Female Physician Wellness: Are Expectations of Ourselves Extreme?

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Physician burnout is considered a national health crisis affecting at least 50% of US physicians.[1] The development of burnout is thought to be a gradual process over time and is characterized by emotional exhaustion, emotional detachment, cynicism, diminishing feelings of accomplishment, decreased effectiveness, loss of professionalism, a tendency to view people as objects rather than human beings, depression, and suicidal ideation and/or completion.[1] The effects of physician burnout include lower patient satisfaction and care quality, higher medical error rates and malpractice risk, higher levels of physician and staff turnover, conflict between administration and physicians, and physician resistance to change and innovation.[2] The number of physicians experiencing burnout is directly attributable to issues such as loss of control over work, increased performance measurement (quality, cost, patient experience), the increasing complexity of medical care, the implementation of the electronic medical record, and major inefficiencies in the practice environment. Collectively, these have altered work flows and patient interactions, which has ultimately led to reduced time to provide clinical care, and increased numbers of physicians entering early retirement or leaving the medical profession completely for an alternate career.[3] Saini[4] reported in an opinion article that, despite decreased work hours, some physicians still manifest increased dissatisfaction at work. The Hippocratic Oath states "do no harm" to your patients, but in reality it should say do no harm to oneself. The World Medical Association recently made changes to the Hippocratic Oath to reflect "I will attend to my own health, well-being, and abilities in order to provide care of the highest standard."[5]

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INTERNATIONAL ANESTHESIOLOGY CLINICS
Volume 56, Number 3, 59–73, DOI:10.1097/AIA.0000000000000197

Table 1. *Maslach Burnout Inventory Human Services Study Scales*

Emotional exhaustion	Measures feelings of being emotionally overextended and exhausted by one's work
Depersonalization	Measures an unfeeling and impersonal response toward recipients of one's service, care treatment, or instruction
Personal accomplishment	Measures feelings of competence and successful achievement in one's work, including, "Am I providing quality care to my patients?"

The Maslach Burnout Inventory (MBI) is a leading measure of burnout, and the MBI Human Services Study (HSS) reports on burnout for medical personnel.[6] The MBI-HSS reports on 3 scales (Table 1). Unconscious and unrecognized gender biases are pervasive in medical professions and are an independent predictor of burnout among female physicians.[7]

There are many additional contributors to burnout and decreased wellness for women in anesthesia:

- Gender bias in the rate of promotion to associate professor or professor.
- Gender bias in major leadership roles in academic medicine.
- Wage and earning gender bias in all practice areas.
- Sexual harassment.
- Gender bias in professional societies.
- Underrepresention on editorial boards of major medical journals.
- Underrepresention in research.
- Female physicians perform >80% of the family-related domestic duties.
- Female physicians with families may be thought of as less dedicated to their profession.
- Lack of consistent control of predictable work hours including night time work.
- Physical and intellectual demands of a high-stress profession.
- Male domination of surgical specialties.

Because of the many unique challenges that female physicians encounter, they experience burnout and wellness in a vastly different manner then male physicians (Table 2). The World Health Organization's definition of health is an optimal state of physical, mental, and social well-being, not just the absence of burnout.[8] Female physicians tend to expect perfection from themselves in all aspects of their lives. However, there is no work-life balance that can achieve this perfection. Commonly, female physicians' self-expectations can be extreme. Men and women are different in their neuroanatomy, upbringing and unconscious programming, internal hormonal environment, and cultural norms for how a man or

Table 2. *Stages of Burnout by Gender*

Stage	Women	Men
1	Emotional exhaustion with women having numerous responsibilities within work and home life	Usually begins with depersonalization and cynicism, which is a coping mechanism during times of overwhelming stress
2	Depersonalization and cynicism. Cynicism is very difficult for women to maintain before stage three begins. They may begin to complain about their patients and how much responsibility they are	Emotional exhaustion, which worsens until they can no longer cope
3	Reduced accomplishment with female physicians oftentimes having lower professional self-esteem	Unlikely to occur and the lack of stage 3 allows them to continue practicing in denial with continued exhaustion and cynicism

woman is supposed to behave.[6] Drummond[6] reports that, although the physician workforce is ~50% women and 50% men, 80% of clients contacting him for resources are women, frequently to seek advice on work-life balance.

