



**Committee on Faculty Development and Gender**  
**Johns Hopkins University School of Medicine**

**Summary Report**

**June 29, 2005**

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## Committee Members

### Co-Chairs:

Cynthia Wolberger, PhD	Professor	Biophysics & Biophysical Chemistry
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### Consultant:

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## **EXECUTIVE SUMMARY**

### **Introduction**

The Johns Hopkins University School of Medicine was founded based on the ideal that women be included in all aspects of the school on an equal footing with men. In recent years, the School has made significant strides in increasing the representation of women in all faculty ranks and in leadership positions. Yet despite the substantial number of women who have joined the School of Medicine faculty, they have remained clustered at the junior ranks.

In 2002, the Women's Leadership Council reported to the Dean and the Advisory Board of the Medical Faculty that, despite the significant proportion of women at the lower faculty ranks for more than a decade, the percentage of women full professors had increased from only 6% to 11% in the previous ten years, and there was only a single female department director. Acting upon these statistics, as well as on a call by the University Provost to establish working groups to improve the status of women at Johns Hopkins, the Dean appointed the Committee for Faculty Development and Gender to investigate the status of women in the School of Medicine.

### **Approach**

The Committee used a data-driven approach to identify potential barriers to the career progression of women faculty in the School of Medicine. Information in four areas were collected and analyzed:

- Faculty representation and rates of attrition and promotion
- A survey of all faculty to identify sources of differences in career progression of male versus female faculty
- Interviews of department directors to learn their views of factors affecting faculty career success and satisfaction
- An analysis of salary equity

### **Major findings and implications**

#### Faculty representation and attrition

- Women are less likely than men to be promoted to a higher rank.
- Women take longer to be promoted than men.
- The attrition of women faculty is higher than that of men.
- The proportion of women at the ranks of Assistant and Associate Professor has remained roughly constant over the past six years.
- Women now constitute 15% of full professors, up from 7.5% in 1994.
- There are currently 3 (out of 30) female department directors

#### Faculty survey

- A large majority of women (80%) report that men and women are not treated equally in their department

- Women were substantially less likely than men to report that they have a voice in departmental decision-making
- Many women report feeling excluded from informal decision-making networks
- Many women report that their career progression has been slowed by family responsibilities.
- 20% of female faculty report having experienced sexual harassment at Hopkins

#### Department director survey

- Directors felt that the competing demands of work and personal life, while an issue for all faculty, particularly affected the recruitment, retention and advancement of women.
- The competing needs of a spouse's career and difficulties in finding satisfactory positions for a spouse adversely affect recruitment and retention of women faculty.
- Women are underrepresented in important decision-making groups and committees.
- While 80% of directors report holding formal annual reviews with faculty, 58% of the faculty survey respondents report having these reviews.
- Directors believe that subtle expressions of gender-based obstacles may occur within the School but are not very prevalent in their departments.

#### Salary Equity

- Total salary for female faculty is on average 6.3% lower than that of men.
- The greater amount of time it takes for women to be promoted further reduces the cumulative compensation and retirement savings of women faculty as compared to men.

#### **Conclusions**

The School of Medicine has made significant strides over the past few years in increasing the proportion of senior faculty and department chairs who are women. Despite this progress, a disproportionate number of our junior faculty fail to progress in their careers, or take longer than men to do so. In addition, women faculty at all ranks are much more likely than their male colleagues to encounter obstacles to their career success and to their full and equal inclusion in the Hopkins community. Our data-gathering efforts have uncovered a number of areas in which women are disadvantaged, either by actual obstacles in institutional policy and practice, by the work environment as they perceive it, or by family responsibilities. The committee has proposed a number of recommendations that should be implemented by the School of Medicine in order to remedy these problems, thereby mitigating the attrition of our valuable female faculty, fostering their careers and enabling the School to live up to the ideals under which it was founded.

## Recommendations

Prompt and significant actions are needed to remedy the problems identified in this report and maximize the hiring, promotion, and retention of our talented female faculty. The following recommendations are designed to address the areas most in need of attention:

- 1) **Promote an institutional culture of equity.** The equal treatment, promotion, and retention of women should rise to the level of an essential mission of the School of Medicine, and should be handled with an effort comparable to the way issues such as Compliance and Patient Safety were addressed.
- 2) **Achieve and maintain salary equity.** An analysis of faculty salaries should be performed annually by the Biostatistics Department in the Bloomberg School of Public Health using a state-of-the-art statistical approach such as that employed in the present study. The results will be given to the Dean's office and a summary of the results should be made available to the faculty. Department directors should be required to rectify all salary discrepancies that cannot be justified based on objective criteria.
- 3) **Promote the careers of women faculty.** Provide an infrastructure to the Vice Dean of the Faculty, including an Associate Dean and additional staff, to:
  - a. Oversee the annual salary analysis and meet with department chairs to assure that salary equity is achieved and maintained.
  - b. Ensure that department directors or division chiefs conduct annual reviews with each faculty member.
  - c. Monitor faculty promotion rates to ensure that both male and female faculty are being put up for promotion in a timely manner, and to investigate faculty concerns about slow promotions.
  - d. Encourage and monitor the inclusion of women in formal and informal decision-making groups.
  - e. Improve quality and access to counseling for faculty regarding the institutional tools that can support families, including limited full time status, daycare, and FASAP.
- 4) **Reduce Barriers to Inclusion.** The scheduling of meetings and conferences outside the hours of 8 a.m. to 5 p.m. should be discouraged.
- 5) **Financial resources for targeted recruitment and retention.** Significant financial resources should be raised and dedicated to the recruitment, retention and promotion of women to the senior ranks of the faculty.
- 6) **Expand institutional education about sexual harassment.** A School of Medicine-wide program should be conducted to enhance faculty awareness about the zero-tolerance policy towards sexual harassment, and how to report incidents should they occur.
- 7) **Conduct exit interviews.** A system should be established for interviewing departing faculty in order to learn the reasons underlying the high faculty attrition rate.
- 8) **Faculty oversight.** Create a standing committee in the Medical School Council to monitor equity factors and present an annual report to the faculty and Dean.
- 9) **Monitor progress.** The faculty survey should be administered in three years to assess the progress in achieving the goals outlined here.

## SUMMARY REPORT

### Historical Background

The issue of gender equity at the Johns Hopkins School of Medicine is made more salient because of the manner in which the school was established. In 1893, the Johns Hopkins School of Medicine was able to open its doors because of generous gifts from prominent women benefactors, in particular Mary Elizabeth Garrett, who stipulated that women be admitted and advanced on an equal footing with their male counterparts. The current initiative in the School of Medicine seeks to realize and sustain this goal and legacy.

In 1989, the Provost's Office investigated the status of women in the School of Medicine, as well as in other Divisions and Schools across the University. It found that the vast majority of women faculty were clustered at the lower academic ranks (instructor and assistant professor) and earned salaries that were, on average, 25% lower than those of men at equivalent rank. Although no formal School-wide interventions were initiated, the report did prompt annual or biennial reports beginning in 1989 from the Office of the Dean, and a 1991 report by the Medical School Council. Similar reports were developed until 1998. In addition, several Departments within the School of Medicine instituted a variety of initiatives to improve the status of women faculty. These included a focus on the timely promotion of women in the Department of Medicine, as well as improved mentoring. In most cases, department-specific programs were conducted largely in isolation of one another.

