# Endowed Chairs and Professorships: <br> A New Frontier in Gender Equity 

Luanne E. Thorndyke, MD, Robert J. Milner, PhD, and Laurinda A. Jaffe, PhD

## Abstract

## Purpose

Endowed chairs and professorships are prestigious and financially important awards that symbolize individual faculty recognition. However, data about the gender distribution of these positions are lacking. The purpose of this study was to examine the gender distribution of endowed positions at U.S. medical schools and identify strategies that have been used to promote investiture of women into these positions.

## Method

The authors interrogated the websites for all U.S. medical schools for publicly available data. Of 38 schools that listed schoolwide information, they analyzed data from the 30 with at least 10 endowed
positions. Then, they conducted interviews with deans of the 10 schools with the highest percentages of women holding endowed positions ("top 10") to understand the strategies they used to increase gender equity in this area.

## Results

The percentage of endowed positions held by women at the 30 schools analyzed ranged from $10.8 \%$ to $34.6 \%$, with a mean of $21.6 \%$. Themes that emerged from interviews with deans included (1) intentionality to identify women candidates in the selection process, (2) monitoring the numbers of women holding endowed positions, (3) inclusion of endowed positions as part of larger institutional goals on
gender equity and diversity, (4) use of endowed positions to recruit, retain, and recognize women faculty, (5) purposeful fundraising to increase the number of endowed positions, and (6) institutional investment of resources to develop women faculty.

## Conclusions

Analysis of the gender distribution of endowed positions across 30 representative U.S. medical schools revealed a significant gender disparity. Interviews with deans at the top 10 schools revealed strategies that they have used to promote equity in this important area. Implementation of a systematic national reporting process could provide schools with comparative data to gauge their progress.

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Gender inequity in academic medicine ${ }^{1}$ and across academia more broadly ${ }^{2,3}$ is a pervasive problem that has been resistant to change. Women are underrepresented at senior faculty ranks, ${ }^{4,5}$ and as department chairs, ${ }^{6}$

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deans, ${ }^{7,8}$ health care CEOs, ${ }^{9}$ and entrepreneurs. ${ }^{10}$ Women are less likely to give grand rounds and other academic presentations, ${ }^{11,12}$ serve on editorial boards, ${ }^{13,14}$ lead professional societies, ${ }^{15}$ and receive awards. ${ }^{16}$ Gender disparities exist internationally as well. A recent high-level synthesis of global gender data concluded that "the overall pattern of gender equality for women in science, medicine, and global health is one of mixed gains and persistent challenges." ${ }^{17}$

In this paper, we examine the gender distribution of another marker of recognition: the endowed chair or professorship. ${ }^{18,19}$ Endowed positions are among the most prestigious and financially important awards that faculty can receive, providing funding from an endowment and a distinctive title. They support a portion of the holder's salary, provide funding for research or other scholarly work, and/or support team members. These positions can enable recruiting and retaining talented faculty. Importantly, an endowed position is a marker of individual recognition by the institution.

Despite their importance, little is
known about the gender distribution
of endowed positions, particularly in academic medicine. In this study, we asked 2 questions: (1) What is the gender distribution of these awards?
(2) What strategies might increase the number of endowed positions awarded to women faculty? Our goal was to identify strategies that have been used to promote the investiture of women into endowed positions in U.S. medical schools.

## Method

## Analysis of publicly available data on gender distribution of endowed positions

The public websites of all 149 U.S. medical schools fully accredited by the Liaison Committee on Medical Education (LCME) ${ }^{20}$ as of June 20, 2019, were searched for schoolwide lists of individuals holding endowed chairs or professorships (from here on collectively termed "endowed positions"). Lists were found for 38 of the 149 schools; websites for the other 111 schools did not contain schoolwide listings of individuals holding endowed positions. Of these 38 schools with available data, 8 listed fewer than 10 endowed positions and were excluded from further study. For
the remaining 30 schools, the number and gender distribution of endowed positions for each was collected from the school's website based on the name, picture, and description of the individual. Data were validated as of November 19, 2019, by asking the dean (or designated administrator) to confirm or correct the publicly available information obtained from the website. In a few cases, the dean or designated administrator made changes to account for appointments that were not yet listed on the website. Once the data were verified, the percentage of endowed positions held by women was calculated for each institution.

