ORIGINAL ARTICLE

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Work-Home Conflicts Have a Substantial Impact on Career Decisions That Affect the Adequacy of the Surgical Workforce

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Objective: To evaluate factors associated with work-home conflicts (W-HCs) of US surgeons and their potential personal and professional consequences.

Design: Cross-sectional study.

Participants: Members of the American College of Surgeons.

Main Outcome Measures: Burnout, depression, quality of life, alcohol use, career satisfaction, and career decisions (ie, reduce work hours or leave current practice).

Results: Of 7197 participating surgeons, 3754 (52.5%) had experienced a W-HC in the previous 3 weeks. On multivariate analysis, hours worked per week, having children, sex, and work location (Veterans Administration or academic center) were independently associated with an increased risk for W-HC (all $P<.01$), while some factors (increased age and subspecialty field) reduced the risk. Surgeons with a recent W-HC were more likely to have symptoms of burnout (36.9% vs 17.1%; $P<.001$), depression (50.9% vs 28.1%; $P<.001$), alcohol abuse/dependency (17.2% vs 14.4%; $P=.003$), and were less likely to recommend surgery as a career option to their children (46.0% vs 54.4%; $P<.001$). Work-home conflicts were also independently associated with surgeons reporting a moderate or higher likelihood of planning to reduce clinical work hours (odds ratio, 1.769) and leave their current practice in the next 24 months for a reason other than retirement (odds ratio, 1.706) after controlling for other personal and professional factors.

Conclusions: Integrating personal and professional lives is a substantial challenge for US surgeons. Conflict in this balance appears to be a major factor in their decision to reduce work hours and/or move to a new practice, with potential substantive manpower implications for the surgical workforce.

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US SURGEONS WORK AN AVerage of 60 hours per week, spend 16 hours in the operating room, and are on call 2 nights per week.[1] Although most are satisfied with their careers, few feel they have enough time for their personal and family lives.[1] In parallel with struggles to maintain a work-life balance, surgeons frequently experience work-home conflicts (W-HCs), with upwards of 62% of women and 48% of men surgeons reporting a substantial W-HC within the previous 3 weeks at the time of the 2008 American College of Surgeon (ACS) study.[2] This high prevalence of W-HC is concerning given the link between W-HC and professional burnout and career dissatisfaction for both men and women surgeons[2] and academic internists.[3]

Despite the high prevalence of W-HC and the potential serious implications, little remains known about factors contributing to W-HC, the personal consequences, and the extent of the professional ramifications. One strategy surgeons can use to reduce their W-HC is to reduce their clinical workload. Although such an approach may have personal benefits, it has serious potential workforce implications, especially as there is already a projected surgical workforce shortage of 33% in the United States by 2025.[4] Women surgeons, who often experience more W-HCs,[2] comprise a growing proportion of physicians in practice,[5,6] which could magnify this problem in the years ahead. In this present study, we (1) evaluate the relationship between W-HC and the personal and professional characteristics of US surgeons and (2) explore potential personal and professional ramifications of W-HC.

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METHODS

PARTICIPANTS

As previously reported,[7] we surveyed all members of the ACS, who had an e-mail address on file with the ACS and permitted it to be used, in the fall of 2010. Participation was elective, responses were anonymous, and participants were blinded to any specific hypothesis of the study. The survey was commissioned by the ACS Governor's Committee on Physician Competency and Health and approved by the Mayo Clinic's institutional review board.

DATA COLLECTION

The electronic survey included items about demographic information, practice characteristics, W-HC, practice plans, career satisfaction, distress and alcohol use, and quality of care.

W-HC

Consistent with our previous approach,[2] surgeons were asked whether they had experienced a conflict between work (clinical or administrative) and personal responsibilities in the last 3 weeks (ie, "Have you experienced a conflict between work [clinical or administrative] and personal responsibilities in the last 3 weeks?"). The survey also included items hypothesized to contribute to W-HC (eg, age, sex, children, work hours, overnight call, and practice setting).

