

# The Work Lives of Women Physicians

## Results from the Physician Work Life Study

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**OBJECTIVE:** To describe gender differences in job satisfaction, work life issues, and burnout of U.S. physicians.

**DESIGN/PARTICIPANTS:** The Physician Work life Study, a nationally representative random stratified sample of 5,704 physicians in primary and specialty nonsurgical care ( $N = 2,326$  respondents; 32% female, adjusted response rate = 52%). Survey contained 150 items assessing career satisfaction and multiple aspects of work life.

**MEASUREMENTS AND MAIN RESULTS:** Odds of being satisfied with facets of work life and odds of reporting burnout were modeled with survey-weighted logistic regression controlling for demographic variables and practice characteristics. Multiple linear regression was performed to model dependent variables of global, career, and specialty satisfaction with independent variables of income, time pressure, and items measuring control over medical and workplace issues. Compared with male physicians, female physicians were more likely to report satisfaction with their specialty and with patient and colleague relationships ( $P < .05$ ), but less likely to be satisfied with autonomy, relationships with community, pay, and resources ( $P < .05$ ). Female physicians reported more female patients and more patients with complex psychosocial problems, but the same numbers of complex

medical patients, compared with their male colleagues. Time pressure in ambulatory settings was greater for women, who on average reported needing 36% more time than allotted to provide quality care for new patients or consultations, compared with 21% more time needed by men ( $P < .01$ ). Female physicians reported significantly less work control than male physicians regarding day-to-day aspects of practice including volume of patient load, selecting physicians for referrals, and details of office scheduling ( $P < .01$ ). When controlling for multiple factors, mean income for women was approximately \$22,000 less than that of men. Women had 1.6 times the odds of reporting burnout compared with men ( $P < .05$ ), with the odds of burnout by women increasing by 12% to 15% for each additional 5 hours worked per week over 40 hours ( $P < .05$ ). Lack of workplace control predicted burnout in women but not in men. For those women with young children, odds of burnout were 40% less when support of colleagues, spouse, or significant other for balancing work and home issues was present.

**CONCLUSIONS:** Gender differences exist in both the experience of and satisfaction with medical practice. Addressing these gender differences will optimize the participation of female physicians within the medical workforce.

**KEY WORDS:** women physicians; job satisfaction; burnout; case mix; primary care.

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Fast changes in the health care system have dramatically affected the day-to-day work lives of most physicians. These changes are significant for their effects not only on individual physicians, but also on the organizations and patients whom they serve. Claims of stress and burnout are well documented,<sup>1,2</sup> as are outcomes such as physician dissatisfaction and its relation to patient disenrollment,<sup>3,4</sup> satisfaction, compliance, and health outcomes.<sup>5-8</sup>

Women in the workforce have been understudied in general and in medicine, specifically. Their numbers continue to increase, however, in both medical training and practice,<sup>9</sup> and their effect on the profession is likely to be felt as the older cohort of largely male physicians reaches retirement in the next decade.<sup>10</sup> Professional socialization, a long and intensive process of learning how to become a physician by instilling knowledge, values, and a set of occupational norms, has been thought likely to lead to a convergence of values and practice styles of physicians. However, newer research suggests that differences of practice styles persist between male and female physicians.<sup>11-15</sup> Women are more likely to practice in primary

care fields and to pay more attention to preventive services, health education counseling, and the psychosocial needs of their patients.<sup>16-19</sup> Communication styles of female physicians have been shown to improve health outcomes,<sup>13,20</sup> lessen disenrollment in managed care plans,<sup>21</sup> and decrease chances of malpractice litigation.<sup>22</sup> Female patients are more likely to seek out female physicians for care<sup>23,24</sup> and more likely than male patients to have depression and complicated psychosocial issues to be managed in addition to their medical needs.<sup>25</sup>

The effect of this patient mix on physician satisfaction has not been well studied. In addition, recent research suggests that given the phenomenon now occurring in for-profit managed care whereby physicians are assessed as to their economic profitability to plans, female physicians may fare poorly in a system in which, "it doesn't count unless you can count it."<sup>26</sup> Because they spend more time with patients, participate in more collaborative decision making, and pay more attention to preventive practices, female physicians may be less productive if measured by simple measurements of numbers of patients seen or resources utilized.