## Faculty data sources

Data on the faculty at U.S. medical schools were obtained from the 2018 American Association of Medical Colleges Faculty Roster. ${ }^{21}$ Use of these data was reviewed by the University of Massachusetts Chan Medical School Institutional Review Board (IRB) and determined not to be human research. Statistical differences between means were determined by $t$ test. Institutional data from the University of Massachusetts Chan Medical School were obtained with permission from the dean's office.

## Interviews with medical school deans

We selected the 10 schools with the highest percentage of women in endowed positions (the "top 10") for further study. The deans of these 10 schools were invited to participate in an interview; these interviews with the deans were completed and data analyzed in 2020. A predetermined set of questions (see Supplemental Digital Content 1 at http:// links.lww.com/ACADMED/B269) was sent to the deans after they agreed to participate but before the interview. Responses from either the dean or their designee could be submitted in writing or through a phone interview. Phone interviews were conducted by 2 authors (L.E.T. and R.J.M.) using the predetermined set of questions and, with consent, the interview was recorded and transcribed using Otter (https:// otter.ai; Los Altos, California). Per our IRB-approved protocol, the identities of those interviewed and their institutions were restricted to the individuals who conducted the interviews. The study was determined to be exempt and approved by the University of Massachusetts Chan Medical School IRB (study plan \#H00018640).

We analyzed the interview transcripts and written responses using content analysis ${ }^{22}$ to categorize the information and identify themes describing factors that respondents believed led to their success in achieving a high percentage of women holding endowed positions. One author (L.E.T.) coded the qualitative data using a manual open coding process of responses to each question. Two authors (L.E.T. and R.J.M.) then used a comparative process to refine codes and develop themes. All authors reviewed the deidentified transcripts and written responses and participated in an iterative process to finalize themes and select quotes. The authors then reviewed all transcripts and written responses again to ensure that the text and representative quotes accurately reflected the interview data.

## Results

## Gender distribution of endowed appointments at 30 U.S. medical schools

The percentage of endowed positions held by women within the 30 schools analyzed varied threefold, ranging from $10.8 \%$ to $34.6 \%$ (Figure 1), with a mean of 21.6\% (Table 1). When we compared the 10 schools with the highest percentage of women in endowed positions (the "top 10 "), the other 20 schools, and all 30 schools, there were no significant differences in the mean numbers of endowed positions (Table 1). However, the top 10 schools differed from the other 20 schools in that women held a significantly higher mean percentage of endowed positions ( $28.1 \%$ vs $19.2 \%$, Table 1). Notably, this percentage (28.1\%) was slightly higher than the mean percentage of women professors at their institutions (25.8\%, Table 2).

Neither the 30 schools studied nor the 10 schools with the highest percentage of women in endowed positions differed significantly from all U.S. medical schools in terms of their faculty characteristics (Table 2). Both groups (the 30 schools studied and the top 10 schools) included public and private institutions, were located in all U.S. geographic regions, and were widely distributed in rank based upon funding from the National Institutes of Health (NIH). ${ }^{23}$

## Interviews with medical school deans

To investigate how the top 10 schools achieved a comparatively higher
percentage of women in endowed positions, we conducted interviews with the leaders of these schools. We invited each of the deans of the top 10 schools for an interview, and all agreed to participate. Four deans participated themselves, and 6 designated another leader to respond on their behalf. Six submitted written responses, and 4 participated by phone. Content analysis of the interviews revealed the following themes: intentionality; awareness and monitoring; equity as part of a larger institutional goal; recruitment, retention, and recognition; purposeful fundraising and development; and investment in the pipeline of women faculty.

## Intentionality

Intentionality in seeking out qualified women for endowed positions resulted in increased numbers of women holding these positions, according to the interviews. The deans noted that because they play the principal role in nominating individuals for endowed positions, they must make their commitment to achieving gender equity apparent through their actions. One stated, "If 2 equal candidates are identified, the woman has the advantage because we are seeking to change the landscape." Another commented, "The increase in women faculty holding endowed chairs reflects, to some extent, a latent pool of talent that had been under-recognized with endowed chair status by our university over prior years. Beyond that, there has been a purposeful effort to correct the inequity," Another noted, "Achieving gender equity requires active attention. While we have better numbers than other institutions, we have not reached equity and need to expand on these numbers."