PERSONAL IMPLICATIONS

To evaluate for possible personal consequences of recent W-HCs, standardized tools were used to assess burnout, depression, quality of life (QOL), and alcohol use. Owing to concerns about survey length, we used 2 items derived from the Maslach Burnout Inventory (MBI) previously shown to stratify risk for burnout in multiple independent samples of physicians and medical students including more than 10 000 participants.[8] A report of feeling "burned out from my work" at least weekly has a positive likelihood ratio of 14.9 for a high emotional exhaustion score on the full MBI and an area under the curve of 0.94 relative to the full MBI.[6] Report of feeling "more callous toward people since I took this job" at least weekly has a positive likelihood ratio of 23.4 for a high depersonalization score on the full MBI and an area under the curve of 0.93 relative to the full MBI. Because many burnout studies have focused on the presence of high levels of either emotional exhaustion or depersonalization as the foundation of burnout among physicians,[9-11] surgeons were considered to have symptoms of burnout if they had experienced symptoms in either domain at least weekly.

The 2-item PRIME-MD asks about anhedonia and feelings of being down, depressed, or hopeless and has a sensitivity of 86% to 96% and a specificity of 57% to 75% for major depressive disorder.[12,13] Quality of life was measured using single-item linear analog self-assessment items. Each QOL domain was assessed on a 0 to 10 scale, with response anchors ranging from "as bad as it can be" (0) to "as good as it can be" (10).

The Alcohol Use Disorders Identification Test, version C, was used to assess for heavy drinking. According to standard scoring, a score of 5 or greater for men or 4 or greater for women indicates alcohol abuse or dependence.[14-16] In addition, the survey included an item about satisfaction with the relationship the surgeon has with his or her spouse/significant other.

PROFESSIONAL IMPLICATIONS

To evaluate for possible professional consequences of recent W-HCs, surgeons were asked to indicate the likelihood that they would reduce their work hours devoted to clinical care during the next 12 months or leave their current practice within 2 years (none, slight, moderate, likely, or definite). Surgeons who indicated a moderate or higher likelihood of reducing their clinical work hours were asked to indicate their primary reason for doing so (ie, frustration with Medicare and insurance reimbursement issues, to spend more time with family, declining reimbursement for clinical care, to pursue administrative/leadership opportunities, to pursue research or medical education opportunities, or other reason). Similarly, surgeons who indicated a moderate or higher likelihood of leaving their current practice were asked what they would do if they plan to leave their current practice (ie, look for a different practice opportunity and continue to work as a surgeon, look for a different job in medicine and no longer work as a surgeon, leave the practice of medicine altogether to pursue a different career, retire, or other). Career satisfaction was assessed by asking respondents with children whether they would recommend a career as a surgeon to their child(ren). Those who indicated yes were considered to be satisfied with their career.

STATISTICAL ANALYSIS

Comparisons by W-HC were tested using Wilcoxon Mann–Whitney *U* tests and Fisher exact tests. All tests were 2-sided tests with type I error rates of 0.05. Four logistic regressions were performed. Logistic regression was performed to evaluate associations of the independent variables with W-HC for the entire cohort and by sex. The independent variables used in the primary modeling process included personal (age, sex, relationship status, and having children) and professional (subspecialty, years in practice, hours worked per week, number of nights on call per week, community size, and practice setting) factors. The second logistic regression identified factors independently associated with having a moderate or greater likelihood of reducing clinical work hours. A third logistic regression was then conducted to identify factors independently associated with planning to leave the current practice for a reason other than retirement. Both forward and backward elimination methods were used to select significant variables for the models where the directionality of the modeling did not impact the results. All analyses were done using SAS version 9 (SAS Institute Inc) or R (R Foundation for Statistical Computing; http://www.r-project.org.).

RESULTS

Of the 25 073 surgeons surveyed, 7197 responded (28.7% response rate). The demographic and practice characteristics of the study participants have been previously reported as have the prevalence of burnout, depression, alcohol misuse and abuse, and QOL scores.[7,17] Fifty-nine percent of the study participants were aged 50 or older and 14.2% were women. Based on official ACS data regarding the demographics of US members in 2010, 73% of all ACS members are aged 50 or older and 8% are women.