The Physician Work life Study (PWS) collected data from a large representative national sample of practicing female and male physicians in both primary care and subspecialty fields. In this article we analyze gender differences in personal and professional characteristics, indices of psychological well-being, work and time pressures, as well as intermediate outcome measures regarding professional satisfaction and burnout.

## METHODS

After an extensive development phase that included qualitative and quantitative analyses of previously collected data<sup>27-29</sup> and a pilot survey ( $n = 875$ ), we conducted a national survey utilizing an instrument of 150 items designed to assess several aspects of physician work life and satisfaction. A national probability sample was constructed based on the American Medical Association (AMA) masterfile. The target population consisted of more than 171,000 civilian physicians who identified themselves as working in either ambulatory or hospital settings, in family practice, general internal medicine, or pediatrics, or in internal medicine or pediatric subspecialties.

Diversity in demographic and work setting characteristics was ensured by stratifying according to the 5 specialty groups listed above, 2 physician race/ethnicity categories (white or "missing" vs all others reported on the AMA masterfile, 1966) and 2 levels of potential participation in managed care.

From this, a sample of 5,704 physicians was drawn, applying disproportionate sampling fractions in each of the 20 resulting strata. Our definition of minorities included all nonwhite non-Hispanic individuals. This meant that underrepresented minorities, as defined by Associa-

tion of American Medical Colleges criteria (African Americans, some Hispanics, and Native Americans), as well as Asians and physicians from Africa and Latin America were included in our strata. Analyses were done controlling for underrepresented minorities, which constituted 5% of this sample. Female physicians were sampled to reflect their preponderance in the population of practicing physicians, or about 20%. Geographical sampling was not done on the basis of U.S. regions, but rather states were clustered according to the proportion of the population covered by managed care. Physicians in those states in the upper quartile of states with high physician participation in managed care were oversampled. These states included California, Florida, Minnesota, Washington, and Oregon. However, adjustments were made in sampling and poststratification weights so that our estimates quite nearly reproduced a distribution of physicians that matched the regional distribution of U.S. physicians in the same regions.

After 4 mailings of an 8-page self-administered questionnaire accompanied by individually addressed cover letters from the investigators and targeted cover letters from cooperating specialty societies, we achieved an adjusted response rate of 52%.<sup>30</sup> After the fourth mailing, 200 nonrespondents were contacted by telephone to ascertain whether or not the addresses supplied were correct. This attempt suggested that our mailing noncontact rate was about 18%. Using this information we estimated probabilities of selection contact and response and constructed sampling weights, which were rescaled using the Lessler and Kalsbeek technique.<sup>31</sup> These weights allow estimates of known precision to be constructed from the survey respondents through the use of statistical programs. The final number of respondents in the sample was 2,326. Nonresponse bias was assessed by searching for an association between the time when a survey was returned and the variables measured by the survey instrument. Few meaningful correlations ( $r > .04$ ) were found. Among the scales of satisfaction, only the scale pertaining to satisfaction with resources had a mild association with the time at which the survey was returned, with a Spearman correlation coefficient of  $-.07$ .

In all analyses, apart from tabulating demographic characteristics of the sample, the data were weighted to adjust for differing response rates and sampling probabilities. The software package STATA (Version 5.0, College Station, Tex) was used for weighted statistical analysis incorporating the weights and strata. STATA uses Taylor series linearization to adjust for the complex sample design when computing standard errors for the coefficients obtained from its weighted linear and logistic regression procedures.

We defined HMO physicians as those practicing in group-model or staff-model HMOs with over 50% capitated or other managed care patients in their practices. Logistic regression was used to model the odds of reporting satisfaction (scale score greater than sample median) with the facets of work life, controlling for specialty, prac-

tice setting, gender, work status (full-time or part-time), underrepresented minority status, and age. Patient mix variables such as gender, age over 65 years, and medical or psychosocial complexity were compared by gender and specialty. Time pressure was analyzed by creating a time pressure ratio:

$$\frac{(\text{Time Needed} - \text{Time Allotted}) \times 100}{\text{Time Allotted}}$$

This analysis was also done separately for the mean reported time allocated, actual time taken, and the mean reported time needed with no significant differences ( $P < .05$ ) noted. Linear regression was used to model mean differences in time allocated, time needed, and time pressure ratios between men and women, controlling for practice type, specialty, age, full-time status, and underrepresented minority status.