A letter from the Provost in 1999 called on the Deans of all Schools to designate a 'working group' to lead efforts to improve the status of women faculty and increase their numbers across all ranks. This effort was to result in a plan with specific and measurable goals that could be monitored annually.

In 2002 the Women's Leadership Council (consisting of all women full professors and senior associate professors) of the School of Medicine reported to the Dean and the Advisory Board of the Medical Faculty that, in the ten years since the Provost's report:

- the representation of women on the SOM faculty had remained static at 28%;
- the majority of women faculty remained clustered at the junior ranks (78% and 71% of women faculty were instructors or assistant professors in 1991 and 2001, respectively); and,
- the percentage of full professors that were women had only increased from 6% in 1991 to 11% in 2001.

In response to these statistics and the recommendation from the Provost, Dean Miller appointed the Committee for Faculty Development and Gender (CFD&G) to investigate the status of women in the SOM. The committee's charge was to gather data and identify problems relating to recruitment and retention, promotion, resources, professional climate, and mentoring; and, to make recommendations to correct identified barriers to career advancement. The CFD&G, chaired by Cynthia Wolberger, PhD and John Griffin, MD, initiated a comprehensive program to:

- Gather representational data on women faculty and analyze the relative rates of promotion and departure
- Analyze salary equity for all full-time faculty in the SOM in 2004;
- Interview department directors to assess their criteria and practices for faculty recruitment, development, advancement and retention, and to assess other key department structures and culture related to workplace satisfaction and career success;
- Survey the entire faculty to gauge perceptions regarding career development and satisfaction in 2004.

Below is a brief description of the information gathered in each of the four areas described above, along with the conclusions and recommendations for addressing issues that the results have identified. A more complete description of the methodologies utilized to generate this report and expanded results are found in the appendices to this report.

## **Faculty representation, promotion and attrition**

**Subcommittee:** Nancy Craig, PhD  
Mary Foy, BS

### **SUMMARY**

The rate at which male and female faculty rise through the faculty ranks or leave the School of Medicine was evaluated by examining two cohorts and analyzing what has happened to them in the intervening years. There are significant differences in rank and promotion for male and female faculty. Analysis of the 1989-1990 and 1994-1995 cohorts reveals that a smaller fraction of women than men are promoted to higher rank and that the women spend longer at rank prior to promotion. Women faculty also leave JHUSOM at a higher rate than male faculty. The combination of these factors has slowed the increase in female faculty at the rank of associate professor and above, despite the large numbers of women entering the faculty at lower ranks. A notable achievement, however, is that the fraction of female Full Professors has increased from 7.5% in 1994 to 15% in 2004.

### **METHODS**

Cohort analysis provides the most accurate view of faculty rank and promotion. In this approach, a cohort of all faculty in a particular academic year is chosen, yielding a list of faculty who were in the School of Medicine at that time. An analysis is then done in order to tabulate which of the faculty in that cohort were promoted, how much time it took for them to be promoted to each rank, and how many of those faculty left the institution. The two cohorts chosen were the faculty in the SOM at the rank of assistant professor or above in the academic year 1989-1990 and in 1994-1995. The rate at which faculty in each of these cohorts rose through the ranks or departed the institution was tabulated by sex.



We collected several different types of data from the Registrar's office about the status of male and female full-time faculty in the School of Medicine and made 3 different comparisons:

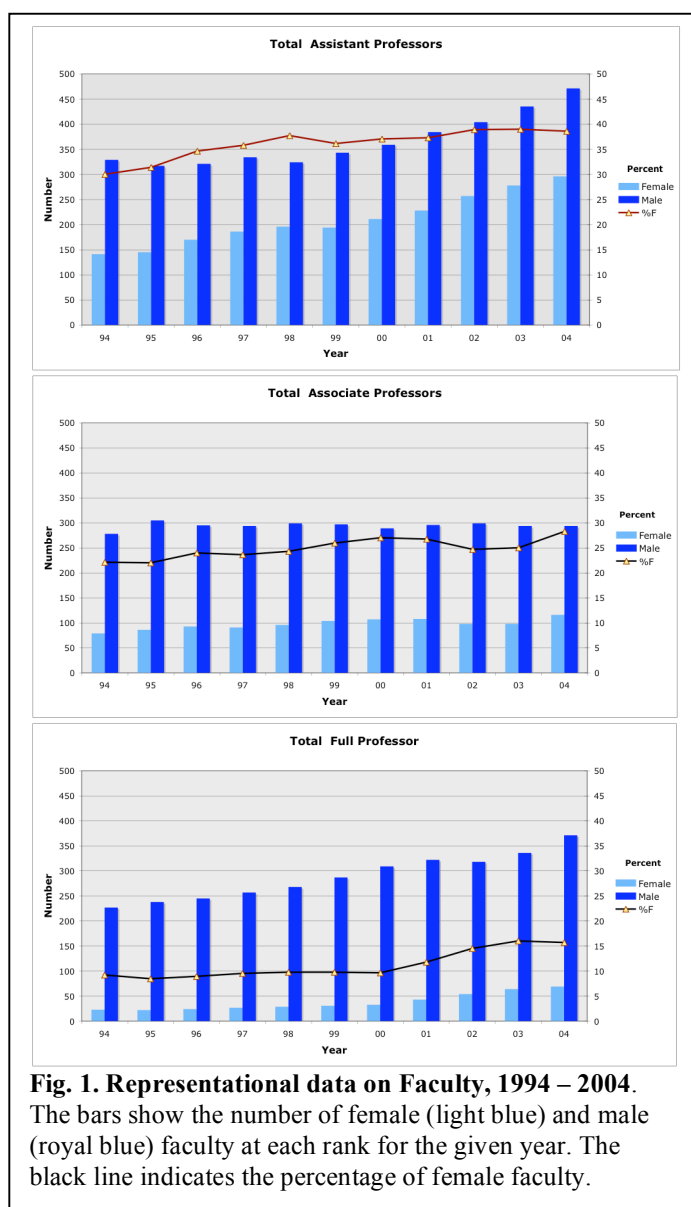
- 1) The number of male and female faculty at each rank through 1994-2004.
- 2) Cohort studies of male and female faculty from 1989- 1990 and 1994 - 1995 that track their promotion to higher ranks and time at rank.
- 3) Cohort studies of male and female faculty from 1989- 1990 and 1994 - 1995 that track how many faculty left JHUSOM and the median time of appointment.

## RESULTS

### Representational data

This data is presented in plots of the number of female and male faculty at each rank in the School of Medicine. It is important to note, however, that while this information does give a “snapshot” of the faculty at a particular time, it is impossible to compare the path of females and males through the appointment and promotion system by simple comparison of ratios of faculty members at various ranks. For example, the increase in the fraction of female Assistant Professors could represent either more female hires than males or slower progression through the system. Proper examination of the experience of females and males in the professorial ranks requires knowing rank at hire, time at rank and time of promotion of each faculty member.