Among responding surgeons, 3380 (47%) reported a recent W-HC. As shown in **Table 1**, surgeons with a recent W-HC were younger and more likely to be women (both $P < .001$). On univariate analysis, no difference in

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Table 1. Personal and Professional Factors Associated With W-HC

	No. (%)		
	Recent W-HC (n = 3380)	No Recent W-HC (n = 2860)	*P* Value
Personal			
Age, y			
<35	97 (53.3)	85 (46.7)	<.001
35-44	1002 (68.2)	467 (31.8)	
45-54	1282 (62.8)	758 (37.2)	
55-64	805 (44.4)	1010 (55.6)	
≥65	194 (26.4)	540 (73.6)	
Sex			
Missing	15	17	<.001
Male	2787 (52.3)	2542 (47.7)	
Female	578 (65.8)	301 (34.2)	
Relationship status			
Missing	15	11	.17
Single	261 (54.1)	221 (45.9)	
Married	2979 (54.0)	2534 (46.0)	
Partnered	108 (60.3)	71 (39.7)	
Widow or widower	17 (42.5)	23 (57.5)	
Have children			
Missing	7	10	.97
Yes	3011 (54.2)	2545 (45.8)	
No	362 (54.3)	305 (45.7)	
Professional			
Size of practice community			
Missing	16	13	.58
<5000	26 (52.0)	24 (48.0)	
5001-20 000	171 (52.3)	156 (47.7)	
20 001-50 000	238 (51.6)	223 (48.4)	
50 001-100 000	437 (56.5)	337 (43.5)	
100 001-500 000	916 (53.6)	793 (46.4)	
>500 000	1576 (54.5)	1314 (45.5)	
Time in practice, y			
Missing	87	92	<.001
<10	874 (64.9)	473 (35.1)	
10-19	1156 (65.2)	616 (34.8)	
20-30	1002 (48.9)	1048 (51.1)	
>30	261 (29.3)	631 (70.7)	

(continued)

Table 1. Personal and Professional Factors Associated With W-HC (continued)

	No. (%)		
	Recent W-HC (n = 3380)	No Recent W-HC (n = 2860)	*P* Value
Hours worked per week			
Missing	147	142	<.001
<40	93 (23.7)	299 (76.3)	
40-49	199 (35.7)	358 (64.3)	
50-59	540 (48.2)	580 (51.8)	
60-69	1203 (57.5)	888 (42.5)	
70-79	552 (66.7)	275 (33.3)	
≥80	646 (67.0)	318 (33.0)	
Nights on call per week, No.			
≥Median[a]	2181 (56.7)	1663 (43.3)	<.001
<Median	1045 (49.9)	1048 (50.1)	<.001
Specialty			
Missing	20	16	<.001
Breast	113 (47.1)	127 (52.9)	
Cardiothoracic	196 (51.3)	186 (48.7)	
Colorectal	134 (54.7)	111 (45.3)	
General	1301 (56.1)	1017 (43.9)	
Neurologic	56 (45.2)	68 (54.8)	
OB/GYN	33 (48.5)	35 (51.5)	
Oncologic	127 (61.7)	79 (38.3)	
Ophthalmologic	59 (39.9)	89 (60.1)	
Orthopedic	62 (50.0)	62 (50.0)	
Otolaryngologic	196 (52.5)	177 (47.5)	
Pediatric	116 (61.1)	74 (38.9)	
Plastic	161 (46.9)	182 (53.1)	
Transplant	66 (55.5)	53 (44.5)	
Trauma	190 (65.7)	99 (34.3)	
Urologic	135 (47.7)	148 (52.3)	
Vascular	242 (58.2)	174 (41.8)	
Other	173 (51.8)	161 (48.2)	
Primary practice setting			
Missing	101	86	<.001
Private practice	1875 (50.6)	1828 (49.4)	
Academic medical center	1258 (60.0)	838 (40.0)	
Veterans hospital	91 (56.9)	69 (43.1)	
Active military practice	55 (58.5)	39 (41.5)	

Abbreviations: OB/GYN, obstetrics/gynecology; W-HC, work-home conflict.
[a] Median = 2 nights/week.