There are a multitude of stressors for female physicians in the health care industry that male physicians do not encounter. The term "unconscious gender bias" refers to ways women are treated differently than men without any realization of this bias. Drummond reports this is not referring to sexism, misogyny, or conscious discrimination; it refers to observable differences in behavior toward and expectations of female physicians. This is a deep, below the surface bias, and it comes from every area of health care. It is even common for women to exhibit gender bias toward other women.[6]

Per Drummond,[6] "Our society expects women to be self-modest, self-effacing team players, to mentor young people, assist co-workers, to be empathetic, helpful, motherly, nice, do the housework, take on the most thankless committees and tasks, to be of service at all times and do the emotional heavy lifting for the staff in the practice." Our society expects men to be dominant, self-assured, set boundaries, give orders and expect obedience, be gruff on occasion, and take the lead.[6] These patterns lead to more female physicians getting burdened by requests from staff running the practice. There can be requests from patients, office staff, peer physicians, and members of a leadership team. A few examples include being asked to clean up the doctor's lounge, get coffee, take extra call on short notice, and purchase the gifts for the office staff. Office staff frequently make such requests of female physicians where they would almost never request the same of male physicians.

Women are expected to always say yes to requests to help everyone else in the practice. While men are often never asked, or allowed to

decline, women are easily labeled for declining. Men are very good at responding in ways that are thought to be acceptable for men and do not lend to them being labeled. It is culturally accepted for male individuals to decline requests and then viewed as strong with boundaries and potential leaders. Completing these tasks takes time away from the daily activities of patient care and can rapidly overburden the female physician. Between managing their usual workload, these additional tasks, and personal life tasks typical of female roles, this burden is the equivalent of multiple full-time jobs. Often this gender bias is so unconscious that it goes completely unnoticed until it is brought to the attention of all parties involved.

A recent study revealed that female internists had lower 30-day mortality and readmission rates in elderly patients compared with their male colleagues in the same hospital.[9] Female physicians attract more female patients, spend more time on office visits discussing preventative care and focusing on psychosocial aspects of patient care.[10] In addition, female physicians tend to attract more female patients who have more depression and other psychosocial issues along with their medical issues. Male and female patients tend to be more talkative to female physicians and be more demanding than they would with male physicians. These additional burdens can extend the physician's clinical day by many hours, leading to increased stress and workload at work and home.

Women in leadership roles often times are expected to complete twice the number of tasks as men in leadership roles. This causes women to feel they must repeatedly prove themselves. Williams et al[11] in their book, *What Works for Women at Work*, explain 4 patterns of behavior of working women:

(1) Prove-it-Again—women held to higher standards of performance while male colleagues are given the benefit of the doubt and promoted on potential.
(2) The Tightrope—women being criticized for being too assertive when they act like men or too passive when they act in a more traditional female role.
(3) The Maternal Wall—many women are still being asked to make trade-offs between their careers and their families.
(4) Tug of War—women judge each other in ways that damage their collective march forward.

These patterns apply to women in all professions. This book validates women who have felt this personally and have not been able to express the endless self-doubt, self-examination, guilt, emotional turmoil, and frustration that accompany these patterns. There are many obstacles that women encounter that are out of their control, and individuals must change their views and actions in order to reverse these obstacles on an

institutional level. There are some who advise being confident and direct, and to "man up" in order to not experience gender bias. However, even confident, direct women experience unconscious gender bias.