Gender differences in perceived control over workplace and medical decision-making issues were analyzed using linear regression to control for practice type, specialty, age, full-time status, and underrepresented minority status. We also modeled the likelihood of reporting significant burnout given these variables. A 4-item wellness/stress scale was adapted from a previously validated self-report physician stress scale.<sup>32</sup> An adapted burnout scale previously used and validated<sup>33</sup> utilized a Likert scale of 1 to 5, with category 1 = "I have no symptoms of burnout," category 3 = "I have at least 1 symptom of definite burnout," and category 5 = "I am severely burned out." From previously conducted focus groups with female, minority, and inner-city physicians,<sup>28</sup> a set of single-item measures was created to assess practitioners' issues regarding the experience of medical practice for women and ethnic minorities. Factor analysis, performed for the 12 single-item questions regarding control of practice (9 of which are noted in Table 5) led to the development of 3 subscales of 3 to 4 questions: workplace control, medical decision-making control, and control of hassles.

## RESULTS

### Demographics

Of 2,326 respondents, 32% were female ( $n = 735$ ). Fifty-seven percent of female respondents were white, with 4% African American, 24% Asian, and 5% Hispanic (Table 1).

### Practice Characteristics

Fifteen percent of female respondents were in general internal medicine, 35% in pediatrics, 17% in family practice, 13% in medical subspecialties, and 20% in pediatric subspecialties. Female physicians more often practiced in group practice, academic, or solo settings, while male physicians more often practiced in group or solo practice (Table 1). Twenty-two percent of women practiced part-time, defined as less than 40 hours per week, compared

**Table 1. Personal and Practice Characteristics of Female and Male Respondents in the Physician Work Life Study (N = 2,326\*)**

Characteristic	Women	Men
Respondents, n (%)	735 (32)	1,585 (68)
Average age, y	43	49
White, %	57	68
Asian, %	24	15
Hispanic, %	5	6
African American, %	4	1
Married, %	75	88
Single, %	14	5
Divorced, %	5	7
With children, %	75	90
No. of children, mean	1.7	2.5
Specialty distribution, %		
General internal medicine	15	22
Pediatrics	35	21
Family practice	17	23
Internal medicine subspecialty	13	22
Pediatric subspecialty	20	13
Practice, %		
Solo	14	20
Small group	29	35
Large group	15	20
Academic	17	11
HMO	12	8
Part-time status	22	9
Work week: % time spent in <sup>†</sup>		
Ambulatory care	62	56
In-hospital patient care	13	20
Patient-related activities	16	16
Work-related activities	9	8
Patient reimbursement characteristics <sup>†</sup>		
Capitated managed care	20	17
Medicaid	20	14
Uninsured	11	8
Discounted fee for service	20	22
Fee-for-service Medicare	19	26

\*Six subjects were excluded because of unknown gender.

<sup>†</sup>Survey-weighted.

with 9% of men. In survey-weighted analysis it was found that women spent proportionately more time each week than men in ambulatory care and less time in inpatient hospital activities. There were no gender differences in proportions of time spent in patient-related or other work-related activities such as administration or teaching. Patient reimbursement characteristics showed that female physicians reported more capitated managed care, uninsured, and Medicaid patients than did male physicians.

### Facets of Satisfaction

When controlling for practice type, specialty, ethnicity, age, and part-time versus full-time work status, women had significantly greater odds of being satisfied with their

**Table 2. Logistic Regression Analysis for Reporting Satisfaction by Facets of Career Satisfaction in Female Physicians**

Satisfaction Measure	Odds Ratio	95% Confidence Interval	P Value
Autonomy	0.70	0.50 to 0.97	.031
Relationships with patients	1.60	1.13 to 2.27	.009
Relationships with colleagues	1.43	1.13 to 1.98	.034
Patient issues	0.81	0.58 to 1.13	.218
Relationships with staff	1.12	0.81 to 1.54	.503
Personal time	0.88	0.62 to 1.23	.443
Relationships with community	0.63	0.45 to 0.87	.005
Pay	0.68	0.49 to 0.93	.018
Administrative issues	0.84	0.60 to 1.18	.312
Resources (supplies, exam rooms, staff)	0.72	0.52 to 0.99	.049
Global satisfaction	0.92	0.67 to 1.3	.628
Career satisfaction	1.09	0.79 to 1.52	.602
Specialty satisfaction	1.39	1.01 to 1.92	.042

relationships with patients and colleagues, and less odds of being satisfied with autonomy, relationships with community, pay, and resources. Although there were no observed differences in global or career satisfaction, women endorsed greater specialty satisfaction when compared with men (Table 2).