W-HC was observed by relationship status or whether surgeons had children ($P>.05$). With respect to professional characteristics, surgeons with recent W-HCs had been in practice fewer years, worked more hours per week, had more frequent overnight calls, and had subtle differences in surgical subspecialty and practice setting (all $P<.001$).

On multivariable analysis, factors independently associated with W-HC included practicing within the Veterans Administration (odds ratio [OR], 1.91 vs private practice) or at an academic medical center (OR, 1.19 vs private practice), having children (OR, 1.65), working more hours per week (OR, 1.03 for each additional hour), being younger (OR, 0.96 for each additional year older), and being a woman (women vs men OR, 1.72; **Table 2**). Relative to general surgeons, surgeons in some subspecialty fields (ie, breast, cardiothoracic, neurologic, transplant, or other) also had a lower prevalence of W-HCs (OR, 0.56-0.76). A separate multivariable analysis by sex indicated that having children (OR, 1.71 and 1.46 for women and men surgeons, respectively) and greater work hours (OR, 1.02 and 1.03 for each additional hour worked for women and men surgeons, respectively) were the factors associated with recent W-HC for both sexes. Additionally, practice setting (OR, 1.18-1.69), years in practice (OR, 0.96), and subspecialty field (OR, 0.52-0.75) were also independently associated with a recent W-HC for men surgeons.

PERSONAL CONSEQUENCES OF W-HC

Reporting a recent W-HC was strongly associated with burnout, QOL, symptoms of depression, relationship difficulties, alcohol abuse/dependency, and career dissatisfaction (**Table 3**). For example, more surgeons with a recent W-HC had high emotional exhaustion (31.1% vs 13.8%; $P<.001$) and high depersonalization (20.3% vs 9.6%; $P<.001$) as well as more frequent symptoms of depression (50.9% vs 28.1%; $P<.001$). Reporting a

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Table 2. Factors Independently Associated With W-HC

Characteristics and Associated Factors	Odds Ratio (95% CI)	*P* Value
All surgeons		
Veterans Administration practice vs private	1.91 (1.32-2.75)	<.001
Academic practice vs private	1.19 (1.04-1.36)	.01
Have children vs not	1.65 (1.36-2.01)	<.001
Hours worked per week, each additional hour	1.03 (1.02-1.03)	<.001
Age, each additional year older	0.96 (0.95-0.97)	<.001
Men vs women	0.58 (0.48-0.70)	<.001
Subspecialty field[a]	0.56-0.76	All <.03
Separate analysis of women surgeons		
Have children vs not	1.71 (1.25-2.35)	<.001
Hours worked per week, each additional hour	1.02 (1.01-1.03)	<.001
Separate analysis of men surgeons		
Have children vs not	1.46 (1.14-1.87)	.003
Veterans Administration practice vs private	1.69 (1.13-2.52)	.01
Academic practice vs private	1.18 (1.02-1.36)	.03
Hours worked per week, each additional hour	1.03 (1.02-1.03)	<.001
Years in practice	0.96 (0.95-0.97)	<.001
Subspecialty field[b]	0.52-0.75	All <.04

Abbreviation: W-HC, work-home conflict.
[a] Breast (odds ratio [OR], 0.56; 95% CI, 0.41-0.77), cardiothoracic (OR, 0.76; 95% CI, 0.60-0.97), neurologic (OR, 0.62; 95% CI, 0.40-0.94), transplant (OR, 0.61; 95% CI, 0.40-0.92), other specialty (OR, 0.72; 95% CI, 0.56-0.94), all vs general surgery.
[b] Cardiothoracic (OR, 0.68; 95% CI, 0.53-0.87), neurologic (OR, 0.59; 95% CI, 0.38-0.92), transplant (OR, 0.52; 95% CI, 0.33-0.81), plastic (OR, 0.75; 95% CI, 0.58-0.98), and other (OR, 0.74; 95% CI, 0.56-0.98), all vs general surgery.