Female physicians have high rates of depression with some statistics reporting a 19.5% incidence.[12] A study by Guille et al[13] recently reported on the results of surveys of 1571 male and female interns and revealed that depressive symptoms increase during internship for both men and women, but the increase is greater for women. Research shows the suicide completion rate ratio for female physicians is greatly increased (2.4 to 4 times) compared with that of the general population. Male physicians complete suicide at a rate ratio of 1.4 times the general population.[14] The number of physician suicides for both genders is ~300 to 400 per year, and these are most likely underestimates of the true rates.[15]

Jolly et al[16] surveyed >1000 individuals with medical degrees who had received career development awards from the National Institutes of Health (K Awards) with regard to their allocations of time and what their family responsibilities were. The majority of the female physicians were married to partners who were employed full-time, while the majority of the male physicians were married to spouses who worked part-time or did not work outside the home.[16] Married female physicians spent 8.5 more hours per week on parenting and domestic duties than their male counterparts.[16] It is evident there are still unconscious or conscious thoughts about the role of the woman in relationships in today's society. Although 47% of medical students and 46% of residents in the United States are female, research suggests that the stereotypes for domestic responsibilities has undergone little change over several decades despite these women having chosen one of the most time intensive, stress-inducing, and demanding careers. A study from the Netherlands reported that female physicians suffer societal biases, stereotyping, and unequal division of household responsibilities.[17] In addition, women are more likely to sacrifice career-enhancing activities for other responsibilities outside of work than men.

■ Motherhood During Residency

The age old question of when to have a child haunts many women going through medical training and beginning their careers. According to Sibert,[18] there is no good time. Sibert states that a female physician should not get pregnant during residency, because of the difficulty it creates when considering residency training and relationships, as well as time commitments. Recent research from Brigham and Women's Hospital reported on a survey of 347 active surgeons who became pregnant during their residencies during the last 10 years. Approximately

50% said they considered quitting their residencies during pregnancy, and ~33% advised female medical students not to become surgeons.[19] General surgery residencies have a 25% attrition rate, and some residency training directors are increasing their number for female residents to anticipate this attrition and assist in covering the added call burden when female residents are out on maternity leave.[20]

The American Board of Anesthesiology allows for 12 weeks of absence during Clinical Anesthesia 1 through Clinical Anesthesia 3 (PGY 2-4) training years. If more time is taken, this time is required to be made up. It is most likely that the 12 weeks will be utilized to allow for vacation and sick time. When making up the additional time, they are taking call so the additional call burden placed on colleagues during the leave period should be paid back. Many anesthesiology residents take only 6 weeks of maternity leave, which is thought to be the bare minimum for acceptable leave, in hopes of not having to extend their training to make up the time.

Most physicians plan their lives in time increments: first college, then medical school, then residency, then the "real life" they have worked so long for. Female physicians tend to make achievement check lists with all of the above but, added to this, they may be finding a relationship, possibly having a child, and then getting a job and beginning life after training. Women who choose not to have children do not suffer the added consequences women with children face but obviously still encounter the other challenges with regard to their personal and professional lives.

Professional women are being told that, if they do not have a spouse or a significant other who is supportive of their careers, they should stay single. Male spouses continue to believe their careers are more important than their female partner's career, even if the female partner is in the same profession. A Harvard Business Review article emphasizes the disconnect, reporting "more than half the men expected their careers to take precedence over their wives' careers, while most women expected egalitarian marriages."[21] Gates[22] wrote, "we are still sending our daughters into companies designed for our dads and into marriages billed as equal as long as the man's career isn't disturbed by his wife's success." Surprisingly millennial men may even be less committed to equality than the previous generation. It takes a very strong couple and open-minded individuals to achieve equality in relationships.

■ Gender Pay Gaps

The Institute for Women's Policy Research reported that the wage gap for full-time female workers persists, with females making 80 cents for every dollar earned by males, equating to a 20% salary gap[23]

Table 3. *Recent Pay Gap Studies*

Study	Findings
Institute for Women's Policy Research	20% salary gap between women and men with women earning 80 cents on the dollar to what men earn
JAMA	Comparison of women and men academic physicians employed by Massachusetts General Hospital and Harvard Medical School showing an unadjusted pay gap of 24.8% (women $206,641 vs. men $257,957). After adjusting for age, experience, specialty, ranking, research productivity, and clinical revenue, the gap remained at 8.7% (women $227,783 vs. men $247,661)
2017 Medscape Compensation report	Primary care physicians show a 16.2% pay gap (women $197,000 vs. men $229,000). Specialty care revealed a 37.5% gap (women $251,000 vs. men $345,000)
	Female anesthesiologists made 24% less ($308,000 vs. $382,000)
	This figures are not adjusted for full-time status. 22% of women physicians reported working part time while only 11% of men did so