The overall proportion of faculty at the rank of Full Professor has increased from 23% in 1994 to 27% in 2004. In the Clinical Departments, the proportion has increased from 21% to 27%, whereas in the Basic Sciences it has increased from 47% to 67%. Thus, an increasing fraction of the faculty is apparently thriving at the highest level of the institution. However, understanding this phenomenon is not clear unless the “years at rank” can be accurately assessed. During this same time period, the number of Assistant professors

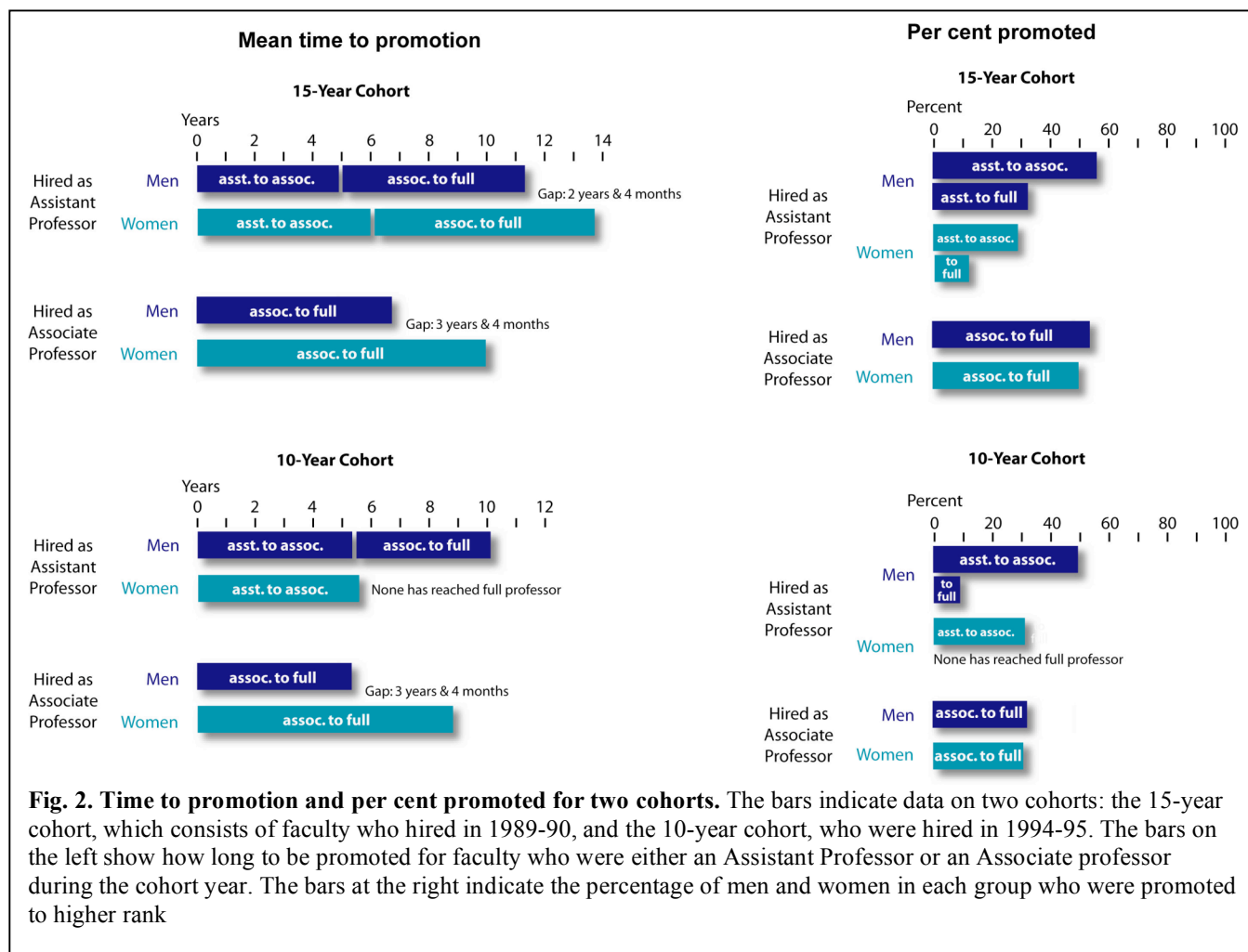


has steadily increased while the number of faculty at the rank of Associate Professor has changed very little. This means that Associate Professors now make up a smaller proportion of the faculty than they did a decade ago.

A notable accomplishment in the School of Medicine has been the significant increase in number and fraction of women Full Professors, to 15.7% (69 female and 371 male Professors) from about 7.5 per cent in 1994.

**Cohort studies: Time at rank and % promoted**

Since representational data just provides a snapshot of how many male and female faculty are at each rank in a given year, cohort studies were carried out in order to assess how many of the faculty at the rank of Assistant or Associate Professor were promoted to higher rank, and how many years it took for them to be promoted. Two faculty cohorts were examined: faculty hired at the rank of Assistant or Associate Professor in the academic year 1989-1990 (15-year cohort) and those hired in 1994-1995 (10-year cohort). The bar graphs in Figure 2 show how long it took, on average, for a faculty member in each group to be promoted to the next rank, as well as the proportion of faculty in the cohort who were promoted.



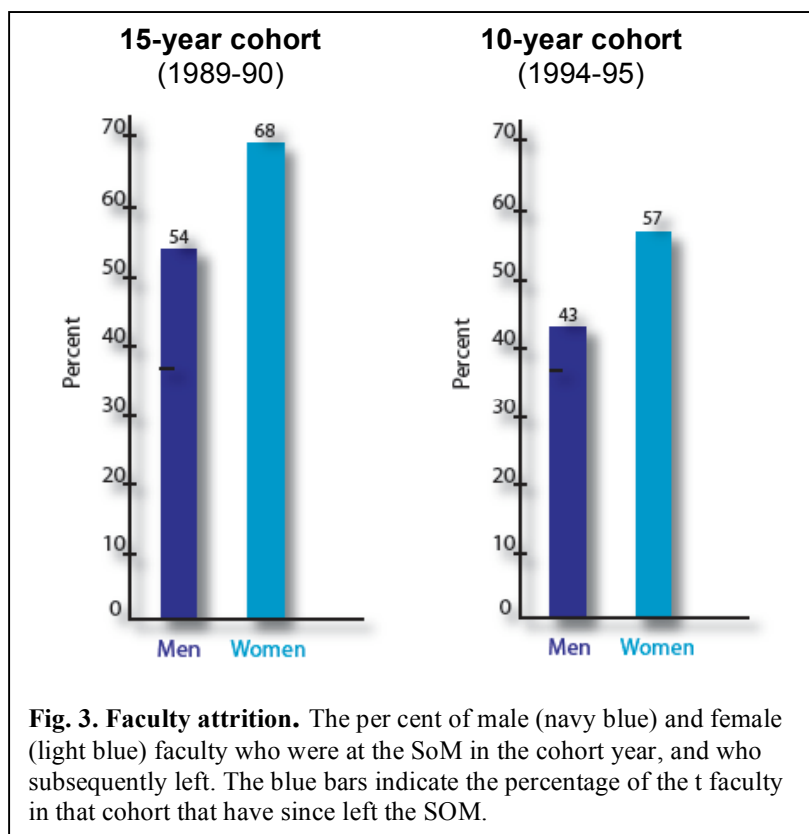
**Fig. 2. Time to promotion and per cent promoted for two cohorts.** The bars indicate data on two cohorts: the 15-year cohort, which consists of faculty who hired in 1989-90, and the 10-year cohort, who were hired in 1994-95. The bars on the left show how long to be promoted for faculty who were either an Assistant Professor or an Associate professor during the cohort year. The bars at the right indicate the percentage of men and women in each group who were promoted to higher rank