Table 3. Relationship Between Burnout, Symptoms of Depression, Quality of Life, Alcohol Intake, and Satisfaction With Spouse by Recent W-HC

	No. (%)		
	Recent W-HC (n = 3380)	No Recent W-HC (n = 2860)	*P* Value
Burnout indices			
High emotional exhaustion	1044 (31.1)	392 (13.8)	<.001
High depersonalization	675 (20.3)	268 (9.6)	<.001
Burned out[a]	1206 (35.9)	488 (17.1)	<.001
Depression screen positive	1710 (50.9)	800 (28.1)	<.001
Quality of life, mean (SD)	6.9 (1.8)	7.9 (1.5)	<.001
Alcohol abuse or dependency[b]	576 (17.2)	408 (14.4)	.003
Satisfaction with spouse[c]			
Missing	298	270	<.001
Extremely satisfied	1744 (56.6)	1794 (69.3)	
Somewhat satisfied	961 (31.2)	582 (22.5)	
Neutral	123 (4.0)	82 (3.2)	
Somewhat dissatisfied	189 (6.1)	88 (3.4)	
Extremely dissatisfied	65 (2.1)	44 (1.7)	
Career satisfaction			
Would you recommend your children pursue a career as a physician/surgeon?[d]	1382 (46.0)	1377 (54.4)	<.001

Abbreviation: W-HC, work-home conflict.
[a] High score (≥weekly or more often) on emotional exhaustion and/or depersonalization scale (see "Methods").
[b] A score of 4 or higher for men or 3 or higher for women on the Alcohol Use Disorders Identification Test, version C, constitutes alcohol misuse, while a score of 5 or higher for men or 4 or higher for women indicates alcohol abuse or dependence (see "Methods").
[c] Only asked of surgeons indicating they are married or partnered.
[d] Only asked of surgeons indicating they have children.

W-HC was also associated with substantially lower overall QOL score (mean, 6.9 vs 7.9; $P<.001$), with 10.5% of those with a W-HC having an overall QOL score of 5 or lower compared with 3.6% of those without a W-HC ($P<.001$). Surgeons with a recent W-HC reported less satisfaction with their spouse/partner than their colleagues without a recent conflict ($P<.001$) and were more likely to meet criteria for alcohol abuse/dependency (17.2% vs 14.4%; $P=.003$) on a validated assessment tool. Experience of a recent W-HC also related to career satisfaction. Surgeons reporting a recent W-HC were less likely to recommend surgery as a career option to their children than surgeons without a recent conflict (46.0% vs 54.4%; $P<.001$).

PROFESSIONAL CONSEQUENCES OF W-HC

In addition to these associations between W-HCs and surgeons' personal well-being and relationships, W-HCs were also associated with career decision making (**Table 4**). Nearly a quarter of surgeons (1439 of 6230 [23.1%]) reported a moderate or higher likelihood of reducing their clinical work hours within the next 12 months. Experience of a recent W-HC increased this likelihood ($P=.01$) as surgeons with a recent W-HC were more likely to report a moderate or higher likelihood of intent to reduce clinical work hours than colleagues without a recent W-HC (24.4% vs 21.6%). Interactions between W-HC and intent to reduce clinical hours were observed by age and sex. For women surgeons, the association between W-HC and intent to reduce clinical work hours (**Figure 1**A) was greatest during their 40s, while for men surgeons, this association was observed up to age 59 years (Figure 1B). For all surgeons who intended to reduce their clinical hours, the overwhelming reason was to spend more time with family.