(Table 3). Massachusetts General Hospital and Harvard Medical School stated that, among academic physicians, women had lower unadjusted annual salaries compared with men ($206,641.00 vs. $257,957.00). When adjusting for age, experience, specialty, faculty ranking, research productivity, and clinical revenue, the salaries were $227,783.00 for female physicians and $247,661.00 for male physicians.[24] The 2017 Medscape Overall Physician Compensation Report surveyed over 19,200 physicians of all specialties. The 3 most common fields for women are obstetrics and gynecology, pediatrics, and psychiatry. In primary care, salaries for female primary care physicians average $197,000.00 versus $229,000.00 for male physicians. Specialty physician's salaries average $251,000.00 for female physicians and $345,000.00 for male physicians, with 11% of male physicians and 22% of female physicians working part time. The 2017 Medscape Anesthesiologists Compensation report listed female anesthesiologists' average income as $308,000.00 versus $382,000.00 for their male counterparts. In 2017, female anesthesiologists had a 13% part-time rate versus 7% for male anesthesiologists.

Part of this wage gap may be that women in general are not as good at negotiating salaries as men.[25] Women do not feel as confident about their skills and therefore are less apt to push for a high salary. We just accept what is offered and feel thankful to have a job. Women excel at negotiating for others but not for ourselves. Is there an explanation for this that is unrecognized or do academic institutions need to accept this

vast disparity—that gender bias is occurring—and step up to the challenges in order to remedy the inequities?

■ Sexual Harassment

Jagsi et al,[26] revealed that discrimination and sexual harassment continue to occur on a frequent basis. Jagsi and colleagues found that 30% of female physician-scientists experienced sexual harassment while only 4% of male physician-scientists experienced sexual harassment. Among the participants, 40% of women described severe forms of abuse such as unwanted or coercive sexual advances, with 59% feeling a negative effect on their confidence in themselves as professionals; 47% reported these experiences negatively affected their career development.[27] These findings are not statistically different from a similar survey carried out in 1995, in an era when the number of female individuals in academic faculty positions was much lower. Unfortunately, this is not limited to the medical profession and occurs in all professions, especially in professions where there is a power differential. Academic medicine lends itself to power differentials because of its hierarchal nature with a chain of command of faculty, residents, interns, and medical students. Because these results were based on surveys, it is likely they underestimate the true rate of harassment. It is exasperating and frustrating that in 2017 women are still faced with sexual harassment in the workplace.

■ Leadership Disparities

A 2013-2014 report from The Association of American Medical Colleges (AAMC) showed that 47.5% of medical school graduates were women.[28] During this same time period, only 37.1% of anesthesia residents in Accreditation Council for Graduate Medical Education-accredited anesthesiology programs were women. Kranner and colleagues sent electronic questionnaires to 132 Accreditation Council for Graduate Medical Education-accredited anesthesiology residency Program Directors following the 2014 match. Sixty-five programs returned questionnaires from 2940 current residents and 829 residents who matched in the 2014 Match. The results revealed that programs with a high number of current female residents matched a higher number of incoming female residents. There was no association with a higher number of female residents matched based on gender of the Chair or Program Director.[28]

Women are less likely to get promoted to associate professor or full professor. Only 13% of female full-time faculty hold the rank of full professor while 30% of male full-time faculty have the rank of full professor. Depending on the institution, getting promoted may be easier

for faculty who engage in research versus those who are clinical care and education-based faculty. This may contribute to the disparity, as men are more likely to pursue research agendas. The AAMC reports that women only account for 16% of Medical School Deans, 33% Senior Associate Deans and Vice Deans, 39% Associate Deans, 46% Assistant Deans, and 15% Departmental Chairman.[27]

