e.g., severe state budget cutbacks) or could target individual faculty members because of poor performance. Third, at some institutions, the tenure guarantee makes

explicit the sometimes-unwritten rule that basic scientists are expected to cover a percentage of their salaries through external grant funding.

Another notable development in recent years among U.S. medical schools is the growing number of institutions whose financial guarantee policies are not clearly defined. In 1999, 16 schools indicated that their policies regarding the tenure guarantee for basic scientists were not clearly defined. By 2002, the number increased to 24. We do not believe that these figures indicate that some schools have intentionally made their policies more ambiguous. Rather, we speculate that as these issues have received attention in the academic medicine community in the late 1990s, institutional policy-makers became cognizant that their policies were vague and in need of refinement. As schools continue to grapple with the implied legal responsibilities of an unclear tenure policy, we anticipate that more medical schools will undertake policy revisions to their tenure guarantee in the upcoming years.

Trend #3: Flexibility in Tenure Policies and Processes

Although schools may be using the nontenure track more frequently and explicitly defining the financial guarantee, tenure in the medical school is not disappearing. In fact, medical schools appear to be preserving tenure by adding flexibility to the process and policies for basic science faculty members in the tenure-eligible stream. In this section, we describe five areas in which schools have introduced flexible options for tenure-track basic science faculty members: (1) the pretenure probationary period, (2) revision of "up-or-out" policies, (3) the ability to transfer between tracks, (4) tenure-clock-stopping policies, and (5) less-than-full-time appointments.

Extension of the pretenure probationary period. Medical schools have continued to extend the traditional length of the six- or seven-year probationary period endorsed by the AAUP. In 2002, 76 medical schools with tenure systems responded that the length of pretenure probationary period for basic science faculty was seven or fewer years. Forty-four schools had a probationary length of eight years or more, including 11 schools that reported indefinite length. Although the number of schools with a standard probationary period has not changed dramatically in the last five years, there has been a noticeable shift compared with 1994, when 84 schools reported to have used the standard seven-year period. Nevertheless, the majority of the medical schools still require their basic science faculty to be evaluated for tenure by the seventh year of employment.

Other researchers have previously discussed the rationale for lengthening the pretenure period for clinical faculty.^{15,16}

Table 2

Examples of Limited Tenure Financial Guarantee for Basic Science Department Faculty, Selected U.S. Medical Schools, 2002			
Example	School	Tenure-Guaranteed Portion of Salary	Additional Details
A salary figure linked to a fixed percentage of the average basic science faculty salary by rank	University of Colorado School of Medicine (public school)	Tenure guarantees only the base salary, which is set at 70% of average salary of all basic science faculty by rank at the school for the prior year.	A faculty member's total salary may not be reduced below base.
A salary figure linked to the median salary of school of medicine basic science tenured faculty by rank	University of Pittsburgh School of Medicine (private school)	University base salary is capped at annual median salary for school of medicine basic science tenured faculty. For FY04, professor \$120,452; associate professor, \$85,079.	Although there is a base salary associated with tenure, this does not preclude reducing the base salary level below that amount. A tenured faculty member's university base salary may be reduced up to 20% annually if performance is not adequate to meet a minimum standard.
A fixed percentage of total salary	University of Miami School of Medicine (private school)	Tenure carries a "limited financial tenure" amount, which equals 75% of the first \$40,000 in compensation paid the previous year and 50% of the remainder of the previous year's compensation.	The compensation of all tenured faculty may be ratcheted down from the expected salary (calculated annually) to the limited financial tenure amount based on performance.
	University of Louisville School of Medicine (public school)	Base salary is not to exceed 66% of the total regular compensation.	
	University of Michigan Medical School (public school)	Base salary is equivalent to nine-month salary.	
	University of New Mexico School of Medicine (public school)	Base salary is not to exceed 85% of total salary.	
A salary figure fixed by rank	University of Maryland School of Medicine (public school)	A fixed dollar amount (the set salaries rise with any state mandated cost-of-living allowances). As of 2002: professor—year 1, \$83,878; year 2, \$75,766; year 3 and beyond, \$67,654; associate professor—year 1, \$67,654; year 2, \$59,542; year 3 and beyond, \$51,430.	Base salary: It is only meant to apply to faculty who are chronically unable to generate their predefined professional component (grants). The amount varies by rank and decreases in years 2 and 3.
	University of Pennsylvania School of Medicine (private school)	University base salary for FY2004 is: professor, \$76,563; associate professor, \$61,250; assistant professor, \$49,000.	
A salary figure linked to the average regional and national salaries of medical school faculty	University of Texas Medical Branch at Galveston (public school)	Base salary is set up to the 80th percentile of the AAMC Faculty Salary Survey.	Transition: Base salary was set at 100% of faculty salaries for FY1997, prior to the start of the plan. It was "frozen" at the figure (the salary earned in FY1997), until such time as it became equal to or was exceeded by 60% of median basic science faculty salary of the AAMC Faculty Survey by rank.
	University of Vermont College of Medicine (public school)	Base salary is not to exceed 60% of median basic science faculty salary of the AAMC Faculty Salary Survey by rank.	