We found that when an endowed position was linked to a department chair position, a formal search was commonly undertaken, often accompanied by implicit bias training of search committee members with the intent to promote diversity in the pool of candidates. However, for endowed positions not associated with a chair position, the process differed across schools, sometimes involving a faculty committee, an open search process, or an open request for nomination or selfnomination. Intentionality in seeking out qualified women candidates was a feature that remained consistent in these processes. As one dean stated, "It's all


Figure 1 Gender distribution of endowed positions at 30 U.S. medical schools as of 2019. Each bar in the graph shows the percentage of endowed positions held by women faculty at each medical school included in our analysis ( $n=30$ ).
just being conscientious or conscious of the issue $\ldots$ and making sure that you consider this in every appointment."

## Awareness and monitoring

Most leaders were generally aware of the gender distribution of those holding endowed positions at their school, although only a few said that they specifically tracked the numbers. One dean acknowledged that "you notice all men. It's quite apparent." The leaders noted that monitoring and annual reporting kept a spotlight on gender equity. One dean cited the importance of implementing a process to continually monitor the gender
distribution of endowed (and other leadership) positions, with regular reporting of results to institutional leaders and more broadly across the institution. Having women in leadership positions also helped raise consciousness about gender. One leader noted that "there is an increased awareness of identifying top talent among women" when women are already present in leadership positions. Deans attributed their success to the presence of highly accomplished women within their faculty ranks and noted that leaders need to be aware of the accomplishments of their women faculty. As one advised, "Don't expect
women to be their own cheerleaders. You need to seek out the stars."

Equity as part of a larger institutional goal
The inclusion of gender equity in endowed positions was part of a larger institutional goal to promote equity and diversity, according to many of the deans. One stated, "The inequity that existed historically at our institution has led to a purposeful deployment of endowed chair positions to qualified women faculty." Another remarked, "There are similar initiatives to monitor and promote gender equity among academic department chairs, other senior administrative

Table 1
Number of Endowed Positions and Their Gender Distribution at the 30
U.S. Medical Schools Analyzed, 2019a

| Category | All 30 schools | Top 10 schools ${ }^{\text {b }}$ | Other 20 schools |
| :---: | :---: | :---: | :---: |
| No. of endowed positions, mean (range) ${ }^{\text {c }}$ | $\begin{array}{r} 87.3 \\ (18-279) \end{array}$ | $\begin{array}{r} 69.4 \\ (21-164) \end{array}$ | $\begin{array}{r} 96.3 \\ (18-279) \end{array}$ |
| \% of endowed positions awarded to women, mean (range) | $\begin{array}{r} 21.6 \% \\ (10.8 \%-34.6 \%) \end{array}$ | $\begin{array}{r} 28.1 \% \mathrm{~d} \\ (23.3 \%-34.6 \%) \end{array}$ | $\begin{array}{r} 19.2 \%{ }^{d} \\ (10.8 \%-23.0 \%) \end{array}$ |

[^1]Table 2
Characteristics of the Full-Time Faculty at the $\mathbf{3 0}$ Medical Schools Analyzed Compared With All U.S. MD-Granting Schools ${ }^{\text {a }}$

| Category | $\begin{array}{r} \text { All } \\ 30 \text { schools } \end{array}$ | $\begin{array}{r} \text { Top } \\ 10 \text { schools }^{\text {b }} \end{array}$ | Other 20 schools | All 149 U.S. <br> MD-granting schools |
| :---: | :---: | :---: | :---: | :---: |
| No. of all faculty, mean (range) | $\begin{array}{r} 1,519 \\ (547-3,655) \end{array}$ | $\begin{array}{r} 1,438 \\ (547-2,916) \end{array}$ | $\begin{array}{r} 1,559 \\ (644-3,655) \end{array}$ | $\begin{array}{r} 1,189 \\ (15-9,103) \end{array}$ |
| \% of all faculty who are women, mean (range) | $\begin{array}{r} 42.8 \% \\ (31.0 \%-55.6 \%) \end{array}$ | $\begin{array}{r} 41.6 \% \\ (33.9 \%-45.0 \%) \end{array}$ | $\begin{array}{r} 43.4 \% \\ (31.0 \%-55.6 \%) \end{array}$ | $\begin{array}{r} 41.3 \% \\ (20.5 \%-62.0 \%) \end{array}$ |
| \% of all faculty who are professors, mean (range) | $\begin{array}{r} 24.2 \% \\ (10.6 \%-53.1 \%) \end{array}$ | $\begin{array}{r} 25.2 \% \\ (16.7 \%-27.1 \%) \end{array}$ | $\begin{array}{r} 23.8 \% \\ (10.6 \%-53.1 \%) \end{array}$ | $\begin{array}{r} 21.6 \% \\ (1.4 \%-53.1 \%) \end{array}$ |
| \% of all professors who are women, mean (range) | $\begin{array}{r} 26.0 \% \\ (14.2 \%-34.7 \%) \end{array}$ | $\begin{array}{r} 25.8 \% \\ (18.0 \%-30.4 \%) \end{array}$ | $\begin{array}{r} 26.2 \% \\ (14.2 \%-34.7 \%) \end{array}$ | $\begin{array}{r} 24.7 \% \\ (4.2 \%-58.3 \%) \end{array}$ |