Diversity in the workplace has been shown to improve organizational performance in the business world and is now deemed essential in the health care industry.[29] Amrein et al[30] in 2011 published an article stating that women are underrepresented on editorial boards of 60 major medical journals. Toledo and colleagues report on a survey with regard to diversity among the leadership team of the American Society of Anesthesiologists (ASA). A total of 299 individuals responded to the survey. Responders were 21% women and 6% were minorities. The study revealed women and minorities are underrepresented in leadership roles within the ASA.[31]

Women do not receive scholarly recognition through awards and prizes for research at the rate they should, taking into account the number of female physicians. The term "glass ceiling" acknowledges the difficulty of advancement in a profession affecting women and minorities. A very important component of a successful career is to have mentors and sponsors. Sponsorship and mentorship are 2 different entities. Sponsorship refers to mentors putting their reputations at risk to advance the mentee into higher stakes opportunities.[32] Sponsorship is more common for women in the business world than in academic medicine. Sponsorship is not the same for men and women and may lead to an achievement gap in leadership. Women are over-mentored and undersponsored, are more likely to be mentored by nonmanager or first level managers, and are given well-meaning advice but not career strategies. Men are more likely to be mentored by CEOs and other senior executives, and men are more likely to be sponsored by their mentees. Mentorship for women usually involves understanding themselves rather than career guidance, whereas men are pushed to strategically plan their future roles. Sponsorship contributes to a 20% increase in women's satisfaction with rate of advancement and likelihood to ask for a pay raise or stretch assignment. Women continue to be undersponsored because of implicit bias and stereotypes. People who sponsor usually choose people who remind them of themselves or of those that they like. Sponsorship that leads to more women in leadership roles adds diversity and new perspectives to institutions.

Mary Stenzel-Poore, PhD senior associate dean for research at Oregon Health and Science University (OSHU) School of Medicine formed the Women's Research Leadership Group to support the growing influx of women leaders in research at OHSU and the need for culture change to ensure their success. This committee is made up of

over 30 senior women leaders in clinical and basic science departments who meet on a regular basis to discuss and develop actionable strategies to face the barriers specific to women in research and clinical leadership. The goals of the Women's Research Leadership Group is to increase the number of women in senior leadership roles, while implementing strategies to support them and their success.[33] Their most recent focus is unconscious gender bias. They are focusing on ways to address and overcome unconscious bias beyond that taught during training. They are trying to provide a diverse leadership group at OHSU with the influx of female physicians. They have identified that men and women communicate very differently and that improving communication and relationships should lead to increased overall success.

A recent report (2017) in the *Wisconsin State Journal* reported UW-Madison's Department of Anesthesiology "needs to recruit more female residents, examine salaries for gender equity and boost mentoring of leaders to improve a culture characterized by 'male centrism'."[34] This report is based on a climate review that began in Feb 2017 and was completed in August of 2017. The report states, "Though the department provides high-quality medical care, it can be described as a good-old boy network." Of the 80 faculty there are twice as many male faculty members. Female residents are told "don't rock the boat," pregnant residents are humiliated, and anesthesiologists at The American Family Children's Hospital, the majority of whom are female, are "infantilized" when others call it "the crying hospital" or "candy land" as per the report.[34]

This is a particularly difficult environment for women to work in, with suggestions that women lack full commitment to medicine because of their families. Female faculty and residents at this program report feeling unequal opportunities for leadership, mentoring, and other career enhancers.[35] There are not many women in leadership roles in this department. The report states "board runners" were until recently all men and that if women requested to not be assigned to radiology procedures they were purposefully placed in these types of environments. When they challenged these assignments they received negative reactions. There were also minimal breast pumping locations. The Chairman of the department resigned in July of the study period.[35]

The corporate world seems to be making strides to improve women's equality, although only 20% of C-Suite executives in the United States are female. Companies with women in senior management roles have been shown to consistently outperform industry means, and 1 study reported having a woman on the board reduced a company's bankruptcy rate by 20%.[36] Mckinsey et al[37] studied key organizational performance drivers from thousands of managers and reported that women excel in 5 of 9 categories (participation, inspiration, development, role model, and rewards) and were equal with men in effective communication and intellectual stimulation. Many companies are tracking gender

representation, and developing training, flexibility, and networking programs. Top companies have programs aimed specifically at increasing the mentorship and sponsorship of women and their promotion rates, offer extended maternity and paternity leave and onsite child care, provide flexibility with emergency backup child-care services, and more programs to smooth the transition back to work after leave ends. Race is another obstacle for women, with only 3% of C-Suite positions being held by Asian, African American, Latina, or other women of color.