The results show that women spent more time at rank than men. The greatest disparities occur at the interval of Associate to Full Professor and, in many cases, differ by years in length. Women who were Associate Professors in either the 1989-1990 or 1994-1995 cohort took an average of 3.3 years longer than men to be promoted to Professor. Women who were Assistant Professors in the 1989-1990 cohort who had reached the rank of Professor took 2.3 years longer than their male counterparts. Notably, of the women Assistant professors in the 1994-1995 cohort, none of the women had been promoted to full Professor, whereas 10% of the men had been promoted to this rank. Since the success rate of women at the Associate Professor and Professorial Promotions committees is no different from that of men, the greater time at rank must be due to other factors. In addition to resulting in slower career progression for women, the lag in promotions must result in significant differences in salary and retirement benefits between men and women.

An analysis of the proportion faculty promoted to higher ranks shows similar disparities between men and women. Of the faculty in the 1989-1990 and 1994-1995 cohorts who were at the rank of Assistant Professor, the fraction of women promoted to higher rank was significantly lower than that of men. It is notable that none of the 1994-1995 women have been promoted to Professor. The fraction of women Associate Professors promoted to Professor has been about the same as men although it should be noted that the actual number of women promoted has been small (3 of 6 in the 1989-1990 cohort and 4 of 13 in the 1994-1995 cohort).

### Faculty attrition

Faculty attrition rates differ for men and women in the two cohorts. Figure 3 shows what proportion of each cohort was male and female (the set of bars labeled “initial”). Of the faculty who have left the SOM since that cohort year, a higher proportion is female, meaning that women were more likely to leave the institution. For example, while women constituted 33% of the 1989-1990 cohort, they comprise 39% of the faculty in that group who have since left the institution. Similarly, women comprise 31% of the 1994-1995 cohort and 39% of that group that subsequently left the SOM.



## Conclusions

Significant progress has been made in increasing the proportion of Professors who are women. However, the proportion is still less than would be expected given that, for the past 10 years, women have comprised greater than 30% of the Assistant Professors. The higher attrition rate of women and the greater time it takes for women to be promoted explains this trend.

## Faculty Survey

Subcommittee Members:

- Joan Bathon, M.D.
- Brendan Cormack, Ph.D.
- Daniel Ford, M.D., MPH
- Jack Griffin, M.D.
- Nancy Roderer, Ph.D.
- Emma Stokes, Ph.D.
- Cynthia Wolberger, Ph.D.

## Summary

A faculty survey was designed by the subcommittee to gather information on faculty experiences and perceptions in the areas of career advancement and professional climate in the School of Medicine. The anonymous survey was structured to explore the various factors that contribute to career success and satisfaction and was administered and analyzed by the Biostatistics Center in the Bloomberg School of Public Health. This survey was the first ever School wide effort of this kind and had a high rate of response: 63% of all full-time faculty, with representative distribution across all ranks and departments and among men and women. The responses of male and female faculty were compared and analyzed in a way that minimized the influence of other parameters such as rank or specialty, where appropriate.:

The principal findings of the survey were:

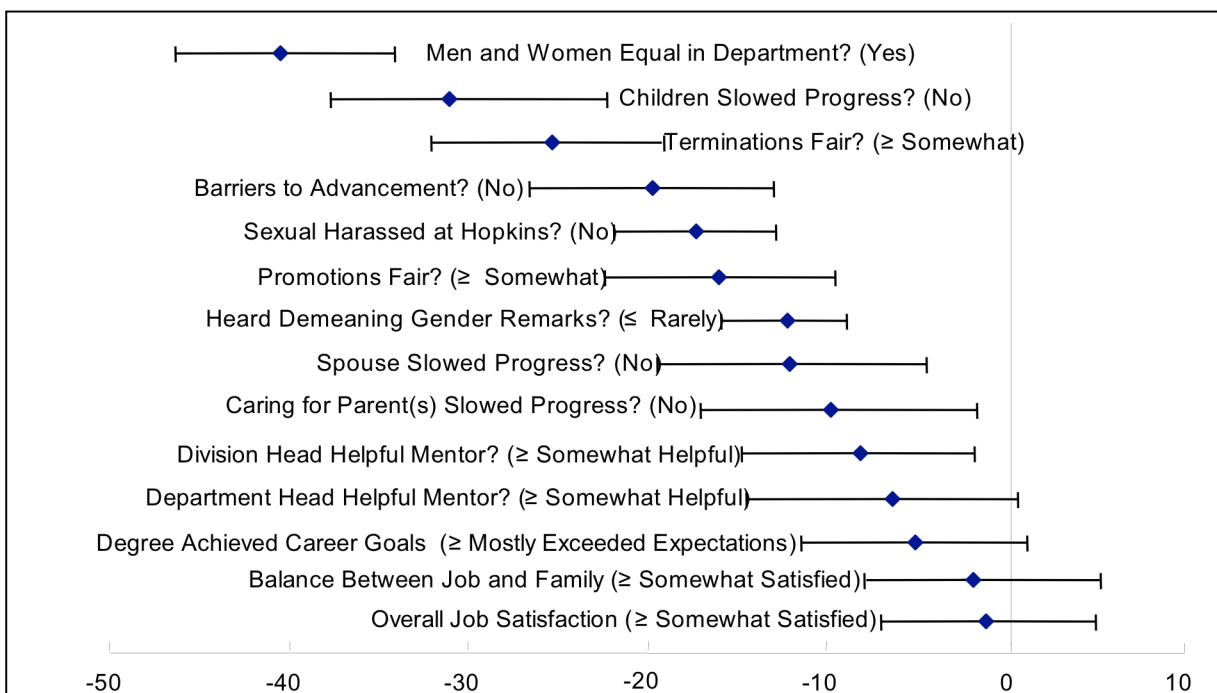
- a) Women were substantially less likely than men to report having a voice in formal and informal departmental decision making processes, or to have served in leadership roles. While the majority of faculty felt that they were perceived by their department leaders as valued members of their respective units, women faculty were somewhat less likely than men to report feeling valued.
- b) Women faculty were twice as likely as male faculty to report significant barriers to career advancement. Women were also much less likely than men to feel that men and women had equal opportunities in their department. On the question of decisions on promotions and termination, women were significantly less likely to report that the process was fair.