aSource: 2018 Association of American Medical Colleges Faculty Roster. ${ }^{21}$ There were no significant differences ( $t$ test) in the means for each measure between the 30 schools analyzed, the 10 schools with the highest percentage of endowed positions held by women, and all U.S. MD-granting schools.
${ }^{\text {b }}$ The 10 schools with the highest percentage of endowed positions held by women.
positions, and full professors. Likewise, there is a continual vigilance regarding salary equity."

Deans indicated that the search process to identify candidates for endowed positions should consider gender and diversity. Several emphasized the importance of dean leadership to promote an "institutional mindset" around equity-as well as higher-level support from the provost or president. As one dean stated, "Diversity and an inclusive culture starts from the top." Another commented that the effort to promote diversity extends "beyond gender too. It's in terms of numbers: gender, race, and ethnicity. But also, we want to ensure equity in terms of sexual identity and orientations. ... It is a part of a general strategy overall for equity."

## Recruitment, retention, and recognition

The deans consistently identified the use of endowed positions as a strategy to recruit, retain, and recognize top women faculty. One dean reported being "actively engaged in several initiatives to increase recruitment and retention of women faculty," while another reported that "we have purposefully used the appointment of women to endowed chairs as a mechanism for retention of our most accomplished women faculty." Another stated that endowed positions are awarded mostly to "internal candidates who we are trying to reward."

## Purposeful fundraising and development

Establishing new endowments surfaced as a useful strategy to accelerate the proportion of women holding endowed
positions. Leaders emphasized that vacancies and new positions represented valuable opportunities to increase gender balance in endowed positions. One dean credited deliberate fundraising to establish new endowed positions, resulting in a rapid increase in the number of women holding endowed positions over a relatively short period of time. Another leader advised working closely with the development office (and donors) to endorse generic language in defining the purpose of new endowments so that the institution does not "end up with an endowment that's unduly restrictive." Other fundraising strategies identified included "having Faculty Affairs and Professional Development working closely with the Office of Development," and "engaging WIMS [Women in Medicine and Science] can also produce good results."

For example, by working closely with the development office, the University of Massachusetts Chan Medical School achieved a threefold increase in the percentage of women holding endowed positions during the period from 2009 to 2019 (Figure 2). The first woman was appointed to an endowed professorship in 2001, representing 1 out of 18 endowed positions. Starting in 2009, there was a deliberate effort by the new UMMS leadership to increase the number of endowed positions through fundraising and to award a substantial number of new positions to women faculty. Between 2009 and 2019, the number of endowed positions doubled (from 25 to 50 ), and women were appointed to 19 of the 46 positions (41\%) that became available
during that period. Consequently, by 2019, women held $29 \%$ of all endowed positions at UMMS. The threefold increase in the representation of women was achieved in 10 years, in large part due to the availability of new endowed positions.

## Investment in the pipeline of women faculty

Institutional investment in programs to support emerging women leaders provides a longer-term strategy to increase gender equity. Deans identified leadership development, mentoring, and institutional support for efforts to facilitate promotion in academic rank as important activities that help all faculty, but particularly women, become qualified for endowed positions. One dean remarked, "Our vice provost for Faculty Affairs and Office of Faculty Affairs team have played pivotal roles in advancing gender equity in many ways, throughout the faculty life cycle. This includes providing excellent faculty leadership development resources, mentoring programs, and assistance with preparation for promotion, which help women faculty to develop the essential qualifications and skills for advancement. This continually primes the pipeline of faculty qualified for more advanced positions like endowed chairs." Others cited their women's faculty committees which foster career development for women faculty as well as advocate for practices that ensure equity in hiring, salary, and promotion.

