

## Satisfaction With Work-Life Balance and the Career and Retirement Plans of US Oncologists

Tait D. Shanafelt, Marilyn Raymond, Michael Kosty, Daniel Satele, Leora Horn, John Phippen, Quyen Chu, Helen Chew, William Benton Clark, Amy E. Hanley, Jeff Sloan, and William J. Gradishar

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### A B S T R A C T

#### Purpose

To evaluate satisfaction with work-life balance (WLB) and career plans of US oncologists.

#### Methods

The American Society of Clinical Oncology conducted a survey of US oncologists evaluating satisfaction with WLB and career plans between October 2012 and March 2013. The sample included equal numbers of men and women from all career stages.

#### Results

Of 2,998 oncologists contacted, 1,490 (49.7%) returned surveys. From 1,117 oncologists (37.3% of overall sample) completing full-length surveys, we evaluated satisfaction with WLB and career plans among the 1,058 who were not yet retired. The proportion of oncologists satisfied with WLB ( $n = 345$ ; 33.4%) ranked lower than that reported for all other medical specialties in a recent national study. Regarding career plans, 270 oncologists (26.5%) reported a moderate or higher likelihood of reducing their clinical work hours in the next 12 months, 351 (34.3%) indicated a moderate or higher likelihood of leaving their current position within 24 months, and 273 (28.5%) planned to retire before 65 years of age. Multivariable analyses found women oncologists (odds ratio [OR], 0.458;  $P < .001$ ) and those who devoted greater time to patient care (OR for each additional hour, 0.977;  $P < .001$ ) were less likely to be satisfied with WLB. Satisfaction with WLB and burnout were the strongest predictors of intent to reduce clinical work hours and leave current position on multivariable analysis.

#### Conclusion

Satisfaction with WLB among US oncologists seems lower than for other medical specialties. Dissatisfaction with WLB shows a strong relationship with plans to reduce hours and leave current practice. Given the pending US oncologist shortage, additional studies exploring interactions among WLB, burnout, and career satisfaction and their impact on career and retirement plans are warranted.

*J Clin Oncol* 32:1127-1135. © 2014 by American Society of Clinical Oncology

### INTRODUCTION

An acute shortage of medical oncologists is projected in the United States by 2020.<sup>1</sup> The combination of an aging population, increased cancer survival rates, and an aging oncology workforce has increased the demand for oncology services at a time when many oncologists are reaching traditional retirement age.<sup>1</sup> A 2007 study found that although visit capacity for oncology patients is projected to increase by approximately 14% by 2020, demand for these visits will increase by 48%. The net effect is a projected shortage of approximately 2,350 to 3,800 oncologists, equivalent to approximately one fourth to one third of the current US oncologist workforce.<sup>1</sup> Such projections are influenced by numerous assumptions, including whether oncol-

ogists choose to retire early or late and whether they elect to remain in the workforce with reduced work hours.

Physicians typically work more hours than most other workers and often consider reducing work hours to achieve better work-life balance (WLB). A 2011 study comparing > 7,000 US physicians with a probability-based sample of the general US population found 40.0% of physicians worked > 60 hours per week compared with 10.8% of US workers ( $P < .001$ ).<sup>2</sup> Despite these high work hours for physicians overall, the work-hour expectations in some specialties are even greater. In a recent study evaluating which specialties averaged the most work hours, medical oncologists ranked seventh of 41 subspecialties.<sup>3</sup>

Tait D. Shanafelt, Daniel Satele, and Jeff Sloan, Mayo Clinic, Rochester, MN; Marilyn Raymond, William Benton Clark, and Amy E. Hanley, American Society of Clinical Oncology, Alexandria, VA; Michael Kosty, Scripps Clinic, La Jolla; Helen Chew, University of California at Davis, Davis, CA; Leora Horn, Vanderbilt University Medical Center, Nashville, TN; John Phippen, Texas Oncology–Baylor Charles A. Sammons Cancer Center, Dallas, TX; Quyen Chu, Louisiana State University Health Sciences Center, Shreveport, LA; and William J. Gradishar, Northwestern University, Evanston, IL.

Published online ahead of print at [www.jco.org](http://www.jco.org) on March 10, 2014.

Supported by the American Society of Clinical Oncology, American College of Surgeons Oncology Group, and Mayo Clinic Department of Medicine Program on Physician Well-Being.

Authors' disclosures of potential conflicts of interest and author contributions are found at the end of this article.

Corresponding author: Tait Shanafelt, MD, Department of Internal Medicine, Mayo Clinic, 200 First St SW, Rochester, MN 55905; e-mail: [shanafelt.tait@mayo.edu](mailto:shanafelt.tait@mayo.edu).