### Income

Respondents were asked multiple questions to accurately determine their income, including percentage of net compensation from individual productivity, net annual income from medical practice in 1995, and other factors important in determining compensation. An average income decrement of \$22,347 (95% confidence interval [CI], \$11,523 to \$33,171) was found for female physicians compared with male physicians after controlling for age, minority status, specialty, practice type, time in current practice, Medicaid or uninsured status of patients, regional salary variations, ownership status of practice, number of hours worked per week, and proportion of hours spent in hospital-based activities. Twenty-six percent of the variance in income was explained by these variables. Younger female physicians (less than 41 years of age and less than 6 years in practice) also had significantly less income than their male counterparts ( $P < .001$ ).

### Patient Mix

Compared with male primary care physicians, female physicians reported greater numbers of female patients, patients with complex psychosocial problems, and patients described as frustrating, with comparable numbers of medically complex patients and fewer elderly patients (Table 3). These trends were particularly striking for women in general internal medicine (GIM), who reported more elderly patients, more medically and psychosocially complex patients, and more frustrating patients than did women in family practice. No significant differences be-

tween men and women in subspecialty medical or pediatric fields were noted (data not shown), though women in medical subspecialties saw more female patients (61% vs 56%;  $P < .05$ ) and more psychosocially complex patients than did their male colleagues (46% vs 35%;  $P < .05$ ), and female pediatric specialists reported more non-English-speaking patients than did their male colleagues (16% vs 11%;  $P < .05$ ).

### Medical Training and Expectations

No gender differences were noted in men and women's reported exposure and experiences during clinical training with regard to managed care, primary care practice, psychosocial aspects of practice, utilization review, or practice management (data not shown). When asked about their ideal job, however, women assigned significantly higher ratings to the importance of items such as compatible physician colleagues, control of time away from work, recognition that their work is important, good relationships with practice staff, and adequate material resources for practice.

### Time Pressure

On average, female physicians reported being allotted 33 minutes for a new patient evaluation or consultation compared with 37 minutes reported by male physicians (Table 4). Gender differences for new patient allocation were particularly striking for women in small group practices and for women in GIM. However, regression analyses controlling for specialty, practice setting, age, full-time status, and ethnicity did not show significant gender differences in time allocation for new patients overall. Female and male physicians were, for the most part, allotted equal amounts of time for routine follow-up appointments.

Women in internal medicine subspecialties felt they needed significantly more time than men for new patient evaluations in order to provide quality care, and those in

Table 3. Patient Mix Characteristics of Practices of Female and Male Primary Care Physicians

Characteristics of Patients	MD Gender	Percentage in Patient Mix (95% Confidence Interval)			
		Total MD* (n = 2,320)	Family Practice (n = 499)	General Internal Medicine (n = 449)	Pediatrics (n = 589)
Female	F	61 (58.6 to 62.7)	68 (64.6 to 70.9)	65 (60.3 to 70)	48 (44.7 to 50.4)
	M	54 <sup>†</sup> (53.5 to 55.2)	56 <sup>†</sup> (54.7 to 57.8)	55 <sup>†</sup> (53.1 to 56.2)	49 (47.8 to 50.2)
Age over 65	F	24 (21 to 27.4)	26 (21.2 to 30.0)	40 (32.3 to 47)	0.6 (-0.12 to 1.3)
	M	33 <sup>†</sup> (31 to 34.2)	28 (26.1 to 30.4)	48 (44.2 to 50)	1.5 (0.25 to 2.8)
Non-English-speaking	F	9 (7.1 to 10.7)	8 (4.3 to 11.5)	8 (4.4 to 12.2)	9 (6.6 to 11.2)
	M	6 <sup>‡</sup> (5.2 to 7)	5 (4.1 to 6.7)	6 (4.1 to 8.1)	7 (5.3 to 8.2)
Medically complex	F	36 (32.3 to 39.3)	32 (26.5 to 37.4)	49 (41.5 to 56.5)	14 (10.9 to 17.3)
	M	37 (35.6 to 39.2)	29 (26.1 to 31)	47 (43.5 to 51.5)	15 (11.7 to 18.6)
Psychosocially complex	F	33 (29.4 to 35.7)	30 <sup>†</sup> (25.4 to 35)	43 (36.1 to 50)	20 (15.8 to 25)
	M	25 <sup>†</sup> (23.3 to 26.6)	23 (20.6 to 25.4)	28 <sup>†</sup> (24.7 to 31.9)	16 (12.3 to 19.3)
Substance-abusing	F	10 (8.3 to 11.3)	11 (8.2 to 13)	11 (8 to 13)	7 (3.6 to 11.1)
	M	8 (7.2 to 9)	9 (7.6 to 10.3)	9 (7.4 to 11.5)	3 <sup>‡</sup> (2.5 to 4)
Generally frustrating	F	14 (12 to 16.6)	12 (9.1 to 14.6)	19 (13 to 25)	13 (8.7 to 16.6)
	M	10 <sup>†</sup> (9.1 to 11.1)	10 (8.1 to 11.8)	10 <sup>†</sup> (8.6 to 12.3)	7 <sup>†</sup> (5.8 to 7.8)