## Discussion

Our analysis of the gender distribution of endowed positions across 30 U.S.


Figure $\mathbf{2}$ Increase in endowed positions awarded to women faculty at the University of Massachusetts Chan Medical School, 1985-2019. The gray bars (left axis) represent the number of women faculty newly appointed to endowed positions in each year. The dashed line (right axis) shows the percentage of women faculty holding endowed positions as a percentage of total endowed positions. The values in the boxes indicate the percentages of new appointments of endowed chairs that were awarded to women during each period.
medical schools with schoolwide publicly available information identified a significant gender disparity. Interviews with deans and medical school leaders at the schools that achieved the highest percentage of women in these positions illuminated factors that contributed to their success and suggested strategies that might be used by others. A summary of these strategies, with examples offered by the deans during the interviews, appears in List 1.

This study complements and expands previous studies that have shown that endowed positions at U.S. universities are held disproportionately by men in the fields of economics, ${ }^{24,25}$ marketing, ${ }^{18}$ management, ${ }^{26}$ and education. ${ }^{19}$ A study of management schools ${ }^{26}$ concluded that the differential allocation of endowed professorships by gender was not attributable to differences in merit. Likewise, a study of endowed positions in departments of medicine of the top 10 medical schools based on NIH funding found that women professors were much less likely to hold endowed positions than their male counterparts, and the differential allocation was not attributable to differences in merit. ${ }^{27}$ However, no prior studies have examined the schoolwide gender distribution of endowed chairs in U.S. medical schools, thus opening a new area for investigation and intervention.

Our interviews with medical school deans indicated that the process to select individuals for an endowed position varied among the schools. Some used a faculty committee to identify and recommend candidates; others kept the entire process under the dean's purview. Both approaches were successful in promoting gender equity in endowed positions, with the salient feature appearing to be an intentionality in identifying and nominating qualified women faculty, either by the dean or by a faculty committee. Institutional training to increase awareness of bias is another means to mitigate bias habits. ${ }^{28,29}$

Most endowed positions are held for many years; thus, an opportunity to accelerate the pace of change comes from expanding the number of endowed positions available and ensuring that women faculty are nominated (Figure 2). As new endowments are established, having a broad description of the purpose for the endowment permits a wider group of individuals to be considered. Filling vacancies provides another mechanism to recognize deserving women faculty. Endowed position vacancies may need to be revisited with the donor to consider redirection of the endowment to allow opportunities for diversification. Finally, establishing endowed positions in women's health can both advance women
in academia and positively impact women's health. ${ }^{30}$

The potential pool of candidates for endowed positions, in general, is drawn from the rank of full professors. Among the top 10 schools in our study, the percentage of endowed positions awarded to women was slightly higher than the overall percentage of women professors. Based upon these findings, we recommend that the percentage of women endowed professors within a school should at least approximate the percentage of women professors at the school. This benchmark for gender representation in endowed positions should be an attainable minimum goal for all medical schools. Moving beyond this will require progression of more women to the professorial ranks to ensure a robust pool of highly qualified women candidates.

To increase awareness of the gender disparities in endowed positions, institutions should track and report to senior leadership the gender distribution of those holding endowed positions. Similarly, on a broader level, the Association of American Medical Colleges (AAMC) could require institutions to report the gender distribution of endowed positions for The State of Women in Academic Medicine report, ${ }^{1}$ and the LCME

## List 1

## Strategies to Increase Gender Equity in Endowed Positions, With Examples as Offered by Deans of the 10 U.S. Medical Schools Analyzed With the Highest Percentage of Women Faculty in Endowed Positions

1. Ensure that an intentional effort is made to identify and nominate qualified women faculty for endowed positions when vacancies or new positions occur.

- Seek out star women faculty. Be aware that they may not self-promote their accomplishments.
- Specifically charge faculty search committees to identify a diverse slate of faculty candidates.

2. Maintain an awareness of gender gaps within the institution.

- Ensure periodic reporting of the gender distribution of endowed positions to leadership and more broadly across the institution.
- Use administrative offices (faculty affairs or diversity and inclusion) or faculty committees (women's faculty committee) to monitor progress in closing gender gaps.

3. Include gender equity in endowed positions as part of the institutional goals to promote equity and diversity.

- Include gender distribution of endowed positions as part of diversity data monitoring.
- Promote diversity and gender equity through visible, demonstrable support from senior leadership and clear articulation of goals.