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0732-183X/14/3211w-1127w/\$20.00

DOI: 10.1200/JCO.2013.53.4560

High work-hour expectations frequently lead to conflicts between personal/professional responsibilities. Such work-home conflicts (WHCs) are one of the greatest predictors of professional burnout among physicians<sup>4,5</sup> and potentially have powerful impacts on physicians' career plans (eg, intent to reduce clinical work hours or leave current practices).<sup>6</sup> These observations illustrate how potential interactions between satisfaction with WLB and career plans can have important implications on the physician workforce.

Despite the projected shortage of medical oncologists, little is known about career plans and satisfaction with WLB among oncologists. Between October 2012 and March 2013, we conducted a national survey of US oncologists to identify personal and professional characteristics associated with career satisfaction. This study found that although satisfaction with career and specialty was high, approximately 45% of US oncologists experienced symptoms of burnout (eg, emotional exhaustion, depersonalization).<sup>7</sup> As part of that study, we also explored oncologists' satisfaction with WLB as well as their career and retirement plans.

## METHODS

### Participants

As previously described,<sup>7</sup> a sample of 2,998 oncologists was assembled from the American Society of Clinical Oncology (ASCO) membership file. The sample included equal numbers of men and women evenly distributed by years in practice (< 10, 10 to 19, and ≥ 20 years). Oncologists were sent an e-mail stating the purpose of the study (eg, to better understand factors contributing to career satisfaction), an invitation to participate, and a link to the survey in October 2012. Those not responding to the electronic survey were mailed a paper version of the survey in November 2012. Individuals not returning either the electronic or paper survey by January 2013 were sent a brief six-question postcard survey. Participation was voluntary, and all data were deidentified by the survey center. Oncologists who completed the full-length survey received a free ASCO educational product as an incentive. ASCO commissioned the study, and institutional review board oversight was provided by the Mayo Clinic Institutional Review Board.

### Study Measures

The full-length survey included 60 questions. Standardized survey tools were used to assess burnout<sup>8</sup> and quality of life.<sup>9-11</sup> Burnout was assessed using the 22-item Maslach Burnout Inventory, the gold standard for the assessment of burnout.<sup>8</sup> Career satisfaction was assessed using two questions from previous physician surveys.<sup>12-17</sup> Fatigue was measured using a single-item linear analog self-assessment question. Single-item linear analog self-assessment instruments are widely used in quality-of-life research<sup>13,18-20</sup> and have been extensively validated.

Satisfaction with WLB was assessed by asking participants to rate their level of agreement with the statement, "My work schedule leaves me enough time for my personal/family life" (response options: strongly agree, agree, neutral, disagree, strongly disagree). Individuals who indicated strongly agree or agree were considered to be satisfied with their WLB, whereas those who indicated disagree or strongly disagree were considered to be dissatisfied with their WLB. This item has been used to assess satisfaction with WLB in other studies of physicians and studies of the general US population.<sup>2</sup>

Items from previous national physician surveys were used to assess intent to reduce clinical work hours or move to a new position in the near future (Data Supplement).<sup>21</sup> A series of questions also explored participants' retirement plans. First, oncologists were asked at what age they planned to retire. Second, they were asked to indicate reasons why they were considering retiring earlier than previously planned. Third, they were asked to indicate reasons why they were considering retiring later than previously planned. Finally, they were asked the cumulative effect of all factors on their retirement plans (eg, retiring earlier, later, or as planned).

**Table 1.** Satisfaction With WLB

Characteristic	Satisfied With WLB		P
	No.	%	
<b>Personal</b>			
Age, years			< .001
< 40	19 of 61	31.1	
40-49	102 of 361	28.3	
50-59	90 of 333	27.0	
≥ 60	128 of 250	51.2	
Missing	6		
Sex			< .001
Male	205 of 493	41.6	
Female	135 of 525	25.7	
Missing	5		
Children			.4180
Yes	297 of 873	34.0	
No	45 of 147	30.6	
Missing	3		
Age of youngest child, years			< .001
< 5	39 of 116	33.6	
5-12	65 of 241	27.0	
13-18	40 of 155	25.8	
19-22	24 of 103	23.3	
> 22	129 of 255	50.6	
Missing	48		
Relationship status			.1963
Single	22 of 92	23.9	
Married	299 of 877	34.1	
Partnered	13 of 33	39.4	
Widowed/widower	7 of 18	38.9	
Missing	4		
Ever gone through divorce			.4626
Yes	64 of 180	35.6	
No	275 of 829	33.2	
Currently going through one	1 of 7	14.3	
Missing	5		
<b>Professional</b>			
Practice setting			< .001
Private	151 of 472	32.0	
Academic	97 of 369	26.3	
Other	95 of 182	52.2	
Missing	2		
Time devoted to patient care, %			< .001
None	33 of 46	71.7	
1-25	43 of 73	58.9	
26-50	43 of 119	36.1	
51-75	37 of 193	19.2	
76-100	184 of 594	31.0	
Missing	5		
Focus on specific type of cancer			.0013
Yes	110 of 401	27.4	
No	222 of 596	37.2	
Missing	13		
Work hours per week			< .001
< 40	60 of 79	75.9	
40-49	53 of 83	63.9	
50-59	95 of 243	39.1	
60-69	75 of 330	22.7	
≥ 70	31 of 215	14.4	
Missing	31		