- c) A disturbing finding was that one-fifth of the female faculty reported being subject to sexual harassment on one or more occasions. In addition, women were much more likely than men to report demeaning remarks that were based on gender.
- d) While a majority of both men and women faculty currently have dependent children, women faculty were substantially more likely to report being the sole or shared caregiver. Women faculty were also considerably more likely than men to report that the advancement of their own careers had been slowed by care for children, care for parent or relative, or their spouse’s career.

Despite these challenges and differences,  $\geq 70\%$  of both male and female faculty reported moderate to high levels of overall job satisfaction. This rate of satisfaction is surprising for women faculty, given the multiple barriers to career advancement that they perceive, including exclusion from informal networks, lack of collegiality, unequal access to career promoting opportunities, and frank sexual harassment.

Likewise,  $\geq 60\%$  of faculty of both genders report satisfaction with the balance that they have achieved between work and family. Yet women faculty clearly “pay a higher price” than men by virtue of a (perceived) slower rate of career advancement due to higher responsibility for child and parental care, spousal careers, and inflexible work schedules.

The advantages of staying at Hopkins that were cited by both men and women (intellectual environment, colleagues, reputation) presumably offset the gender-imbalanced disadvantages, at



**Fig. 4. Major areas of difference in male and female responses.** Mean difference in percent positive response between females and males, adjusted for confounding factors such as rank and activity. The positive outcome is indicated in parentheses. The diamonds indicate the percent different and the lines denote the 95% confidence interval.

least for those individuals who have remained on the faculty. In the future, it will be critical to understand how gender differences may have influenced the documented higher rates of attrition of women faculty compared to men at Hopkins.

## **SURVEY METHODS**

The objective of this survey was to investigate faculty experiences and perceptions in the areas of career advancement and professional climate in the SOM, and to explore differences in these experiences and perceptions in men and women faculty. The survey questions were crafted by the subcommittee members, who were guided by the literature on gender-based equity as well as prior efforts in this area at other institutions such as Princeton University, the California Institute of Technology, and the University of Arizona School of Medicine. Full-time members of the Johns Hopkins SOM faculty at the rank of instructor or above were asked to participate in a 38 question on-line survey. Faculty received several email notifications about the survey and a publicity campaign utilizing the Inside Johns Hopkins Medicine web page and personal visits to department meetings was used to encourage participation. The survey was opened on April 9 and closed on June 16, 2004. Confidentiality was preserved and a respondent could not complete the survey more than once. A statistical analysis of the data was performed by the Biostatistics Center in Bloomberg School of Health.

Responses to all questions were listed by gender and then corrected to minimize the influence of other parameters on the responses. For example, responses to some questions can be strongly influenced by faculty rank, and the proportion of men and women differs significantly with increasing faculty rank. By adjusting response rates for other variables such as rank (instructor, assistant, associate and full professor) and self-reported career pathway (basic research, clinical investigator, clinician, clinician educator), the influence of these factors on the responses can be minimized. The tables below show the absolute response rates reported by men and women, as well as a “corrected” male rate to which a correction for confounding variables were applied. Using this correction, female and male rates can be compared as if other confounding factors were equalized for the two groups. The difference shown is the difference between the female response rate and the corrected male response rate. A negative difference indicates a less favorable outcome for women (in those questions where “favorable” makes sense). A more complete description of the methodology and the data can be found in the Appendix to this report.

## **RESULTS**

### **Characteristics of Survey Respondents**

Of the 1742 full-time faculty, a total of 1020 faculty (approximately 63% of total full-time faculty) participated in the survey. Although women comprise a minority of faculty (31.3%), a higher percentage of women faculty (70.4%; n=384 of 545) participated in the survey than did men (53.1%; n=636 of 1,197). In contrast, the representation of survey respondents by rank (Table I) closely mirrored their overall representation among the total faculty. The characteristics of the respondents are shown below:

Table I. Characteristics of Survey Respondents

Characteristic		Number (%)	Characteristic		Number (%)
<b>Gender</b>	Men	636 (62.3%)	<b>Career Track</b>	Basic research	314 (30.8%)
	Women	384 (37.7%)		Clinical Investigator	327 (32.1%)
<b>Rank</b>	Instructor	107 (10.5%)		Clinician Educator	186 (18.2%)
	Asst Prof	421 (41.3%)		Clinician	107 (10.5%)
	Assoc Prof	236 (23.1%)		Other	86 (8.4%)
	Prof	256 (25.1%)			
			<b>Department</b>	Clinical	866 (90.7%)
				Non-Clinical	89 (9.3%)

### Faculty Satisfaction at the Departmental/Divisional Level

**Departmental/Divisional Decision Making.** A moderate to high percentage of faculty reported that they are viewed by their Dept. and/or Division Directors as *valued members* of those units, although women were less likely than men faculty to report this (Table II). Few women faculty felt they had a *voice in Departmental decision making* compared to men faculty, whereas a high proportion of faculty of both genders reported a voice in *Divisional decision making*. A great majority of men and women faculty reported the existence within their Departments or Divisions *of informal networks* that influence decision-making, but very few faculty, particularly women, reported being a part of these networks.

Table II. Departmental and Divisional Decision Making and Networks

Question Summary	Positive Response	Percent Positive*			
		Female (A)	Male (raw) (B)	Male (adj for rank and track) (C)	Diff* (A-C)
Viewed as Valued Member of Dept. by Dept. Director?	≥ Somewhat	66.9	77.5	74.1	-7.2
Viewed as Valued Member of Div. by Div. Director?	≥ Somewhat	73.0	82.4	81.3	-8.3
Have Voice in Decision Making in Dept.?	≥ Somewhat	36.8	56.0	48.9	-12.1
Have Voice in Decision Making in Div.?	≥ Somewhat	64.8	73.9	70.0	-5.1
Informal Networks in Dept. or Div. that affect decision making?	≥ Somewhat	86.5	82.1	81.3	5.2
If Yes, Part of Network?	≥ Somewhat	12.1	33.6	24.2	-12.1

\*Percent of positive responses are given by gender, with male percentages directly adjusted by rank and self-reported career track in order to correct for responses that may be influenced by these factors rather than by gender. Mean differences between men (adjusted) and women in the percentage of positive response are given. A negative difference indicates a less favorable outcome for women as compared to men. Bold-face indicates statistically significant difference ( $p < 0.05$ ) between men and women.

**Departmental/Divisional Resources and Support.** Only a minority of faculty reported having been offered a *start-up package* at the time of hire, and women faculty reported this less frequently than men (26.9% and 35.9%, respectively; adjusted difference = -5.8). Faculty were also queried as to whether, during their time on the Hopkins faculty, the SOM and/or their department and/or their division had been *responsive to their needs for specific resources*. Only half of the faculty or less responded positively for most of the items listed (office space, ~66%; clerical support, ~52%; salary, ~51%; lab space, ~35%; departmental research funds, ~38%; clinical opportunities, ~33%; change in teaching responsibilities, ~25%; reduced clinical responsibilities, ~24%; etc.) For most of these responses, there was no statistically significant differences between men and women faculty.