Although the AAUP rejected the concept of extending the probationary period for basic science faculty,¹⁷ some medical schools have done so anyway, for at least two reasons. The main driving force behind this policy revision is the growing difficulty for junior faculty to start research programs. Increased competition for research grants has made it more difficult for junior faculty to adequately develop a record of scholarship, receive national recognition, and provide adequate amounts of teaching and university service within the standard six or seven years prior to a mandatory tenure review. A second reason is the desire of some junior faculty members for time to balance family and work responsibilities.¹⁸

Revision of the “up-or-out” provision. Traditional tenure systems are predicated on the up-or-out provision that terminates the employment of faculty members who do not receive tenure at the end of the probationary period. Historically, medical schools employed up-or-out provisions for basic science faculty, but schools have changed significantly since the early 1990s. Less than half of the medical schools with tenure systems had up-or-out policies for basic scientists in 2002, compared with more than 80% of schools in 1994. In 2002, 34 schools allowed basic science faculty members who did not receive tenure at the end of the probationary period to remain on a renewable appointment basis and be reevaluated for tenure in the future; another 30 schools allowed for continuous appointment but not tenure eligibility in the future.

Transfers between appointment tracks. In addition to modifying the maximum number of years of the pretenure probationary period, medical schools are increasingly allowing their basic science faculty members to transfer between tenure-eligible and nontenure tracks. In the 2002 AAMC Faculty Personnel Policies Survey, 103 medical schools with tenure systems reported that basic science faculty members initially appointed to a nontenure track could transfer to a tenure-eligible track. Frequently schools hire junior researchers on a nontraditional track and allow them to switch to the tenure track at a later date so they can focus on developing successful research programs without the pressure of the tenure-track time constraints.

Ninety schools also allowed their faculty members on a tenure-eligible track to transfer to a nontenure track. The University of Pittsburgh policy, for example, states “a faculty member in the tenure stream with not more than two years remaining before the mandatory review for tenure may request to be temporarily transferred to nontenure-stream status.” Among those 90 schools that allowed tenure-eligible faculty members to transfer to nontenure track, about half permitted faculty to transfer back to the tenure track.

Tenure-clock-stopping policies. In 2002, more than three quarters (92) of U.S. medical schools with tenure systems

had “tenure-clock-stopping” policies that allow tenure-eligible faculty members to remain “on track” but to have their probationary period extended. This is a slightly higher figure than was previously found in the 1994 AAMC Faculty Personnel Policies Survey (81). At these 92 schools, the clock-stopping policies were most commonly applied under three circumstances: childcare (69), care for sick family members (62), and medical disability (67). For childcare, the majority of the schools allowed both male and female faculty members to use this policy (62). Schools vary when both of the spouses/partners are members of the standing faculty. The University of Pennsylvania policy, for example, states that both spouses and domestic partners are covered. On the other hand, Columbia University’s policy states: “When both parents work at the University, only one may be considered primary [caregiver of a dependent] at any time.” A significant number of schools’ policies were not clearly defined in this regard.

Other reasons also merit stopping the tenure clock. Creighton University’s policy allows health sciences faculty members who are “actively enrolled in a program leading to a terminal degree appropriate to [their] faculty responsibilities” to extend the probationary period up to three years until the degree is received. East Carolina University permits a faculty member to extend the probationary period when assuming “a full-time administrative position for one or more semesters.”

The majority of the schools reported that their tenure-clock-stopping policies have been used (61). We do not know, however, how often such policies are invoked. Anecdotal evidence suggests that basic science faculty members might hesitate to take advantage of these policies for fear that they would be penalized and subject to additional requirements in the tenure review because of the perception of extra time to prepare for tenure. To counteract this view, some schools have provided explicit statements to the contrary. For example, the University of Arizona policy stipulates: “An individual granted a parental delay shall not be subject to additional scholarship or service requirements, above and beyond those normally required, in order to qualify for retention or tenure.”