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**Table 1.** Satisfaction With WLB (continued)

Characteristic	Satisfied With WLB		P
	No.	%	
Nights on call per week			< .001
0	144 of 292	49.3	
1	83 of 299	27.8	
2	33 of 117	28.2	
≥ 3	79 of 288	27.4	
Missing	6		
No. of weekends rounding in hospital per year			< .001
0	89 of 143	62.2	
1-4	41 of 117	34.0	
5-8	75 of 245	30.6	
9-12	53 of 241	22.0	
12-16	22 of 100	22.8	
Missing	65		
Hospital rounding structure			< .001
Round own patients when hospitalized	53 of 158	33.5	
Share rounding with partners, blocks	47 of 166	28.3	
Share rounding with partners, weekends	76 of 300	25.3	
Attend oncology teaching service	71 of 239	29.7	
Do not round in hospital	88 of 132	66.7	
Missing	10		
Method of compensation			.0612
Salary, no incentive	121 of 312	38.8	
Salary with bonus	138 of 450	30.7	
Pure incentive	67 of 206	32.5	
Missing	19		

Abbreviation: WLB, work-life balance.

**Statistical Analysis**

All full-length and postcard surveys received by March 15, 2013, were included in the analysis. Standard descriptive statistics were used to characterize responding oncologists. Associations between variables were evaluated using the Kruskal-Wallis test (continuous variables) or  $\chi^2$  test (categorical variables) as appropriate. All tests were two sided with type I error rates of 0.05 without adjustment for multiple comparisons. Multivariable analysis to identify demographic and professional characteristics associated with the dependent outcomes was performed using logistic regression (Appendix, online only). All analyses used SAS software (version 9; SAS Institute, Cary, NC).

**RESULTS**

Of the 2,998 oncologists receiving invitations, 1,490 (49.7%) participated. Of these, 1,117 oncologists (75.0%) completed the full-length survey, and 373 (25.0%) completed the postcard survey. As previously reported,<sup>7</sup> no differences in age, sex, years in practice, or satisfaction with specialty choice were observed between those who completed the full-length survey and late responders who completed only the postcard survey. Subsequent analysis focused on participants completing the full-length survey.

The demographic and practice characteristics of study participants have been previously reported.<sup>7</sup> Retired oncologists (n = 59) were excluded from the present analysis on career plans. Median age of responders was 52 years, and 539 (51.6%) were women. Overall, 899

**Table 2.** Career Plans

Career Plan	No.	%
Reducing clinical work hours		
Likelihood will reduce clinical work hours in next 12 months		
None	498	49.0
Slight	249	24.5
Moderate	106	10.4
Likely	99	9.7
Definite	65	6.4
Primary reason for considering reducing clinical work hours (n = 270)*		
Declining reimbursement for clinical care	23	8.8
To spend more time with family	110	42.0
Personal health problems	13	5.0
Family members' health problems	8	3.1
To pursue administrative/leadership opportunities	40	15.3
To pursue research or medical education opportunities	27	10.3
Other	41	15.6
Missing	8	
Leaving current practice		
Likelihood of leaving current practice in next 2 years		
None	359	35.1
Slight	313	30.6
Moderate	170	16.6
Likely	105	10.3
Definite	76	7.4
Plan after leaving current practice (n = 351)†		
Pursue different practice opportunity	122	35.6
Administrative job in medicine but no longer work as physician	47	13.7
Leave practice altogether and pursue different career	21	6.1
Retire	105	30.6
Other	48	14.0
Missing	8	

\*Among oncologists indicating there was at least moderate or greater chance they would reduce their clinical work hours in next 12 months.

†Among oncologists indicating there was at least moderate or greater chance they would leave their current practice in next 2 years.

(85.9%) were married, and 897 (85.8%) had children. Participating oncologists had been in practice a median of 19.5 years, worked an average of 57.4 hours per week, and were on call a median of one night per week. Among the 1,050 oncologists providing information on their practice setting, 482 (45.9%) were in private practice, 377 (35.9%) were in academic practice, 20 (1.9%) worked at a veterans' hospital, 31 (3.0%) worked for industry, and the remaining 140 (13.3%) worked in other settings. The mean fatigue score was 5.7 (scale, 0 to 10) with a standard deviation of 2.4 (lower scores indicate greater fatigue).