More than a third of surgeons (2030 of 6240 [32.5%]) reported a moderate or higher intent to leave their current practice within the next 2 years. Among these surgeons, most (820 of 1192 [41.2%]) planned on finding another job as a surgeon, about a quarter planned to retire (524 of 1192 [26.3%]), and fewer hoped for a nonsurgical job in medicine (277 of 1192 [13.9%]), intended to leave medicine altogether (169 of 1192 [8.5%]), or had other plans (202 of 1192 [10.1%]). Surgeons with a recent W-HC were more likely to report a moderate or higher intent to leave the current practice for a reason other than retirement than those without a recent W-HC (938 of 3217 [29.2%] vs 530 of 2482 [21.4%]; $P<.001$). Interactions with age and sex are shown in **Figure 2**. The experience of a recent W-HC was associated with intent to leave current practice for reasons other than retirement for both women (Figure 2A) and men (Figure 2B) in early and midcareer. In terms of what

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Table 4. Relationship Between Intent to Reduce Work Hours, Leave Practice, and Career Satisfaction by Recent W-HC

	No. (%)		
	Recent W-HC (n=3380)	No Recent W-HC (n=2860)	*P* Value
Manpower measures			
Likelihood of reducing clinical work hours			
Missing	10	19	
None	1668 (49.5)	1526 (53.7)	.01
Slight	877 (26.0)	701 (24.7)	
Moderate	359 (10.7)	259 (9.1)	
Likely	301 (8.9)	221 (7.8)	
Definite	165 (4.9)	134 (4.7)	
Primary reason for considering reducing the number of clinical hours[a]			
Frustration with Medicare and insurance reimbursement issues	106 (13.3)	81 (14.0)	.04
To spend more time with family	240 (30.0)	161 (27.9)	
Declining reimbursement for clinical care	106 (13.3)	79 (13.7)	
To pursue administrative/leadership opportunities	133 (16.6)	66 (11.4)	
To pursue research or medical education opportunities	52 (6.5)	43 (7.4)	
Other	163 (20.4)	148 (25.6)	
Likelihood of leaving current practice, excluding those who plan on retiring			
Missing	6	11	
None	1132 (35.2)	1169 (47.1)	<.001
Slight	1127 (35.0)	765 (30.8)	
Moderate	510 (15.9)	256 (10.3)	
Likely	274 (8.5)	178 (7.2)	
Definite	174 (5.4)	114 (4.6)	
What the surgeon would do if he/she left practice, excluding those who plan on retiring[b]			
Missing	2285	1963	
Work as a surgeon	560 (59.7)	260 (49.1)	<.001
Different job in medicine	162 (17.3)	115 (21.7)	
Leave medicine	103 (11.0)	66 (12.5)	
Other	113 (12.0)	89 (16.8)	

Abbreviation: W-HC, work-home conflict.
[a] Only asked of surgeons who indicated a moderate or greater likelihood of reducing clinical work hours.
[b] Only asked of surgeons indicating a moderate or higher likelihood of leaving current practice.

these surgeons who had indicated a moderate or higher likelihood of leaving their current practice for reasons other than retirement were planning to do instead of their current job, 59.7% of those with a recent W-HC (560 of 938) compared with 49.1% of those without a recent W-HC (260 of 530) were considering another job as a surgeon.

Finally, we performed multivariable analysis to identify factors independently associated with intent to reduce clinical hours or leave the current practice. After controlling for a variety of other personal (ie, age, relationship status, and children) and professional (ie, specialty, nights on call, practice setting, community size, and years in practice) factors, experience of a recent W-HC (OR, 1.769; 95% CI, 1.540-2.032) remained independently associated with a moderate or higher likelihood of reducing clinical work hours as did age (OR, 1.065; 95% CI, 1.057-1.072 for each additional year older) and having children (OR, 0.782; 95% CI, 0.627-0.974). Similarly, in a separate multivariable analysis exploring the personal and professional factors independently associated with a moderate or higher likelihood of intent to leave the current practice for a reason other than retirement, experience of a recent W-HC (OR, 1.706; 95% CI, 1.493-1.949) persisted as an independent factor as did military practice (OR, 1.920; 95% CI, 1.219-3.029), subspecialty (OR, 0.706-0.491 for colorectal, ophthalmologic, and otolaryngology), age (OR, 1.008 for each additional year older; 95% CI, 1.001-1.015), and having children (OR, 0.647; 95% CI, 0.533-0.785).

