

## Chapter 2

# Organizational Culture, Practices, and Patterns of Interaction that Drive the Gender Pay Gap in Medicine: Second-Generation Gender Bias and Other Complexities



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As we seek to eliminate the gender pay gap in medicine, we must consider the context in which this disparity arises. In order to be successful and sustainable, a new approach to compensation should identify, understand, and ultimately address all potential drivers of inequity. A priori, one might reasonably believe that the pay gap between men and women in medicine is explained by the types of choices women make in medical training and the workplace, e.g., decisions about which specialty to pursue, how many hours to work per week, and how to allocate their professional time. Although this narrative may seem plausible, it is inaccurate, and current research refutes it [1–4].

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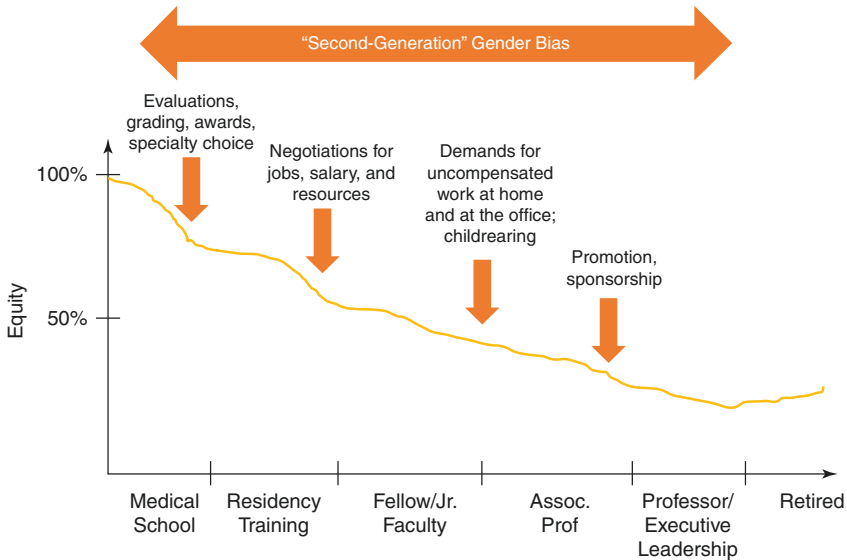
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In 2018, E.A. Apaydin and colleagues published the most robust study to date on drivers of the gender pay gap in medicine [1]. The authors surveyed 656 physicians in 30 practices in six states about their annual incomes, demographics, professional time allocation and foci, compensation models, and practice types. Two hundred sixty-three men and 176 women participated in the study, resulting in a 67% response rate. Investigators identified a raw income difference between men and women of almost \$100,000 per year (men earning more than women). Men indeed worked more hours, did more procedures, and provided less primary care than women. However, after adjustment for these and all other possible contributing factors, a \$27,000 pay gap remained.

There is evidence that an unexplained income gap starts at the beginning of a woman physician's career trajectory and increases over time: Lo Sasso and colleagues examined salaries of approximately 17,000 physicians starting clinical positions immediately after completion of residency training in New York State and reported unadjusted sex-based differences of \$24,400 in 1999 and \$48,200 in 2017 [2]. Hypothesized mediators such as specialty choice and work-life balance preferences did not explain 39% of the difference. Additionally, the unexplained portion increased over the 1999–2017 time period. What is driving the residual compensation disparity observed in the Apaydin and Lo Sasso studies and prior investigations? This chapter describes the organizational culture, practices, and patterns of interaction within medicine today that are the engines behind this pay gap.

## Second-Generation Gender Bias

In the twenty-first-century workplace, federal statutes, state laws, and organizational policies prohibit overt acts of discrimination. However, implicit expectations and unconscious gender stereotypes continue to dictate a professional culture that inadvertently benefits men and disadvantages women [5–8]. In medicine, male physicians are expected to be decisive, assertive, and independent and therefore are readily afforded authority, respect, and opportunity. Women physicians, however, must balance long-standing social expectations to be nice, caretaking, and other-focused while carrying out the requisites of being a competent clinician, researcher, educator, and/or administrative leader. Considered “second-generation gender bias,” these cultural assumptions are not intentional or overt. However, they impact how women are evaluated, promoted, and therefore compensated in the healthcare workplace. Although equal numbers of men and women now matriculate into medical school, biases threaten the equity typically associated with numerical parity, systematically limiting women's professional advancement in medicine via career choices, job prospects and negotiations, greater domestic responsibilities, and leadership opportunities (Fig. 2.1).



**Fig. 2.1** How second-generation gender bias cumulatively erodes equity and opportunity throughout women’s careers in medicine

### Evaluations, Awards, and Recognition

Beginning in medical training, implicit gender expectations influence performance assessment. Although a systematic, multi-institutional study of gender bias in medical school has yet to be performed, existing literature suggests inequities. A retrospective review of medical student theses over 13 years at a single institution reported that, although women authored 51% of research theses, they were less likely than their male counterparts to receive highest honors [9]. This disparity persisted after controlling for multiple factors associated with achieving high honors including completing a fifth year of school, pursuing a joint masters in health science degree, securing competitive research funding, and working with a mentor with a history of three or more thesis honorees. Additionally, a survey of 2395 medical students from 105 schools reported that women received higher grades in obstetrics and gynecology and psychiatry and lower grades in surgery, historically a male-dominated specialty [10]. Taken together, this research implies that second-generation gender bias in medical school exists and results in accolades amidst traditionally female endeavors and less recognition in stereotypically male domains like surgery and research.