■ Strategies for Change

Physicians are twice as dissatisfied with their work-life balance as other professionals. Physician burnout will be an ever-present major issue, especially for female physicians, unless measures are taken to address the issues. Five of 10 academic physicians leave their academic careers within 10 years, 4 of whom leave academia completely. Change on a personal level is required, but to effect culture change, efforts need to be directed at the organizational systems' level.

Organizational systems level:

- Education of all staff and physicians with regard to unconscious gender bias and its omnipresent effects in the workplace–decreased rate of promotion, pay inequities, decreased major leadership roles, etc.
- Recognition of inherent unconscious biases with strategies and solutions.
- Recognition, acceptance, strategies, and solutions for addressing sexual harassment.
- Understanding that gender diversity in leadership roles, presence as editors in chief, and in research adds measureable value with improved success.

Personal level:

- Setting realistic career goals as the family matures.
- Setting realistic goals for domestic responsibilities with outsourcing of responsibilities when possible.
- Personal wellness goals: eating well, meditation, exercise, individual time, quality family time.
- Meet in a group setting outside of work with other professionals to feel comradery and support.

The ASA has recently created the Ad Hoc Committee on Women in Anesthesia. This important committee will begin studying the inequities for female physicians and realistic pathways to enact culture change. A number of academic institutions have created committees specifically for female physicians aimed at improving their work-life balance. Stanford

University School of Medicine realized the significance of physician burnout and its effects and began a pilot project to prevent burnout and decrease the attrition rate for women in academic medicine and science. Physicians had a time bank that accrued credits on the basis of activities such as mentoring, serving on committees, and covering call shifts for their colleagues. These credits could be used for services such as meal delivery, dry cleaning services, handyman services, babysitting, elder care, assistance with grant writing, and movie tickets. The time bank model showed a large increase in job satisfaction, work-life balance, and collegiality. More research grants were applied for, and there were higher approval ratings for job satisfaction with the study faculty versus nonstudy faculty. In addition, more women were able to focus on research and utilize their credits for grant writing assistance. Both men and women were able to spend more time with their families. Female faculty members who felt Stanford supported their career development increased from 29% to 57%. Stanford administration says this project was "extremely cost-effective." Stanford has hired their first Chief Wellness Officer, Tait Shanfelt, MD, a nationally recognized expert in physician wellness, and its implications on quality of care, and funded a Stanford Wellness MD Center dedicated to changing the "iron man" culture of medicine. Hopefully, this concept will be adapted at many more institutions.[36]

■ Conclusions

The journey to becoming a physician is a long road, with many challenges and sacrifices to be made. Most begin this journey out of a desire to help people, but, in reality, many have no idea what professional and personal challenges they will encounter. Male and female physicians strive for perfection in all areas of their lives, but this is an unrealistic expectation and an enormous amount of self-imposed pressure. Female physicians have many added biases, challenges, and sacrifices that male physicians do not frequently encounter, which can lead to extreme expectations of themselves.

Unconscious, unrecognized pervasive gender bias is culturally ingrained, and omnipresent among male and female physicians. Its effects on female physicians are clearly multifactorial, affecting their personal and professional lives on a daily basis. This discussion is relevant not only to physicians, as this bias occurs in the majority of professions. Female physicians, whether single, married, divorced, with or without children, all face obstacles, challenges, and sacrifices specific to women. Burnout and wellness for female and male physicians are not the same.

On a more granular level, academic departments and private entities need to change the culture by educating their staff on gender bias and

the potential resultant effects on female physicians and their practices. The wage gap must be corrected in addition to advancing women in leadership roles, increasing the number of women who are promoted, in research and on editorial boards, as well as having more women as editors in chief of major journals.