\*Subspecialty data not shown.

<sup>†</sup>P < .01.

<sup>‡</sup>P < .05.

family practice felt they needed significantly more time for routine follow-up appointments ( $P < .01$  for both comparisons). Using the time pressure ratio, women on average felt they required 36% more time for a new physical examination/consultation, whereas with men needed 21% more time ( $P < .01$ ). The most significant gender differences in time pressures were seen in small group practices and in pediatric subspecialties. For routine follow-up patients, women described needing 24% more time, compared with 9% more time for men ( $P < .01$ ), and women in family practice experienced significantly more time pressure than men for follow-up patients. Controlling for practice type, age, specialty, ethnicity, and full-time status, regression analyses confirmed gender effects, with women experiencing more time pressure than men for follow-up appointments (10% more pressure for women,  $P < .01$ ) and a trend toward more time pressure for new patient evaluations (8% more time pressure for women,  $P < .1$ ).

### Health Status/Burnout

There were no gender differences in stress scores; however, logistic regression analysis showed women having 60% greater odds of reporting burnout than men ( $P < .05$ ). Women were significantly more likely than men to have a score of at least 3 on the burnout scale (26% of women vs 21% of men;  $P < .05$ ). Parental status, including men and women under the age of 46 years having children under the age of 6, did not predict burnout.

### Work Control

When controlling for age, practice type, and specialty, women reported less control with single-item questions concerning ability to select referral physicians, determine

length of hospital stay, define details of clinic and office schedule, control volume of patient load, and influence workplace issues such as office space and facilities (Table 5). Women and men in HMO practices reported significantly less control over multiple aspects of work life when compared with those in non-HMO practices. However, within HMO practices, no significant gender differences were noted.

Regression analysis that incorporated these subscales to predict burnout showed that for women, work hours and lack of workplace control were risk factors for burnout ( $P < .05$  and  $P < .001$ , respectively), and that for women, for each additional 5 hours worked more than 40 hours per week, the odds of burnout increased by 12% to 15%. Burnout was predicted for all men by hassles ( $P < .001$ ) and lack of medical decision-making control ( $P < .05$ ), but not by additional work hours. Significantly less burnout was reported by underrepresented minority male physicians compared with nonminority male colleagues ( $P < .001$ ). For women under the age of 45 years, support from colleagues for balancing work and home and support from spouse or significant other for career both provided "protection" from burnout. As support by spouse increased 1 point on a 5-point scale, burnout risk decreased 40%, and as support by colleagues increased 1 point, burnout risk decreased 45% ( $P < .05$  and  $P < .01$  in regression analyses, respectively).