4. Strategically deploy endowed positions to recruit, retain, and recognize top women faculty.

- Use endowed positions to enhance recruitment and/or retention packages for top women faculty.
- Award endowed positions to recognize the contributions of women faculty stars and demonstrate their value to the institution.

5. Engage in directed fundraising efforts to establish new endowments.

- Work with donors through the institutional advancement office to establish new endowments or repurpose vacant positions to allow broader consideration of disciplines and candidates.
- Pursue funding for endowments in targeted areas corresponding to those of qualified women candidates.

6. Invest institutional resources to support current and emerging women leaders to prime the pipeline of future women endowed chairs.

- Ensure qualified women faculty are considered for institutional research funding awards.
- Allocate institutional resources to support women's leadership development and sponsor appropriate women for leadership positions.
could require that institutions report the number and gender distribution of endowed positions as part of the diversity information submitted during the reaccreditation process. Diversity reporting requirements have recently been implemented in the business sector. ${ }^{31}$ International efforts to increase gender equity in academia ${ }^{2,32}$ would benefit from including endowed positions in reporting requirements and funded initiatives. Notably, to promote inclusion of more women and underrepresented groups in the Canada Excellence Research Chairs program, the Government of Canada recently announced funding of a new competition for 11 new endowed research chairs at Canadian universities. ${ }^{33}$

Strengths of our study include that this is the first schoolwide analysis of the gender distribution of endowed positions in U.S. medical schools. Although our analysis was based on publicly available data and was not comprehensive, the 30
schools studied—and the top 10 schools selected for interview-are representative of all U.S. medical schools based upon statistical analysis of faculty data. These schools also reflect the variety of U.S. medical schools across dimensions of public/private status, geographic region, and NIH funding. Another strength of this study is the deeper investigation to understand how some schools were more successful than others in achieving higher percentages of women holding endowed positions.

Our study was restricted to those schools that provided schoolwide lists of endowed positions on their public websites. Such information was found for only 38 schools, thus limiting the size of our study and revealing a gap in transparency in this important area. We may have missed schools with a higher percentage of endowed positions held by women; if so, we may have also missed important strategies and best practices in promoting gender equity. Another limitation of our
study was restriction to a binary gender analysis. Future studies will be needed to explore other dimensions of diversity in the awarding of endowed positions, including race, ethnicity, and nonbinary gender. Additional research is also needed to determine whether disparities exist in the amount of funding provided by endowments that are awarded to women.

## Conclusions

This report of the gender distribution of endowed positions across a sample of 30 U.S. medical schools revealed that only $21.6 \%$ of these positions are held by women. By bringing attention to this topic, a new frontier in the landscape of gender equity has been opened. Our intent is to motivate medical schools to examine and track the gender representation of their institutional endowed positions and make this information publicly available. We hope that schools and leaders will incorporate the strategies and practices that some schools have found effective in increasing the numbers of women holding endowed positions (List 1). Finally, we recommend that the AAMC incorporate systematic national reporting of the gender distribution of endowed positions in their regular data collection processes, a practice that would provide schools with comparative data to gauge their progress and promote gender equity in this important area.
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L.E. Thorndyke is professor of medicine,

Department of Medicine, University of Massachusetts Chan Medical School, Worcester, Massachusetts.
R.J. Milner is senior associate dean, Faculty Affairs, and professor of clinical neurology, Keck School of Medicine, University of Southern California, Los Angeles, California.
L.A. Jaffe is Board of Trustees distinguished professor and chair, Department of Cell Biology, University of Connecticut School of Medicine, UConn Health, Farmington, Connecticut.

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[^0]:    Please see the end of this article for information about the authors.

    Correspondence should be addressed to Luanne E. Thorndyke, Department of Medicine, University of Massachusetts Chan Medical School, 55 Lake Ave. N, Worcester, MA 01655; telephone: (508) 797-2969; email: Luanne.Thorndyke@umassmed.edu.
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[^1]:    ${ }^{a}$ Means and percentages were calculated from data validated by each school.
    ${ }^{\text {b }}$ The 10 schools with the highest percentage of endowed positions held by women.
    cAmong the 3 groups of schools, there were no significant differences in the mean number of endowed positions ( $t$ test).
     held by women and the other 20 schools ( $P<.0001 ; t$ test).