It is the responsibility of male physicians to understand these biases and individually lead culture change to improve the work lives of female physicians. If their views and actions do not change, the number of female physicians experiencing burnout will continue to increase. Female physicians should surround themselves with strong female role models who have gone or are going through similar circumstances. Support and advice from other female physicians is vital in the realization that the majority of women experience similar obstacles, challenges, and frustrations.

The author declares that there is nothing to disclose.

■ References

1. Sternberg S. Declaring doctor burnout a "Health Crisis," hospital CEOs urge Action. 2017. Available at: www.usnews.com/news/national-news/articles/2017-03-28/declaring-doctor-burnout-a-health-crisis-hospital-ceos-urge-action. Accessed November 2017.
2. Drummond D. Physician wellness—why it's such a struggle. 2013. Available at: www.thehappymd.com/blog/bid/284600/Physician-Wellness-Why-It-s-Such-a-Struggle. Accessed August 3, 2017.
3. Noseworthy J, Madara J, Cosgrove D, et al. Physician burnout is a public health crisis: a message to our fellow health care CEOs. 2017. Available at: www.healthaffairs.org/action/showDoPubSecure?doi=10.1377%2Fhblog20170328.059397&format=full&. Accessed September 27, 2017.
4. Saini A. Work–life balance: keep the cycle moving—find a purpose, set priorities, and manage time well then reassess and reset. *Front Pediatr*. 2016;3:1–3.
5. Kuhrt M. The updated Hippocratic Oath. 2017. Available at: www.fiercehealthcare.com/practices/wma-adds-language-about-physician-well-being-to-modern-hippocratic-oath. Accessed November 7, 2017.
6. Maslach C, Jackson SE. MBI: human services survey. 2017. Available at: www.mindgarden.com/314-mbi-human-services-survey. Accessed December 5, 2017.
7. Drummond D. Stop physician burnout-unconscious gender bias in the healthcare workplace-part one. 2017. Available at: www.thehappymd.com/blog/stop-physician-burnout-unconscious-gender-bias-in-the-healthcare-workplace-part-one. Accessed October 30, 2017.
8. WHO. Constitution of WHO: principles. 2018. Available at: www.who.int/about/mission/en/. Accessed February 1, 2018.
9. Tsugawa Y, Jena AB, Figueroa JF, et al. Comparison of hospital mortality and readmission rates for Medicare patients treated by male vs female physicians. *JAMA Intern Med*. 2017;177:206–213.
10. McMurray JE, Linzer M, Konrad TR, et al. The work lives of women physicians: results from the physician work life study. *J Gen Intern Med*. 2000;15:372–380.