Less-than-full-time employment. Another way schools have introduced flexibility into tenure policies is by offering less-than-full-time tenure-track appointments. In 2002, 48 schools indicated that they would allow their faculty members to work less than full-time while remaining on a tenure-eligible track. Of these schools, 28 set the minimum percentage of time under such arrangements at 50% or more. Another fifteen schools did not have a clearly defined limit. The general idea in this type of policy is to allow faculty members to devote the remainder of their time and effort to family responsibilities, with the expectation that they will

return to full-time status at some point. The policy of Columbia University provides an example: "To assist full-time officers of instruction who must prepare for a tenure review while raising a family, the University allows . . . [these faculty] to retain their full-time status, and its associated benefits and privileges, while providing part-time service." Women faculty members may be more likely than men faculty members to use less-than-full-time employment. In a 1996 study, Fromm and Bickel¹⁹ found that while women constituted 24% of all full-time medical school faculty, they represented nearly 60% of the faculty who worked less than full-time.

Taken together, these five policy changes—the extension of the probationary period, up-or-out revisions, appointment track transfers, tenure-clock stopping policies, and less-than-full-time employment—are variations on the same theme: flexibility from traditional tenure policies and practices to accommodate the evolving workplace in academic medicine and the demands of a new cadre of scholars. In their study of junior faculty careers, Rice and Sorcinelli²⁰ found the greatest complaint voiced by new faculty was lack of time to juggle multiple work demands in addition to family life. Many of the innovations described in this article modify the tight constrictions of the standard AAUP-endorsed probationary period though extended time, time off-track, or part-time work arrangements.

Academic medicine is on the vanguard of altering faculty appointment policies and practices to meet its current academic staffing needs. Medical schools appear more open to departures from faculty employment norms than universities in general. For example, in a random stratified sample of four-year institutions, Trower²¹ found tenure-clock-stopping policies in effect at only 22% and extended probationary periods at only 4% of colleges and universities. Another recent study found that only 5% of colleges and universities allow tenure-track faculty to work less than full-time.²²

The question remains, however, to what extent these policy provisions at medical schools are actually used in practice. An examination of the frequency of use and efficacy of such flexible tenure policies is outside the scope of this paper. We would envision, however, that policies such as lengthened probationary periods and appointment track transfers that enable junior investigators to successfully develop their research programs while meeting the demands of the tenure system are increasingly accepted at medical schools around the country. The use of flexible policies for family and childcare responsibilities, such as stopping the tenure clock, may have less popularity because of lingering academic norms that frown on untraditional work arrangements and the competitive nature of biomedical research and funding that makes less-than-full-time work difficult to sustain.

CONCLUSIONS

In this article, we have presented several evolving trends in appointment and tenure policies of basic science faculty at U.S. medical schools. National data demonstrate that medical schools have gradually expanded the proportion of non-tenure-track appointments in basic science departments, albeit much less dramatically than both MD and PhD appointments in clinical departments. Increasingly, medical schools have moved to limit the financial guaranteed portion of salary for tenured basic scientists. But lest one conclude that the role of tenure is diminishing, we submit that medical schools are not moving to eliminate tenure but, rather, are preserving its basic tenets in fresh forms. By introducing flexibility into the tenure process—such as the extension of probationary periods, elimination of up-or-out provisions, and addition of tenure-clock-stopping options—medical schools are refashioning academic tenure to make it more relevant in the modern academic medical center and more realistic for new basic science faculty members.

These policy modifications acknowledge that neither academic scientists nor medical schools are the same as a generation ago. As Chait²³ summarized in his national study of academic tenure, "new scholars want to balance work and family, most presume dual-career households without an extended family nearby, and many recognize (and some embrace) the likelihood of multiple appointments in various locations, and maybe even several different careers, over a lifetime." If Chait's understanding of the next generation of scholars applies to medical school researchers, we would expect to see ongoing appeal for the types of academic career policies described in this paper.

Medical schools, too, are not as they used to be. The economic realities of academic medicine at the beginning of the 21st century are increasingly market-driven and continually tenuous. In an extended era of financial uncertainty, medical schools are changing the nature of their academic workforce. The evolving appointment and tenure policies and practices for basic science faculty described in this article reflect schools' needs for flexible staffing, limited financial liability, and multiple recruitment and retention pathways.

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