### DISCUSSION

In this study of 2,300 practicing physicians, there is compelling evidence of the persistence of gender differences in 5 major areas: patient mix, time pressure in patient visits, income, control of daily work life, and burnout. These findings suggest that different strategies may

**Table 4. Time Allocated, Time Needed, and Time Pressure Ratios for New Patient/Consultation and Routine Follow-up Visits for Female and Male Physicians†**

Time Category	Complete Physical Exam/Consultation		Routine Follow-up	
	Women (SE)	Men (SE)	Women (SE)	Men (SE)
Time Allocated (min)	33 (1.01)*	37 (0.58)	15 (0.38)	15 (0.18)
Solo	45 (3.01)†	38 (1.41)	17 (0.91)†	15 (0.43)
Small group	31 (1.43)*	37 (0.92)	14 (0.54)	15 (0.28)
Large single specialty	24 (3.66)†	34 (1.64)	14 (0.73)	15 (0.61)
Large multispecialty	32 (2.06)	36 (1.47)	15 (0.78)	15 (0.28)
HMO	28 (1.28)	33 (2.36)	14 (0.40)†	16 (0.60)
Academic	43 (4.37)	44 (2.58)	20 (1.90)	19 (0.81)
Family practice	32 (1.44)	35 (0.90)	15 (0.52)*	14 (0.22)
General internal medicine	35 (2.10)*	41 (1.10)	15 (0.57)	16 (0.37)
Pediatrics	26 (2.07)	26 (1.34)	13 (0.99)	13 (0.46)
Internal medicine subspecialty	55 (2.67)	50 (1.33)	22 (1.49)†	18 (0.51)
Pediatrics subspecialty	32 (1.98)†	42 (2.38)	18 (0.94)	18 (0.96)
Time needed, min	41 (1.16)	43 (0.61)	18 (0.48)†	16 (0.26)
Solo	48 (3.03)	43 (1.6)	18 (1.51)	15 (0.47)
Small group	38 (1.63)†	42 (0.95)	16 (0.54)	16 (0.47)
Large single specialty	34 (2.90)	40 (2.11)	15 (0.96)	16 (0.79)
Large multispecialty	39 (3.24)	41 (1.29)	18 (1.41)	16 (0.41)
HMO	37 (2.78)	38 (1.80)	18 (1.37)	16 (0.73)
Academic	51 (4.85)	49 (2.34)	24 (2.07)	24 (0.96)
Family practice	41 (1.79)	41 (1.05)	17 (0.58)*	15 (0.33)
General internal medicine	42 (2.36)	47 (1.09)	19 (1.07)	18 (0.60)
Pediatrics	33 (2.29)	29 (1.23)	15 (1.08)	14 (0.55)
Internal medicine subspecialty	63* (3.20)	54 (1.31)	24 (1.36)	20 (0.54)
Pediatrics subspecialty	48 (2.86)	46 (2.48)	20 (1.06)	19 (0.91)
Time pressure overall, %	36* (4.99)	21 (1.68)	24* (5.21)	9 (1.26)
Solo	12 (8.34)	19 (3.93)	15 (9.29)	6 (2.70)
Small group	35* (5.25)	19 (2.06)	22† (5.38)	8 (2.03)
Large single specialty	77† (20.97)	23 (7.04)	6 (5.04)	12 (4.38)
Large multispecialty	27 (6.76)	21 (4.70)	15 (5.29)	10 (2.49)
HMO	37 (8.18)	29 (6.96)	30 (11.75)	6 (4.97)
Academic	24 (6.00)	29 (9.70)	22 (5.53)	24 (6.10)
Family practice	36† (5.43)	22 (2.77)	18* (3.42)	7 (1.91)
General internal medicine	39 (14.88)	21 (3.16)	37 (16.18)	15 (2.72)
Pediatrics	38† (5.69)	23 (3.94)	18 (7.49)	3 (2.08)
Internal medicine subspecialty	23 (6.16)	15 (3.29)	21 (5.63)	11 (2.43)
Pediatrics subspecialty	33* (4.74)	17 (3.78)	17 (4.54)	8 (4.18)

\*P &lt; .01; †P &lt; .05.

‡Time Pressure Ratio (%) =  $\frac{(\text{Time Needed} - \text{Time Allotted})}{\text{Time Allotted}} \times 100$ .

be needed to improve the work lives of female and male physicians. Our global satisfaction measure's inability to discriminate gender differences in overall satisfaction may relate to cognitive dissonance of physicians, who have spent so much time and effort in becoming physicians that they are understandably reluctant to say that their whole career is not satisfying, though able to make specific judgments about aspects of their careers. Another reason may relate to "the paradox of the contented female worker" described by social scientists attempting to address the issue of why women in a variety of work settings

objectively have poorer job quality, yet report equal or greater job satisfaction.<sup>34</sup> They suggest that women may be more likely to give a socially desirable response or have different job expectations or work values that make other factors more or less salient to them compared with men.