11. Williams JC, Dempsey R, Slaughter AM. *What Works for Women at Work*. New York, NY: New York University Press; 2014.
12. Frank E, Dingle AD. Self-reported depresion and suicide attempts among US women physicians. *Am J Psychiatry*. 1999;156:1887–1894.
13. Guille C, Frank E, Zhao Z, et al. Work-family conflict and the sex difference in depression among training physicians. *JAMA Intern Med*. 2017;177:1766–1772.
14. Schernhammer ES, Colditz GA. Suicide rates among physicians: a quantitative and gender assessment (meta-analysis). *Am J Psych*. 2004;161:2295–2302.
15. Andrew LB. Physician suicide. 2017. Available at: https:emedicine.medscape.com/article/806779-overview. Accessed December 5, 2017.
16. Jolly S, Griffith KA, DeCastro R, et al. Gender differences in time spent on parenting and domestic responsibilities by high-achieving young physician-researchers. *Ann Intern Med*. 2014;160:344–353.
17. Houkes I, Winants Y, Twellaar M, et al. Development of burnout over time and the casual order of the three dimensions of burnout among male and female CPs. A three-wave panel study. *BMC Public Health*. 2011;11:240.
18. Sibert KS. Give yourself a break—don't have a baby during residency. 2012. Available at: http://apennedpoint.com/give-yourself-a-break-dont-have-a-baby-during-residency/. Accessed November 26, 2017.
19. Greenfield R, Tozzi J. Why having a baby pushes women out of medicine. It can be prohibitively hard to have kids when you're a surgical resident. 2017. Available at: www.bloomberg.com/news/articles/2017-10-10/when-becoming-a-doctor-means-ignoring-the-doctor-s-orders. Accessed November 2017.
20. Khoushhal Z, Hussain MA, Mamdiani M, et al. Prevalence and causes of attrition among surgical residents: a systematic review and meta-analysis. *JAMA Surg*. 2017;152:265–272.
21. Witenberg-Cox A. If you can't find a spouse who supports your career, stay single. 2017. Available at: https://hbr.org/2017/10/if-you-cant-find-a-spouse-who-supports-your-career-stay-single. Accessed November 26, 2017.
22. Gates M. We're sending our daughters into a workplace designed for our dads. 2017. Available at: www.linkedin.com/pulse/were-sending-our-daughters-workplace-designed-dads-melinda-gates/. Accessed December 14, 2017.
23. Stephens S. Healthcare gender pay gap still signficant. 2016. Available at: www.healthecareers.com/article/salary/gender-pay-gap-healthcare. Accessed November 20, 2017.
24. Jena AB, Olenski AR, Blumenthal DM. Sex differences in physician salary in US Public Medical Schools. *JAMA Intern Med*. 2016;176:1294–1304.
25. Grisham S. Physician compensation report. 2017. Available at: www.medscape.com/slideshow/compensation-2017-overview-6008547. Accessed December 14, 2017.
26. Jagsi R, Grffith KA, Jones R, et al. Sexual harassment and discrimination experiences of academic medical faculty. *JAMA Intern Med*. 2016;315:2120–2121.
27. Cavallo J. Overcoming sexism in academic medicine. A conversation with Reshma Jagsi, MD, DPhil. 2017. Available at: www.ascopost.com/issues/july-10-2017/overcoming-sexism-in-academic-medicine/. Accessed October 30, 2017.
28. Kranner PW, Mussehl DA, Hess AS. Gender diversity in anesthesiology programs: the role of current residents and department leadership in the 2014 Match results. *J Educ Perioper Med*. 2016;18:E401.
29. Cohen J, Gabriel BA, Terrell C. The case for diversity in the health care workforce. *Health Aff*. 2002;21:90–102.
30. Amrein K, Langmann A, Fahrleitner-Pammer A, et al. Women underrepresented on editorial boards of 60 major medical journals. *Gender Med*. 2011;8:378–387.
31. Toledo P, Duce L, Adams J, et al. Diversity in the American Society of Anesthesiologists leadership. *Anesth Analg*. 2017;124:1611–1616.

32. Edmunds LD, Ovseiko PV, Shepperd S, et al. Why do women choose or reject careers in academic medicine? A narrative review of empirical evidence. *The Lancet*. 2016;388: 2948–2958.
33. Medicine OSo. Guest lecturer Dr Reshma Jagsi joins women's leadership group in contemplating culture change. 2017. Available at: www.ohsu.edu/xd/education/schools/school-of-medicine/news-and-events/wrlg-may2017.cfm. Accessed October 30, 2017.
34. Wahlberg D. UW anesthesiology department challenging for women, report says. 2017. Available at: http://host.madison.com/wsj/news/local/health-med-fit/uw-anesthesiology-department-challenging-for-women-report-says/article_e44a2aa2-b55c-5865-a29d-34e1714e6115.html. Accessed November 7, 2017.
35. Shulte B. Time in the bank: a Stanford plan to save doctors from burnout. 2015. Available at: www.washingtonpost.com/news/inspired-life/wp/2015/08/20/the-innovative-stanford-program-thats-saving-emergency-room-doctors-from-burnout/?tid=pm_local_pop_b&utm_term=.f6bdf06db70e. Accessed December 18, 2017.
36. Hammerstedt H. Pioneering leadership. 2016. Available at: http://feminem.org/2016/12/12/pioneering-leadership/. Accessed December 12, 2017.
37. McKinsey and Company. Women matter 2: female leadership, a competitive edge for the future. 2008. Available at: https://www.mckinsey.com/~/media/McKinsey/Business%20Functions/Organization/Our%20Insights/Women%20matter/Women_matter_oct2008_english.ashx. Accessed May 19, 2018.