**WLB**

When asked to rate their level of agreement with the statement, "My work schedule leaves me enough time for my personal/family life," 145 oncologists (14.1%) were neutral, whereas 345 (33.4%) either agreed or strongly agreed. In contrast, more than half disagreed (n = 374; 36.3%) or strongly disagreed (166; 16.1%) with this statement. The proportion of oncologists who disagreed or strongly disagreed (n = 540; 52.4%) was higher than the 36.9% observed in a recent national sample of > 7,000 US physicians from all specialty disciplines who rated their WLB using an identical instrument.<sup>2</sup> Similarly, the proportion of oncologists (n = 345; 33.5%) who agreed or

**Table 3.** Relationship of Personal and Professional Characteristics With Career Plans

Characteristic	Plan to Reduce Clinical Hours in Next 12 Months*			Plan to Leave Current Practice in Next 24 Months†		
	No.	%	P	No.	%	P
<b>Personal</b>						
Age, years			< .001			< .001
< 40	15 of 61	24.6		19 of 61	31.1	
40-49	74 of 357	20.7		96 of 360	26.7	
50-59	82 of 332	24.7		103 of 360	30.9	
≥ 60	90 of 242	37.2		120 of 333	49.2	
Missing	9			13		
Sex			.7847			.8933
Male	132 of 486	27.2		166 of 488	34.0	
Female	137 of 519	26.4		180 of 523	34.4	
Missing	1			5		
Children			.3119			.2590
Yes	225 of 861	26.1		291 of 867	33.6	
No	44 of 146	30.1		56 of 146	38.4	
Missing	1			4		
Age of youngest child, years			.0116			< .001
< 5	23 of 115	20.0		35 of 116	30.2	
5-12	48 of 239	20.1		55 of 240	22.9	
13-18	43 of 154	27.9		57 of 155	36.8	
19-22	29 of 103	28.2		30 of 103	29.1	
> 22	81 of 247	32.8		112 of 250	44.8	
Missing	1			2		
Relationship status			.7906			.0379
Single	27 of 93	29.0		40 of 93	43.0	
Married	228 of 864	26.4		290 of 871	33.3	
Partnered	8 of 33	24.2		8 of 33	24.2	
Widowed/widower	6 of 17	35.3		9 of 16	56.3	
Missing	1			4		
Ever gone through divorce			.0279			.6455
Yes	61 of 179	34.1		66 of 179	36.9	
No	204 of 817	25.0		275 of 823	33.4	
Currently going through one	3 of 7	42.9		2 of 7	28.6	
Missing	2			8		
<b>Professional</b>						
Practice setting			< .001			.2503
Private	162 of 470	34.5		169 of 470	36.0	
Academic	75 of 370	20.3		115 of 371	31.0	
Other	30 of 170	17.6		64 of 175	36.6	
Missing	3			3		
Time devoted to patient care, %			.1014			.3863
None	8 of 39	20.5		14 of 42	33.3	
1-25	11 of 71	15.5		26 of 72	36.1	
26-50	27 of 119	22.7		31 of 119	26.1	
51-75	53 of 195	27.2		70 of 195	35.9	
76-100	170 of 589	28.9		208 of 591	35.2	
Missing	1			2		
Focus on specific type of cancer			.0316			.2525
Yes	91 of 402	22.6		128 of 403	31.8	
No	168 of 584	28.8		207 of 587	35.3	
Missing	11			16		
Work hours per week			.4615			.0103
< 40	22 of 79	27.8		40 of 78	51.3	
40-49	18 of 80	22.5		26 of 81	32.1	
50-59	65 of 238	27.3		79 of 241	32.8	
60-69	77 of 328	23.5		99 of 330	30.0	
≥ 70	64 of 214	29.9		76 of 215	35.3	
Missing	24			31		

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**Table 3.** Relationship of Personal and Professional Characteristics With Career Plans (continued)

Characteristic	Plan to Reduce Clinical Hours in Next 12 Months*			Plan to Leave Current Practice in Next 24 Months†		
	No.	%	P	No.	%	P
Nights on call per week			.0690			< .001
0	62 of 285	21.8		106 of 288	36.8	
1	81 of 299	27.1		75 of 299	25.1	
2	40 of 117	34.2		52 of 117	44.4	
≥ 3	71 of 284	25.0		96 of 286	33.6	
Missing	16			22		
No. of weekends rounding in hospital per year			.1325			.0010
0	31 of 139	22.3		58 of 139	41.7	
1-4	23 of 115	20.0		25 of 116	21.6	
5-8	67 of 245	27.3		68 of 246	27.6	
9-12	60 of 239	25.1		79 of 240	32.9	
12-16	34 of 99	34.3		42 of 100	42.0	
> 16	0 of 0	0.0		0 of 0	0.0	
Missing	55			79		
Hospital rounding structure			.0073			.0663
Round own patients when hospitalized	47 of 156	30.1		60 of 157	38.2	
Share rounding with partners, blocks	47 of 166	28.3		50 of 166	30.1	
Share rounding with partners, weekends	89 of 295	30.2		95 of 297	32.0	
Attend oncology teaching service	47 of 240	19.6		70 of 240	29.2	
Do not round in hospital	23 of 128	18.0		54 of 129	41.9	
Missing	17			22		
Method of compensation			< .001			.0046
Salary, no incentive	85 of 306	27.8		120 of 309	38.8	
Salary with bonus	94 of 448	21.0		130 of 451	28.8	
Pure incentive	74 of 202	36.6		79 of 203	38.9	
Missing	17			22		