**Departmental/Divisional Practices and Policies.** Most faculty (~80%) felt they understood the *criteria for promotion* ('somewhat clear' or 'very clear'), but fewer (50-60%) reported clarity on the *criteria for termination*. There were no significant differences between men and women in these adjusted report rates. Although annual reviews with the department or division chief are required of all departments at the SOM, only ~60% of faculty reported *annual reviews* with a departmental or divisional director (or designee), with no difference in rates between men and women faculty. Of those who had annual reviews, approximately 80% felt them to be fair, although just 30% felt that the reviews were helpful to their careers. In questions about *opportunities for leadership roles*, a lower proportion of women compared to men faculty reported past or current service in all of the roles queried (Table III).

Table III. Leadership Opportunities

Question Summary	Positive Response	Percent Positive*			
		Female (A)	Male (B)	Male ( <i>adj for rank and track</i> ) (C)	Diff (A-C)
Dept. Chair or Division Chief	Past or Current	8.6	24.5	15.0	-6.4
Chair/ Co-Chair of Dept. Committee	Past or Current	20.1	33.9	23.6	-3.5
Chair/ Co-Chair of SOM or University Committee	Past or Current	7.5	16.0	9.8	-2.4
Member of Dept. Committee	Past or Current	53.5	64.0	52.4	1.1
Member of SOM or Univ. Committee	Past or Current	38.0	51.4	39.1	-1.1
Director of Center/Institute	Past or Current	11.6	14.0	10.9	0.7

\*Same methods as outlined in footnote to Table II.

**Departmental/Divisional Barriers to Career Advancement.** There were significant differences between men and women faculty in the perception of barriers to career advancement and promotion (Table IV). Less than 40% of women faculty reported *no barriers to career advancement*, compared to a modest majority of men. The three *formal barriers* cited most



frequently were: for women faculty, insufficient time for research, insufficient research resources, lack of Dept. support in acquiring outside funds; for men faculty, insufficient research resources, too many clinical responsibilities, and insufficient time for research. The two **informal barriers** cited most frequently by both women and men faculty were exclusion from informal networks and lack of mentors, but women were significantly more likely to cite these as barriers to their career advancement. There was a striking difference between men and women in the perception of gender equity. Only 40% of women perceived **equal opportunities** for men and women in their departments, compared to twice as many men faculty (Table IV).

Table IV. Barriers to Career Advancement and Promotion

<i>Question Summary</i>	<i>Positive Outcome</i>	<i>Percent Positive*</i>			
		<i>Female (A)</i>	<i>Male (B)</i>	<i>Male (adj for rank and track) (C)</i>	<i>Diff (A-C)</i>
Any Barriers to Your Career Advancement or Promotion?	No	36.9	63.2	56.6	- <b>19.7</b>
Men and Women have Equal Opportunities in Dept?	Yes	40.5	81.2	80.9	- <b>40.4</b>

\*Same methods as outlined in footnote of Table II.

**Collegiality and Professionalism.** The percentage of faculty reporting a good, very good, or excellent level of **collegiality** within their Departments and/or Divisions was high, but women faculty were somewhat less likely to report such high levels of collegiality as compared to men (Table V).

Sizeable differences in reports of sex-based remarks or behavior were noted between men and women faculty. Faculty were asked whether they had ever been subject to sexual harassment, which was defined as “unwelcome sexual advances, unwanted physical contact, or a hostile environment created by negative sexist remarks or jokes.” A troubling 21.5% of women faculty reported having experienced **sexual harassment** while working at Hopkins, in contrast to 4.2% of men. In addition, 13.5% of women reported being the recipient of **demeaning gender-based remarks** as compared to 1.3% of men faculty. All of these differences remained statistically significant after controlling for rank and career track (Table V).

Table V. Departmental/Divisional Environment and Climate

Question Summary	Positive Response	Percent Positive			
		Female (A)	Male (B)	Male (adj for rank and track) (C)	Diff (A-C)
Collegiality of Dept.?	≥ Good	70.3	83.2	81.4	-11.1
Collegiality of Div.?	≥ Good	74.7	83.0	82.2	-7.5
Ever Heard Demeaning Remarks Based on Gender?	≤ Rarely	86.5	98.4	98.7	-12.2
Ever Experience Sexual Harassment at Hopkins?	Once or More than once	21.5	3.9	4.2	17.3

\*Same methods as outlined in footnote of Table II.

### Faculty Satisfaction at the Individual Level

**Overall Job Satisfaction and Achievement of Career Objectives.** A moderately high percentage of faculty reported overall *job satisfaction* in response to one of the summary measures/items of satisfaction (Table VI). Men faculty were more likely than women to report job satisfaction, and to report that they had *achieved their career objectives* than women but after controlling for rank and career pathway, these differences were not statistically significant. The top three advantages cited for *staying at Hopkins* were the same for men and women: intellectual environment (~85%), colleagues (~78%), reputation (~69%). The fourth reason cited by women faculty for staying was geographical location (44%), as compared to resources for men faculty (51%).

Table VI. Job Satisfaction and Achievement of Career Objectives

Question Summary	Positive Outcome	Percent Positive*			
		Female (A)	Male (B)	Male (adj for rank and track) (C)	Diff (A-C)
Rating of Overall Job Satisfaction	≥ Somewhat Satisfied	70.0	75.9	71.1	-1.1
Have You Achieved Your Career Objectives?	≥ Mostly Exceed Expectations	50.7	65.6	55.7	-5.0

\*Same methods as outlined in footnote of Table II.

**Mentoring.** There were no significant differences between men and women regarding the availability or quality of the mentoring they have received while at Hopkins. The nature of the survey questions on mentoring do not permit a simple quantification of how many faculty

currently have, or have had, mentors. However, the types of mentors utilized most frequently by faculty were assessed and were similar for men and women faculty (crude unadjusted rates): a) other senior Hopkins faculty (~60%); b) Division chief (~43%); c) colleague (~40%); d) Department director (~36%); and, e) former mentor at another institution (~33%). In general, all categories of mentors were rated as helpful or somewhat helpful by over 70% of survey respondents (men and women).

**Balance in Work-Life and Impact of Family on Career Advancement.** Significant differences between men and women faculty were observed in nearly all responses relating to the impact of family on career advancement. Although similar percentages of men and women faculty reported having *dependent children*, women faculty were significantly more likely to be the *primary, or shared, child caregiver* than men. Half of men faculty reported that childcare responsibilities had *not slowed their career progress*, as compared to only 18.2% of women faculty. Men were more likely than female colleagues to report that *spousal careers, care of parent/relative* and *inflexible work schedule* had *not* slowed the progress of their careers (adjusted differences all statistically significantly different between men and women). Interestingly, despite these differences, equivalent proportions of men and women reported satisfaction with their *balance between work and family* (67.4 and 61.4, respectively; adjusted difference not statistically significant).