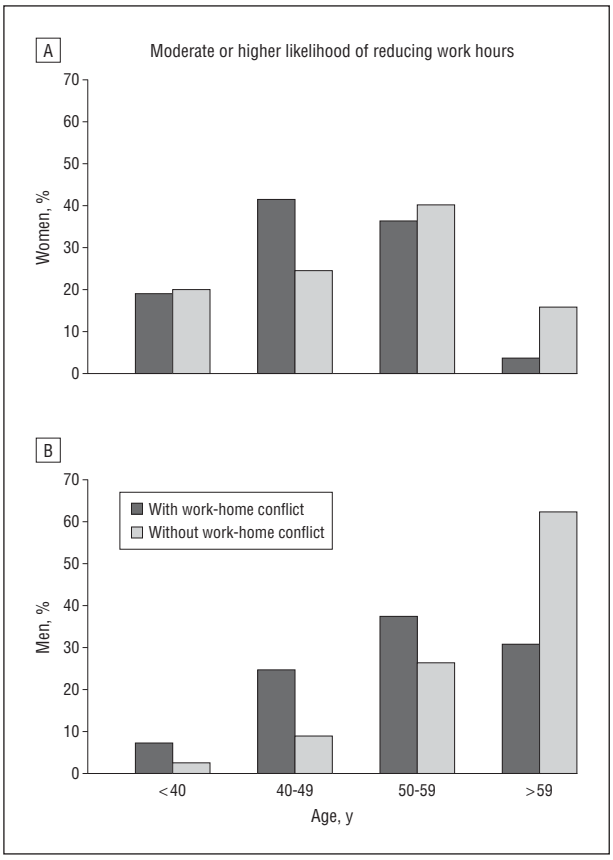

Figure 1. Relationship between work-home conflict and plans to reduce work hours by age and sex. An increased prevalence of plans to reduce work hours among women (A) and men (B) based on recent work-home conflicts.

COMMENT

In this large, diverse sample of US surgeons, W-HCs were more common among surgeons working longer hours, those practicing in an academic medical center or Veterans Affairs practice, women surgeons, and those with children. Surgeons who experienced a recent W-HC were more likely to screen positive for symptoms of depression, had worse overall QOL, drank more alcohol, were less satisfied with their relationship with their significant other, and were more likely to plan on reducing their work hours or moving to a new practice.

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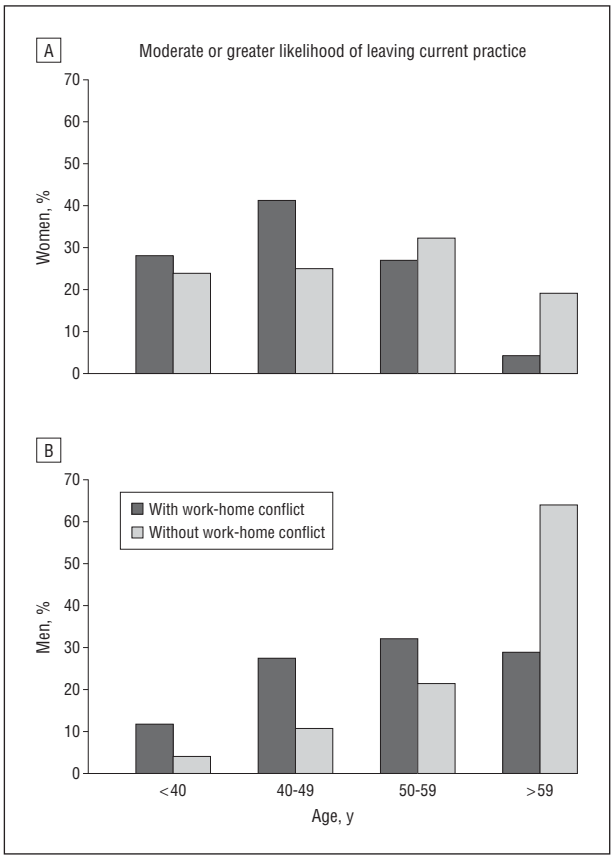