### Patient Mix

Female physicians report greater numbers of female, psychosocially complex, and frustrating patients, given

Table 5. Control of Practice for Female and Male Physicians

Control Measure	MD Gender	Control Score (SE)*					
		All Physicians		HMO (group or staff model)		Non-HMO	
Selecting physicians with whom you have a referral relationship	F	2.46 <sup>†</sup>	(0.07)	1.58	(1.27)	2.57 <sup>†</sup>	(0.07)
	M	2.88	(0.04)	1.84	(0.11)	2.94	(0.04)
Deciding when to admit to the hospital	F	3.32	(0.33)	3.30	(0.19)	3.34	(0.05)
	M	3.43	(0.05)	3.45	(0.12)	3.42	(0.03)
Determining length of hospital stay	F	2.53 <sup>†</sup>	(0.07)	2.58	(0.26)	2.55 <sup>†</sup>	(0.07)
	M	2.83	(0.04)	2.97	(0.15)	2.82	(0.04)
Details of your office/clinic schedule	F	2.71 <sup>‡</sup>	(0.06)	1.78	(0.18)	2.80 <sup>†</sup>	(0.06)
	M	3.14	(0.04)	2.13	(0.12)	3.20	(0.04)
Diagnostic tests you order	F	3.32 <sup>‡</sup>	(0.04)	3.53	(0.13)	3.31 <sup>‡</sup>	(0.04)
	M	3.42	(0.03)	3.60	(0.08)	3.42	(0.03)
Preauthorization of necessary patient services	F	1.98 <sup>‡</sup>	(0.06)	2.62	(0.19)	1.90 <sup>†</sup>	(0.05)
	M	2.14	(0.04)	2.54	(0.16)	2.13	(0.04)
Workplace issues (office space, facilities)	F	2.29 <sup>†</sup>	(0.06)	1.81	(0.17)	2.36 <sup>†</sup>	(0.07)
	M	2.77	(0.04)	1.91	(0.12)	2.81	(0.04)
Hours you work	F	2.63	(0.06)	2.36	(0.22)	2.66	(0.06)
	M	2.69	(0.04)	2.23	(0.14)	2.71	(0.04)
Volume patient load/panel size	F	2.27 <sup>†</sup>	(0.06)	1.64	(0.18)	2.34 <sup>†</sup>	(0.06)
	M	2.53	(0.04)	1.47	(0.09)	2.59	(0.04)

\*"How much control do you have over each of the following?" (on a scale of 1–4 where 1 = slight or none, 4 = extreme).

<sup>†</sup>P < .01; <sup>‡</sup>P < .05.

similar levels of medically complex patients as their male counterparts. This has important ramifications for their practice, such as the need for more time to address wellness and health maintenance issues of their female patients as well as more resources and time to manage mental health and social stressors. Women in pediatrics had the most equitable distribution of psychosocially complex patients compared with male colleagues and reported the lowest odds of burnout among all specialty groups studied. Panel sizes in capitated practices therefore require adjustment for patient mix, with greater attention paid to psychosocial and mental health diagnoses in standard case mix measures such as ambulatory care groups.<sup>35</sup> Measures of psychosocial patient mix and factors that predispose to depression and mental illness could potentially be utilized to measure this variable.

### Time Pressure

Women report more time pressure than men with both new and follow-up patients. Although patient mix including greater proportions of female patients may explain some of this excess time pressure on women, other explanations are needed for the reported decreased allocation of time for new patient visits. Given that other data from the PWS reported elsewhere suggest that patient mix and perceived time pressure were both highly associated with physician job stress,<sup>36</sup> female physicians may well be doubly at risk.

### Income

Although after controlling for age and hours worked, earlier studies suggested smaller differences in income,<sup>37</sup> or largely disappearing disparities,<sup>38</sup> our finding of a \$22,000 gender gap in income is supported by more recent data, suggesting that further increases in the number of women in the physician workforce are not decreasing prior differences.<sup>39</sup> Of particular concern is the persistence of these income differences among younger physicians. Decreased productivity due to patient mix issues, poorer salary negotiation skills by women, or perhaps less time spent in more visible ways such as after-hours networking or participating on committees may lead to slower promotion to positions of leadership and explain some of the salary differential.