\*Moderate or greater chance will reduce clinical work hours in next 12 months (Table 2).

†Moderate or greater chance will leave current practice in next 2 years (Table 2).

strongly agreed that they were satisfied with WLB would rank lower than all 24 specialty areas evaluated in the national study.<sup>2</sup>

The relationship between satisfaction with WLB and personal and professional characteristics is summarized in Table 1. A number of demographic factors were strongly related to satisfaction with WLB. Female oncologists were markedly less likely to be satisfied with WLB than their male colleagues (25.7% v 41.6%; *P* < .001). Among oncologists with children, those whose youngest child was age > 22 years were more likely to be satisfied with WLB (50.6% v 37.6%; *P* < .001). Professional characteristics were also strongly related to satisfaction with WLB. Those in private practice and academic practice were both less satisfied than those in other settings (26.3% v 32.0% v 52.2%; *P* < .001). Those who devoted more time to patient care and focused their practice on a specific type of cancer were less satisfied. In addition, oncologists who worked more hours per week, spent more weekends rounding in the hospital, and took night call were less satisfied with WLB. Oncologists compensated under incentivized systems (pure incentive, 32.5%; salary plus bonus, 30.7%) had lower satisfaction with WLB than those in a salary-only model (38.8%), although this difference did not reach significance (*P* = .06).

**Work Plans**

Collectively, 270 oncologists (26.5%) reported at least a moderate likelihood of reducing clinical work hours in the next 12 months, with 164 (16.1%) indicating that their likelihood of reducing clinical

work hours was likely or definite (Table 2). Among those who indicated a moderate or higher likelihood of reducing clinical work hours, the most common reasons reported were to spend more time with family (*n* = 110; 42.0%) or to pursue administrative/leadership opportunities (*n* = 40; 15.3%).

With respect to the likelihood of leaving their current position in the next 24 months, 351 oncologists (34.3%) indicated the likelihood was at least moderate, including 181 (17.7%) who indicated it was likely or definite. Among those who indicated a moderate or higher likelihood of leaving in the next 24 months, 122 (35.6%) were planning to pursue a different practice opportunity, 47 (13.7%) were planning to pursue an administrative job in medicine but no longer practice, and 105 (30.6%) were planning to retire. The univariable relationships between personal and professional characteristics and intent to reduce clinical hours and/or leave current position are summarized in Table 3.

**Retirement Plans**

An overview of oncologists' reported retirement plans is provided in Table 4. With respect to retirement age, 684 oncologists (71.5%) planned to retire at age ≥ 65 years. Among the 273 (28.5%) who planned to retire before age 65 years, 205 (21.4%) planned to retire before age 60 years. The most common reason oncologists indicated they were planning to retire earlier than previously planned was declining Medicare reimbursement for clinical care (*n* = 150;