Table VII\_. Balance between work and family

Question Summary	Positive Outcome	Percent Positive*			
		Female (A)	Male (B)	Male ( <i>adj for rank and track</i> ) (C)	Diff (A-C)
Do You Have Dependent Children?	Yes	62.8	63.5	64.7	-2.0
If Yes, Are You Primary Care Giver?	Yes / Shared	93.8	63.8	65.1	<b>28.8</b>
If Yes, Have Childcare Responsibilities Slowed Career Progress?	Not at All	18.2	50.9	49.1	<b>-31.0</b>
Do You Have a Spouse or Partner?	Yes	80.1	91.6	89.4	<b>-9.4</b>
If Yes, Has Spouse's Career Slowed Career Progress?	Not at All	62.6	76.9	74.5	<b>-12.0</b>
Has Caring for Parent/ Relative Slowed Career Progress?	Not at All	70.2	82.2	79.8	<b>-9.7</b>
Has Inflexible Work Schedule Slowed Progress?	Not at All	65.6	80.7	76.2	<b>-10.6</b>
Satisfied with Balance Between Career and Family	≥ Somewhat Satisfied	61.4	67.4	62.8	-1.4

\*Same methods as outlined in footnote of Table II.

## Conclusions

The survey data suggest that women faculty disproportionately experience barriers to career advancement and have lower levels of satisfaction compared to men. Some of the barriers that place women at a disadvantage are embedded in our institutional structures and practices, such as lower participation of women in decision-making entities and inflexible work schedules. The disproportionate responsibility for child care shouldered by women faculty at Hopkins, while typical of most women in our society, is another factor that slows the career progression of our female faculty members. These barriers, together with the sense of many women faculty that they are less likely to be treated equally or fairly, are clearly factors in the lower rates at which women faculty progress through the faculty ranks in the Johns Hopkins School of Medicine.

### Director Interviews

Subcommittee Members: Jennifer A. Haythornthwaite, Ph.D.  
 Brock Beamer, M.D.  
 Emma Stokes, Ph.D.  
 Stephen Wegener, Ph.D.

## OVERVIEW AND METHODS

The Departmental Directors play a key role in recruiting, developing and retaining faculty as well as determining the quality of the workplace environment. The Committee appointed a subcommittee to interview the Department and Center or Institute Directors (30) to provide data about the recruitment and retention of faculty, as well as systems they have in place for faculty development. A list of questions was formulated by the subcommittee and used to guide each interview, which covered essential areas of **recruitment, advancement and retention, performance assessment, communication, and mentoring**, as well as **departmental structures** for decision-making and resource allocation. Finally, the topics of **workplace satisfaction** and the specific experiences of women and **gender-based obstacles** were explored throughout the interviews, which were generally conducted by two-person (one male and one female) teams. The subcommittee reviewed the responses to identify current trends and practices, key themes, and best practices.

## RESULTS

1) **Recruitment.** Of the 30 Directors interviewed, the majority (21) reported use of a search committee for the recruitment of some, if not most, faculty. Many Directors reported difficulty recruiting female faculty (11). One prominent theme listed by a number of Directors was the limited number of women choosing certain areas of study and/or specialization – **limitations in the pipeline**. While some Directors spoke of successful attempts to address these problems, others saw this as a national problem related to their field of specialty.

2) **Advancement and retention.** The Directors expressed concerns about helping all faculty -- particularly women -- manage the often competing **demands of work and personal life**, an issue that influences recruitment, retention, and advancement. The majority of Directors (24) indicated that 'work-life issues needed to be addressed' to advance and retain women faculty. Among the work-life issues cited frequently were childcare or child-rearing and the greater responsibilities that women assume that impact their academic careers. Another work-life issue mentioned almost as frequently was **flexibility**, both in scheduling and structuring of work as well as expectations for time to promotion. Other work-life issues mentioned with some frequency were pregnancy and parental leave, and quality of life or greater balance needed between work and personal life. Finally, the issue of dual career spouses in academia was described as a retention issue, as women seem to follow their spouse's choices and adapt their own careers and jobs. In many of these descriptions, the Directors said that institutional approaches need to be more proactive and concrete in addressing work-life issues. The challenges of raising young children were mentioned frequently, but the Directors showed a keen appreciation for the burden that female faculty often have throughout the development of their children. Although the majority of Directors (22) mentioned using counter offers when informed that an individual was considering leaving, some perceived women faculty as less likely to use the threat of leaving as leverage for personal gain and, in some specific cases, women were described as less likely to negotiate for gain even when "legitimately" considering other offers. Directors perceived that one factor in women's choice to leave is a **lack of confidence that JHUSOM provides an environment in which they can thrive** while raising a family. Another common recruitment/retention factor is the inability to find satisfactory **jobs for spouses**. Many Directors believe that, for men and women, deliberate thoughtful planning and assessment of career progression would help retention.

3) **Performance assessment, communication, and departmental structures.** Interviews with the Directors suggest **significant variability across Departments** in practices, structures and systems. The majority of Directors (20) reported a faculty evaluation process that includes use of standard or adapted forms (20). The evaluation focus ranged from an analysis of effort and financial issues to mentoring and a detailed discussion of career goals. Most Directors oversee the evaluation process for the faculty, either conducting it themselves or expecting that Division Directors will conduct the evaluation. The timing and structure of these meetings varies widely across departments: some conduct these reviews informally whereas others provide the faculty with a written summary including identification of specific goals. This evaluation process tended to be more detailed and systematic with junior faculty and those in line for promotion. A large majority (23) of the Directors indicated that the process in place works well for them.

The majority of Directors have an Executive Committee or leadership group (18), formal or informal/ad hoc, comprised of senior faculty (Division Heads, Full Professors and their Administrators). Overall, there are very few women involved in these committees (ranging from 0-40%; the upper range often include women representing nursing or administration who are not faculty; when women faculty were included, the rate is 28%). Almost universally, **directors felt that important decisions are made primarily by men.**

4) **Mentoring.** Mentoring was identified as a primary and significant way to advance and retain faculty and may be most helpful for women as they overcome barriers to their advancement.

The majority (19) of the Directors cited mentoring that focused on assuring that the stages, tasks and requisite skills were achieved. Most Directors (16) described organized and structured formal mentoring activities, whereas 12 indicated no formal activities. The formal activities varied in their approaches, including the use of mentoring committees, having a formal process for women and minorities only, required participation, or each junior faculty choosing a Professor as a mentor. Having women as mentors, as well as in leadership roles, was seen as desirable.

5) **Workplace Satisfaction.** The Directors provided a broad range of responses to three workplace satisfaction questions. Directors each cited multiple factors, including camaraderie (20), flexibility (12), resources (12), money (12), control or autonomy (8), and prestige (8). The majority of directors felt the factors were the same for men and women, junior and senior faculty. The factors cited more frequently for women included flexibility and environments that support the greater demands some individuals face for balancing work and family. There were differences in the manner in which faculty departures were evaluated. For example, some directors saw limited value in doing **exit interviews** as they believed the key issues are usually known, while others felt that exit interviews could be a useful tool to understand and anticipate faculty dissatisfaction.

#### 6) **Gender Schemas and Continuum of Gender-based Obstacles.**

The Directors were asked about the presence of **unconscious and conscious slights** to women faculty that may limit their career success or satisfaction. All Directors who were queried about these slights noted that some continue to persist, although less frequently and less blatantly than in the past. Some Directors acknowledged that assertive comments by female faculty lead to quick change. In many cases the Director felt these conscious and unconscious actions did not arise currently in their own department, but thought that there were still examples in the SOM system. Several commented that **invisibility and exploitation** in the form of excess teaching or clinical demands continue. Also, committee obligations are of special concern, since there is a need for women to be represented on committees, yet it places greater demands on women because of their lower representation in the senior as well as overall faculty ranks. A few Directors suggested that information and education about these gender based obstacles needs to be disseminated and discussed with the assistance of experts.