### Work Control

In a recent study of 4,500 U.S. female physicians, women who described a high degree of work control had 11 times the odds of reporting satisfaction with their job, had more specialty stability, and were more likely to say they would once again become a physician if given the opportunity.<sup>40</sup> In the PWS, female physicians perceived significantly less control than male physicians regarding a variety of daily work activities, even when controlling for age, specialty, practice site, and work hours. In addition, control of workplace issues was related to risk of burnout for women, but not men. Patient characteristics and time

pressure, as well as nonwork issues such as family demands, may all contribute to female physicians' decreased sense of control over their practice. Although HMO physicians reported less work control, no interaction was noted between gender and work control in HMO settings. Thus, while HMO practice may not differentially affect female versus male physicians, women who practice in HMOs report substantially lower control of the work environment when compared with women or men in other practice settings.

## Burnout

The report of greater odds of significant burnout in women is of concern, as is its relation in this study to their reported lack of control over day-to-day work issues and work schedules. Greater burnout in female physicians may result from structured but implicitly different gender-related work expectations that come from a variety of important sources, such as patients, physician colleagues, administrators, or nonphysician coworkers. These expectations may work in such a way as to be built into the job of being a woman doctor. In effect, the extra stress arises from the greater time and effort being expected of them to communicate with patients and address psychosocial and health maintenance issues, rather than or in addition to the issues related to family-work conflicts.<sup>41</sup>

## Conclusions

Our findings of the effect of work and family were unexpected and conflicting: the fact that the presence of children for women under the age of 45 added no additional explanatory power to stress and burnout suggests that work-family conflicts may not in and of themselves be a major source of excess burnout in female physicians. This finding is supported by newer feminist theories that suggest that multiple roles mitigate strain,<sup>42</sup> as well as a recent survey where female physicians with 3 children were more happy, more stable in their specialties, and more likely to once again become a physician if given the chance than their colleagues with no children or only 1 child.<sup>40</sup> However, the role of family and work conflicts in burnout in at least some female physicians is suggested in our survey by the significant attenuation in burnout risk afforded by support for balance of work and home issues from both home and work partners.

Although both personal and organizational factors have been shown to contribute to burnout, the consequences are far-reaching. Not only does the individual suffer decreased self-esteem and a sense of failure, but his or her ability to provide care can be diminished, as can the ability to work with staff and colleagues. Absenteeism, lower productivity, and higher turnover, with subsequent disruptions in patient care continuity and patient disenrollment, can occur. Replacement, though perhaps easy in these days of relative physician surplus, is costly.

It is not clear why some U.S. female physicians in general work fewer hours, retire earlier, or are more likely to be inactive professionally at times during their medical careers than their male colleagues, but lack of support and higher degrees of burnout may well play as crucial a role as work-family issues. It is not known how workplace policies mediate work-family issues and correspondingly a physician's sense of her "fit" in a particular setting. Further research is needed to delineate both the risks and benefits of being a woman physician in contemporary medical practice, so that their contribution can be maximized.

Pediatricians represented the majority of female respondents (55%), and some distinct differences are noted for these physicians. Because pediatricians care for children, who reflect the emerging demographic profile of America, it is not surprising that proportionately more of their patients (as seen in Table 4) are non-English-speaking. Fewer patients have complex medical or psychosocial problems when compared with those patients of female internists and family physicians. Although all female physicians in the PWS reported that they were allotted less time for comprehensive and follow-up examinations than their male counterparts, this gap appears to be smaller for pediatricians of different genders than for other specialties. Time pressure was, however, still significantly greater for female pediatricians than for their male counterparts.

The limitations of this study include the self-report, survey method and our less-than-optimal response rate. Research on physician survey behavior, however, indicates that survey response rates of approximately 54% are the norm.<sup>43</sup> Our careful assessment of nonresponse bias suggests that results from our sample can be generalized to the larger U.S. physician population. Our multifaceted measures illuminate sources of satisfaction and describe how physicians balance their personal and professional work lives. Many female physicians experience their working environment, their medical practice, and their lives outside medicine differently from their male colleagues. Appreciating and addressing these differences will allow physician practices and policy makers to create a medical workplace that is equitable, rewarding, and effective.

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