Table 4. Retirement Plans

Retirement Plan	All (N = 1,045)		Current Age ≥ 60 Years		Current Age 50-59 Years		Current Age < 50 Years		P
	No.	%	No.	%	No.	%	No.	%	
Age at which planning to retire, years									
< 60	202	21.2	NA		76	23.9	126	31.0	< .001
61-64	68	7.1	13	5.7	40	12.6	15	3.7	
65	243	25.5	23	10.0	78	24.5	142	35.0	
66-69	114	11.9	54	23.5	33	10.4	27	6.7	
≥ 70	327	34.3	140	60.9	91	28.6	96	23.6	
Missing	91		45		21		25		
Reasons for considering retirement earlier than previously planned*									
Personal health problems	74	7.1	30	10.9	28	8.3	16	3.7	< .001
Family member's health problems	58	5.6	22	8.0	21	6.2	15	3.5	.0311
Helping family members care for children	34	3.3	16	5.8	9	2.7	9	2.1	.0184
Declining Medicare reimbursement for clinical care	150	14.4	37	13.5	48	14.2	65	15.1	.8283
Declining private insurer reimbursement for clinical care	132	12.6	34	12.4	45	13.3	53	12.3	.9100
Personal conflicts within practice group or hospital	61	5.8	23	8.4	18	5.3	20	4.6	.1060
Rapid increases in complexity of oncology care making it difficult to stay current	85	8.1	25	9.1	34	10.0	26	6.0	.1046
Introduction of electronic medical records	116	11.1	47	17.1	42	12.4	27	6.3	< .001
Other	211	20.2	53	19.3	82	24.2	76	17.6	.0722
Reasons for considering retirement later than previously planned*									
Decline in value of retirement accounts in recent years	190	18.2	52	18.9	75	22.1	63	14.6	.0257
Economy	216	20.7	48	17.5	83	24.5	85	19.7	.0830
Previous divorce	24	2.3	12	4.4	8	2.4	4	0.9	.0120
Children's college expense	139	13.3	13	4.7	53	15.6	73	16.9	< .001
Need to provide financial support for children	142	13.6	25	9.1	44	13.0	73	16.9	.0113
Need to provide financial support for parents or other family members	65	6.2	12	4.4	22	6.5	31	7.2	.3064
Enjoy work too much to retire	279	26.7	123	44.7	84	24.8	72	16.7	< .001
Other	78	7.5	33	12.0	22	6.5	23	5.3	.0032
Net effect of all factors on retirement plans									
Expect to retire earlier than previously planned	190	19.1	45	17.7	74	22.2	71	17.3	.0409
Expect to retire later than previously planned	320	32.1	98	38.6	100	30.0	122	29.8	
Expect to retire approximately at time planned	487	48.8	111	43.7	159	47.7	217	52.9	
Missing	48		21		6		21		

Abbreviation: NA, not applicable.

\*Oncologists instructed to check all that apply.

14.4%), followed by declining private insurance reimbursement for clinical care (n = 132; 12.6%) and introduction of electronic medical records (n = 116; 11.1%). The most common reason oncologists indicated they were planning to retire later than previously planned was that they enjoyed their work too much to retire (n = 279; 26.7%), followed by the current economy (n = 216; 20.7%) and a decline in the value of their retirement account in recent years (n = 190; 18.2%). Considering all factors, approximately half of oncologists (n = 487; 48.8%) reported they planned to retire when they had always planned, whereas 190 oncologists (19.1%) indicated they were planning to retire earlier, and 320 (32.1%) later, than originally planned. The relationship between current age and retirement plans is listed in Table 4.

### Multivariable Analysis

Finally, we performed multivariable analysis to identify personal and professional characteristics associated with satisfaction with WLB, career plans, and retirement plans (Table 5). After adjusting for other personal and professional characteristics, female oncologists were markedly less likely to be satisfied with WLB (OR, 0.443;  $P < .001$ ), as

were oncologists who were burned out (OR, 0.329;  $P < .001$ ) or who had high fatigue scores (OR, 0.489;  $P < .001$ ). Each additional hour worked per week was associated with an approximate 5% decrease in the likelihood of being satisfied with WLB ( $P < .001$ ). Each hour per week spent on patient care was also associated with an approximate 3% decrease in satisfaction with WLB independent of total work hours ( $P = .0012$ ).

Physicians in private practice were approximately 50% more likely to intend to reduce their clinical work hours in the next 12 months (OR, 1.53;  $P = .04$ ), whereas physicians compensated in a salary-plus-bonus model were less likely to be planning to reduce clinical work hours (OR, 0.574;  $P = .0151$ ) than those in a pure incentive-based model. Both burnout (OR, 2.151;  $P < .001$ ) and dissatisfaction with WLB (OR, 1.667;  $P = .0144$ ) were independently associated with intent to reduce clinical work hours in the next 12 months.

Both burnout (OR, 2.170;  $P < .001$ ) and dissatisfaction with WLB (OR, 1.526;  $P = .0285$ ) were independently associated with intent to leave current practice in the next 24 months. Age (OR for each year older, 1.053;  $P < .001$ ) was also associated with intent to