### CONCLUSIONS

The interview data suggest that there are **perceptual, attitudinal and environmental challenges** that prevent JHUSOM collectively, and faculty members individually, from achieving their full potential. There is the perception that to be a successful faculty member at Johns Hopkins one must devote 24/7 to credible scholarship in science, practice, and education with few options for career path flexibility and little time or energy for non-work activities. Further, although options for flexibility may exist, faculty are not aware of, encouraged to pursue, or perceive as viable flexibility in promotion time lines and career paths.

The large **variability in departmental practices, structures and systems** appears to contribute to the school-wide difficulties in recruiting, advancing, and retaining women faculty. With some

notable exceptions, **few women faculty are involved in leadership** positions within many departments. The Directors described many different practices for implementing the Dean's **mandate for annual reviews** of faculty progress, with one quarter of the departments having no such system. **Mentoring** programs, although developed and formal in some departments, remain quite variable across departments. Despite this, mentoring was identified as a primary and significant way to advance and retain faculty and was recognized to be most helpful for women as they overcome barriers to their advancement. The current availability of mentors and role models to teach strategies on how to balance work and life responsibilities is less than optimal or at least uneven.

Concern was expressed by some Directors that without understanding and responding to the needs of faculty, lower satisfaction and **reduced success in recruiting and retaining certain subgroups will continue, if not escalate**. Many Directors suggested that the Dean's Office could help promote an environment more conducive to the academic success of women faculty by school-wide implementation of successful examples of departmental structure and systems.

## Salary Study

Performed by Elizabeth Johnson in the Biostatistics Center, Bloomberg School of Public Health

### SUMMARY

Salaries of male and female faculty were compared in order to assess whether there are any differences in the compensation of faculty attributable to gender. Since many different factors such as rank, years at rank, department and degree (e.g. M.D. versus Ph.D.) determine faculty salaries, we utilized an analysis that corrected for these factors. The analysis was carried out by the Department of Biostatistics in the Bloomberg School of Public Health and utilized an approach that has been used for a number of years to measure salary equity in that school. Both base salary and total salary was analyzed in order to examine where any differences in salary might lie. Faculty at the rank of Assistant Professor or higher were included in this analysis.

Over the entire School of Medicine, male faculty earn 6.3% more than women. The difference in FTE (base) salary is 3.8 %, indicated that bonuses contribute to the larger male-female difference in total salary. These differences persisted even when two dozen faculty with either very high or unusually low salaries were excluded from the analysis. There was significant variation in the male-female difference among individual departments, with the greatest differences found in the departments of Anesthesiology and Radiology. Even for departments showing very small and statistically insignificant difference between the compensation of men and women, only one – Psychiatry – had a (small) net positive difference in the salaries of women faculty.

### METHODS

Salaries were analyzed by comparing the salaries of faculty in each department and arriving at the expected salary for a faculty member according to degree, rank, years at rank in

that department. Following a well-tested statistical analysis that has been in use in the Bloomberg School of Public Health, a series of mathematical models were used to describe salary as a function of: gender, department group, rank, degree, and years in rank. In order to avoid the potential distorting influence of a few very large salaries in a department, the logarithm of the salary was used in the actual computation. A detailed description of the statistical modeling and analysis is found in the appendix to this report.

Since obtaining data for each department is important to identifying potential problem areas, an analysis of salaries for individual department groups was also carried out. Since it is not possible to obtain statistically meaningful results on very small departments, we grouped all basic science departments into a single Basic Science group (Biophysics, Cell Biology, Anatomy, Biomedical Engineering, Comparative Medicine, Molecular Biology and Genetics, Pharmacology, Biological Chemistry, Physiology and Neuroscience), and grouped Surgery, Otolaryngology, Orthopedic surgery, Neurosurgery and Urology into a single Surgery group. Departments with fewer than 20 female faculty were grouped into an “Other” department group. In addition, the gender difference for the Medicine department was estimated with and without the inclusion of the Cardiology and GI specialties, since the compensation in these specialties is different from that in the remaining division in Medicine and a different male-female ratio in Cardiology and GI has the potential to skew the results.

## RESULTS

There is a statistically significant difference in male and female faculty salaries across the SOM. Females earn 6.3% less than males in total salary and 3.7% less in base salary. As expected from this observation, most departments or department groups also showed that women





earned less than men. These results vary in their statistical significance because of the relatively small numbers of women in most of these groupings. The departments with the most statistically significant discrepancies include Radiology, Ophthalmology and Anesthesiology, which have a total of 567 faculty at the rank of Assistant Professor or above. The “Other” department grouping also showed a large discrepancy. The inequity in the Department of Medicine decreases substantially when the Cardiology and GI specialties are omitted from the analysis. The results of the salary analysis were virtually unchanged when around 22 faculty with unusually high or low salaries were removed from the analysis.

**Table VIII. Estimated percent difference in mean salary comparing females to otherwise similar males.** The coefficients (%diff) and standard errors (SE) from regressions of log salary allowing for an overall gender difference or a department-specific gender difference after adjusting for department-specific rank, degree, and years in rank. The data removes faculty identified to have high influence and the Medicine estimate excludes the Cardiology and GI specialties.

Department	Current FTE Salary		Total Salary	
	%diff	SE	%diff	SE
<b>Overall</b>	<b>-3.7</b>	<b>1.2</b>	<b>-6.3</b>	<b>1.5</b>
Basic Science	-2.3	4.3	-3.3	5.4
Neurology	-2.6	5.0	-5.1	6.2
Medicine	-1.7	2.7	-2.9	3.3
Ophthalmology	-6.7	4.5	-5.4	5.6
Pathology	-1.3	4.5	-5.2	5.6
Pediatrics	-2.3	4.0	-1.4	4.9
Psychiatry	0.4	3.7	0.9	4.7
Surgery	-0.3	4.3	-8.4	5.4
Radiology	-5.4	4.8	-13.7	6.0
Oncology	-3.0	4.3	-2.8	5.3
Anesthesiology	-14.1	5.0	-18.4	6.3
Other	-9.6	3.5	-12.5	4.3

## CONCLUSIONS

Women faculty earn, on average, less than men in the School of Medicine. The relative difference between salaries of male and female faculty varies among department or department groups, with the difference more pronounced in some departments than in others. Assuming an annual total salary for men of \$100,000, a 6.3% discrepancy in salary translates into \$6,300 less per year for women, as well as reduced retirement contributions by the institution. Over time, this translates into very significant differences in lifetime compensation. Since individual departments use different methods for determining base and total salary, it is not possible to analyze discrepancies in base salary versus total salary in a meaningful way. Since information on individual faculty such as total grant support, publication frequency and quality, contribution to the clinical and teaching missions of the department, specialty and subspecialty, and measures of national stature was not available, it was not possible to assess other factors that may govern compensation. If there is a lack of justifiable grounds for paying women less than men, the discrepancy between women’s and men’s salaries is troubling.