Figure 2. Relationship between work-home conflict and plans to leave current practice for reasons other than retirement by age and sex. An increased prevalence of plans to leave the current practice among women (A) and men (B) who have had a recent work-home conflict.

Our study also suggests that W-HCs may have a direct effect on career satisfaction and career decision making of US surgeons. Experience of a recent W-HC was independently associated with moderate or higher intent to reduce clinical hours and leave the current practice for a reason other than retirement after controlling for a host of other personal and professional factors. Hence, our data imply that W-HCs may be a major contributor to surgeons cutting back on their clinical time and leaving their current practice setting for another employment opportunity. Practice turnover and the associated costs of recruitment/replacement (which can exceed half a million dollars for surgical subspecialists),[18] as well as disruptions to patient care and professional and personal upheaval, may be at least partially owing to surgeons seeking employment opportunities elsewhere regarded as having potential for less W-HC.

The relationship between W-HCs and surgeons' decisions to reduce their clinical work hours was true for both sexes and spanned early and midcareer stages. Notably, this stated intent to reduce clinical work hours is occurring during the time commonly viewed as the most productive years of a physician's career in terms of direct patient care.[19] In the late career stage (eg, 60 years of age or older), W-HCs appear to play a less notable role in career decision making, perhaps owing to a mentality that the end is in sight. For women, W-HCs appear to have the greatest effect on their career decision making during their 40s, which may be a time when child rearing activities have the greatest intensity. After this more acute phase is overcome, W-HCs could be less of an issue, leading to work being perceived as more palatable by women surgeons. In contrast, for men surgeons, there may be a cumulative effect where child rearing does not force the issue as much such that it builds during a longer period and shows up later in their career. Although our study design does not enable us to draw firm conclusions about causation, the associations found between W-HC, intent to leave practice for reasons other than retirement, and intent to reduce clinical work hours are particularly concerning in today's era of physician workforce shortage.

This study suggests there are likely to be both organizational and individual responses that can reduce W-HC and in turn optimize available manpower for clinical care. For example, greater autonomy in scheduling, more allowance for job sharing and other innovative practice structures, and on-site backup child care for nonschool days are among organizational approaches with the potential to reduce W-HC.[20-23] In addition, surgeons should take an approach of living life according to priorities that include aligning professional and personal goals and maintaining a work-life balance.[24,25] By using priorities to guide decision making, surgeons may improve their work-life balance, better align their career interest with their daily work, and in turn, have less burnout.[25] Additionally, some surgeons have found that pursuing recreation, hobbies, and exercise are helpful approaches, while delayed gratification is not.[7]

Limitations of our study include its cross-sectional design, reliance of report of intent to reduce work hours or leave current practice instead of actual behavior, and response rate. Although these results may be viewed as susceptible to response bias, as our sample size consists of more than 7000 surgeons, there would have to be extreme bias to markedly change the results and we do not think this is likely. In support, previous studies have been unable to find substantial differences between responding and nonresponding physicians.[26]

Work-home conflicts are common, especially among women, younger surgeons, those with children, and surgeons who do not work in private practice. Work-home conflicts appear to be associated with burnout, symptoms of depression, and problematic alcohol use; and they adversely affect surgeons' relationships with their spouses/partners. From a workforce perspective, surgeons with a recent W-HC are more likely to seriously consider leaving their current practice setting or reducing their clinical hours. In an era when the projected size of the surgical workforce is already inadequate, further reductions will exacerbate this problem. Successful strategies to reduce W-HCs will depend on individual as well as organizational responses, but recognition of these issues is essential for professional and personal well-being.

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