Table 5. Multivariable Analysis

Predictor	OR	95% CI	P
<b>Satisfied with WLB*†‡</b>			
Female (v male)	0.443	0.309 to 0.635	< .001
Other practice setting (v academic)	2.264	1.346 to 3.808	.0021
Hours worked per week (each additional hour)	0.950	0.935 to 0.965	< .001
Hours spent on patient care per week (each additional hour)	0.977	0.964 to 0.991	.0012
Burned out (v not)	0.329	0.225 to 0.481	< .001
High fatigue (v not)	0.489	0.337 to 0.710	< .001
<b>Intend to reduce clinical hours*†‡§  </b>			
Dissatisfied with WLB (v satisfied)	1.667	1.107 to 2.509	.0144
Age (for each additional year older)	1.040	1.022 to 1.058	< .001
Private practice setting (v academic)	1.533	1.023 to 2.296	.0382
Salary with bonus pay structure (v pure incentive)	0.574	0.367 to 0.898	.0151
Burned out (v not)	2.151	1.487 to 3.111	< .001
<b>Intend to leave current practice*†‡§  </b>			
Dissatisfied with WLB (v satisfied)	1.526	1.045 to 2.228	.0285
Age (for each additional year older)	1.053	1.035 to 1.071	< .001
Partnered (v single)	0.194	0.058 to 0.654	.0081
Burned out (v not)	2.170	1.526 to 3.087	< .001
Would choose to become physician again (v not)	0.491	0.328 to 0.734	< .001
<b>Plan to retire before age 65 years*†‡  </b>			
Age (for each additional year older)	0.952	0.934 to 0.971	< .001
Female (v male)	1.613	1.140 to 2.284	.0070
Other practice setting (v academic)	3.027	1.813 to 5.054	< .001
Private practice setting (v academic)	2.531	1.642 to 3.902	< .001
Hours spent on patient care (each additional hour)	1.014	1.002 to 1.026	.0218
Would choose to become physician again (v not)	0.493	0.326 to 0.746	< .001

NOTE. Four multivariable analyses were conducted to identify personal and professional factors associated with: (1) satisfaction with WLB; (2) intent to reduce clinical work hours; (3) intent to leave current position; and (4) intent to pursue early retirement.

Abbreviations: OR, odds ratio; WLB, work-life balance.

\*Personal characteristics in all models: age, sex, children, relationship status.

†Professional characteristics in all models: practice setting, total work hours per week, hours spent seeing patients per week, nights on call per week, focus on certain type of cancer (yes v no), hospital rounding structure, number of weekends rounding in hospital per year, method of compensation (salary, salary plus bonus, pure incentive).

‡Distress and satisfaction characteristics in all models: burnout (yes v no), fatigue score (< 6 v ≥ 6).

§Moderate or greater likelihood of reducing clinical work hours in next 12 months or leaving current practice in next 24 months (Table 2).

||Additional factors in model: dissatisfaction with WLB, career satisfaction, specialty satisfaction.

leave. Physicians who were partnered (OR, 0.194;  $P = .0081$ ) were less likely to be planning to leave. Physicians indicating they would choose to become a physician again were less likely to be planning to leave (OR, 0.491;  $P < .001$ ).

Factors independently associated with planning to retire before age 65 years included working in a practice setting other than an academic center (OR for private practice, 2.531;  $P < .001$ ; OR for other practice setting, 3.027;  $P < .001$ ). Each work hour spent on patient care per week was associated with an approximate 1.4% increase in the likelihood of planning to retire early ( $P = .0218$ ). Women (OR, 1.613;  $P = .0070$ ) were more likely to be planning to retire before age 65 years, whereas increasing age was associated with lower reported likelihood (OR for each year older, 0.952;  $P < .001$ ). Physicians who indicated they would choose to become a physician again were less likely to be planning to retire before age 65 years (OR, 0.493;  $P < .001$ ).

## DISCUSSION

Burnout, WLB, and career satisfaction are related but distinct dimensions of professional satisfaction.<sup>2</sup> In this large national study, a ma-

majority of US oncologists were dissatisfied with their WLB. In contrast to average rates of burnout and high career satisfaction among oncologists, satisfaction with WLB among oncologists in the present study ranked lower than that in every other specialty evaluated in a national study of > 7,000 US physicians conducted by members of our research team in 2011.<sup>2</sup> The pattern of average burnout, high career satisfaction, and low satisfaction with WLB observed among oncologists is similar to the profile of surgical specialties.<sup>2</sup> This profile could be characterized by physicians who find great meaning in the work they do (which results in high career satisfaction) but in having to do too much of it (affecting WLB). This pattern is distinct from some other specialties characterized by low burnout and high WLB (eg, dermatology, pathology, general pediatrics), high burnout and average WLB (eg, emergency medicine, anesthesiology, orthopedics), and high burnout and low WLB (eg, neurology, general internal medicine).<sup>2</sup>

Although some factors that affect burnout and satisfaction with WLB are shared, others may be distinct. For example, in our published multivariable model of factors associated with burnout,<sup>7</sup> sex and practice setting were not predictors of burnout; however, they are predictors in the models for WLB presented here (which also adjust for

burnout). Other significant factors in the model for burnout (eg, age, focusing on certain type of cancer) were not significant in the WLB model. Hours worked is a factor shared by both models. The way these and other factors (eg, degree of meaning in work, personal health problems, parenting responsibilities) interact for each individual is unique and personal.

Our study also provides important insights into the short- and long-term career plans of US oncologists. One in four oncologists reported they planned to reduce their clinical work hours in the next 12 months, and approximately 18% indicated they were likely to or definitely planning to leave their current position in the next 24 months. Both satisfaction with WLB and burnout were independently related to planning to reduce clinical work hours or leave current position, illustrating the strong impact of WLB on short-term career plans. Indeed, the dominant reason oncologists planned to reduce clinical work hours was to spend more time with family. Satisfaction with WLB also has potentially important implications for the attractiveness of medical oncology as a specialty field for future physicians.<sup>22</sup> All of these factors have important implications for the oncology workforce.

An overwhelming majority of oncologists reported they planned to work until at least 65 years of age. Both personal and professional considerations influenced oncologist retirement plans. Reassuringly, the most common reason oncologists were considering delaying retirement was that they enjoyed their work too much to retire, although personal financial considerations (eg, decline in retirement account values, economy, providing support for children) were also sizeable factors. Notably, although burnout and satisfaction with WLB were strongly related to oncologists' plans to reduce hours and leave current position, they were not independently associated with plans to pursue early retirement. In contrast and consistent with previous studies in other specialties,<sup>23-25</sup> career satisfaction was a more critical factor in retirement plans. Subjectively, the primary reason oncologists were considering retiring early was related to practice factors, including declining clinical care reimbursement from both Medicare and private insurers and the introduction of electronic medical records. These observations are again consistent with physicians in other specialties where insufficient reimbursement, increased regulation, and decreased autonomy are factors influencing retirement planning.<sup>23,24</sup>

Our study is subject to a number of limitations. Despite our high participation rate relative to many studies of physicians,<sup>2,12,26</sup> response bias remains a possibility. Our previous analysis,<sup>7</sup> however, suggested that responders were representative of US oncologists. Our survey was cross-sectional, and we are unable to determine causality or the poten-

tial direction of effect for the associations observed. Although oncologists age < 50 years reported an earlier planned retirement age than those age 50 to 59 or > 60 years, these projections are likely to change with time. The older an oncologist gets, the more time he or she has to develop personal health problems (or to have family members with health problems) that may affect retirement age. Alternatively, oncologists close to traditional retirement age are likely to better assess whether they have adequate retirement savings and may be more accurate estimating their retirement age. A survival bias may have had an impact on the description of retirement among oncologists age > 60 years in our study, because those who had already retired were not included in this analysis. Although reported intentions regarding retirement may not always translate into action, the relationship between intention and action is established.<sup>27</sup>

In summary, there is a high level of dissatisfaction with WLB among US oncologists. Dissatisfaction with WLB also seems to have a strong relationship with career plans. Evaluation of how to use team-based models of care and changes to practice structure to improve oncologist WLB are needed. Although WLB and burnout seem to be major factors in oncologists' decision to reduce clinical work hours and/or leave their current practice, career satisfaction seems to be a more critical factor in retirement plans. Given the pending oncologist shortage in the United States,<sup>1</sup> additional studies exploring the interactions among WLB, burnout, and career satisfaction with regard to the career and retirement plans of US oncologists are warranted.

#### AUTHORS' DISCLOSURES OF POTENTIAL CONFLICTS OF INTEREST

The author(s) indicated no potential conflicts of interest.

#### AUTHOR CONTRIBUTIONS

**Conception and design:** Tait D. Shanafelt, Marilyn Raymond, Michael Kosty, Leora Horn, John Phippen, Quyen Chu, Helen Chew, Jeff Sloan, William J. Gradishar

**Financial support:** Marilyn Raymond

**Administrative support:** Tait D. Shanafelt, Marilyn Raymond, William Benton Clark, Amy E. Hanley, William J. Gradishar

**Provision of study materials or patients:** Marilyn Raymond

**Collection and assembly of data:** Tait D. Shanafelt, Marilyn Raymond, Daniel Satele, Jeff Sloan, William J. Gradishar

**Data analysis and interpretation:** All authors

**Manuscript writing:** All authors

**Final approval of manuscript:** All authors

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## **Appendix**

### **Multivariable Analysis**

Four multivariable analyses were conducted to identify personal and professional factors associated with: (1) satisfaction with work-life balance; (2) intent to reduce clinical work hours; (3) intent to leave current position; and (4) intent to pursue early retirement. Forward stepwise logistic regression with confirmatory backward stepping was used. Personal characteristics included in all four models included: age, sex, children, and relationship status. Professional characteristics included in all four models included: practice setting, total work hours per week, hours spent seeing patients per week, nights spent on call per week, focus on certain type of cancer (yes or no), hospital rounding structure, number of weekends rounding in hospital per year, and method compensation (salary, salary plus bonus, pure incentive). The distress and satisfaction characteristics included in all four models were: burnout (yes or no) and fatigue score ( $< 6$   $v \geq 6$ ). The following additional factors were included in the models on intent to reduce clinical hours, leave current position, or pursue early retirement: dissatisfaction with work-life balance, career satisfaction, and specialty satisfaction.