## Specialty “Choice”

Unconscious stereotypes and gender norms experienced in medical school may deter women from pursuing procedural specialties. Women report machismo or an “old boy” attitude observed among surgeons and more sexual harassment in general surgery clerkships than their male counterparts [11]. Compared with men, women are discouraged by the lack of same-sex role models in surgery. The effects of these experiences may be confounded by the decision to have a family and the expectation that subsequent demands will hamper career plans [11, 12]. Although most men and women report feeling surgeons have poor work-life balance, women are more likely to cite this reason for not pursuing a career in the specialty [11]. Additionally, cognitive specialties may be perceived to have better work-life balance. To that end, implicit cultural expectations may discourage women from considering an array of medical specialties and urge them toward pediatrics, family practice, and obstetrics and gynecology [13].

Women are currently overrepresented in non-procedural, less remunerative specialties. This phenomenon may seem to explain the observed gender pay gap. However, research that has controlled for specialty, practice, and workload variables still uncovers disparities [1]. Furthermore, studies examining pay distributions *within* non-procedural specialties demonstrate that gender disparities in pay exist. For example, among primary care physicians, general internists, internal medicine residency program directors, and hospitalists, women are paid significantly less than men within the same field [14–16]. Among general internists, white women earned \$36,609 (19%) less and black women earned \$56,452 (29%) less than white men physicians after accounting for similar work effort and provider and practice characteristics [14]. These findings suggest that disparities in compensation are compounded along gender lines: not only are women overrepresented in lower-paid specialties, but also they are paid less within those specialties.

## Clinical Productivity Measures

Physician compensation in the United States is largely based on clinical productivity, and this traditional approach to salary determination potentially disadvantages women. Specifically, clinical productivity is measured in work relative value units (wRVUs), and in aggregate, women physicians have been shown to produce fewer wRVUs [17]. This disparity is explained only in part by the difference in number of hours worked. Women physicians have been observed to spend more time with patients, reflecting patient-centered communication styles and increased focus on psychosocial lines of inquiry compared with male colleagues [18]. Although women physicians have demonstrated achievement of better patient health outcomes, their clinical volume is potentially compromised by such patient focus and attention to broader determinants of health [19, 20]. However, perhaps because patient-centered communication is a gender-congruent expectation, women physicians do not get the same amount of “credit” for patient-centeredness on subjective patient experience

surveys as their male colleagues, calling into question the validity of using patient ratings as a marker of healthcare delivery excellence [21]. These findings beg the question, are healthcare organizations defining “productivity” correctly or are we unintentionally penalizing women for the care they deliver?

## **Domestic Responsibilities**

Women physicians assume more domestic responsibilities compared with their male counterparts, which may take away time from clinical duties, grant applications, manuscript preparation, and opportunities for networking and professional development [22]. Women physician-researchers early in career are more likely than men to have spouses or partners who work full-time [23]. Among those who are partnered with children, women physicians spend 8.5 more hours than men physicians on domestic responsibilities and are more likely to take off work when disruptions in childcare occur. Among physician couples with children under the age of two, men work 55 hours per week, compared with 41 hours per week for women [24]. As children get older, there is no difference in hours worked between men with and without children, while women with children work fewer hours than women without children. Even among dual-physician households without children, men work on average 57 hours per week, compared with 52 hours per week for women. Additional data from the US Census reveals that female physicians in dual-physician households have lower incomes and work fewer hours outside the home than female physicians in single-physician households [25]. Moreover, among all female physicians, the average number of paid work hours decreases as the male spouse’s paid work hours increase, signaling female physicians may be making professional adjustments to tend to household responsibilities.

## **Childbearing and the “Mommy Tax”**

More women physicians are having children during residency training, and research reveals they are insufficiently supported during this major life event [26]. A study of 15 graduate medical education training programs found that only half have policies providing paid childbearing or family leave time, and the mean duration of total paid maternity leave time is 6.6 weeks, which is lower than the mean of 8.6 weeks provided to faculty at the same academic institutions [27]. (Both are below the 12 weeks currently recommended by the American Academy of Pediatrics.) In addition, many residency programs require women to make up call and condense scheduling shifts prior to the start of maternity leave. Such increased work hours and short leave time may be detrimental to maternal and child health. Women who take maternity leave may also experience delays in completion of residency because of medical specialty boards’ strict requirements about number of months of training [28, 29]. Because residency and fellowship programs align with an academic calendar, beginning July first of each

year, any delay in residency graduation may result in missing an annual cycle for initiating fellowship training, potentially impacting a woman's competitiveness or eligibility for fellowship (and long-term earning potential).

Less than one-third of women attending physicians have maternity leave included in their most recent contracts [30]. Additionally, more than half report losing \$10,000 in income because of maternity leave with no significant difference between procedural and non-procedural fields. Women physicians in procedural specialties are more likely to report negative impact on referrals associated with maternity leave, being required to complete missed shifts, and owing money to their practice. More than one-third of women with children report experiencing maternal discrimination, with 90% attributing the discrimination to being pregnant or taking maternity leave and 48% to breastfeeding [31]. Women describe being excluded from administrative decision-making and being passed over for leadership positions because of pregnancy or upon returning from maternity leave [32]. Other financial consequences of having children include the necessity of switching to part-time work, leaving academic or private practice due to a hostile work environment, and being denied salary increases or bonuses due to maternity leave despite meeting productivity goals. Data from the Bureau of Labor Statistics support these claims, revealing that women with children earn less than women without children [33].

## **The “Likability Paradox” and its Downstream Effects**

Implicit gender norms underlie our collective tendency to use unfavorable adjectives when evaluating women in the workplace compared with men of equal qualification [34]; to designate women job applicants as less competent, hireable, and mentorable than men with the same resume [35]; and to address women physicians by their first names and male physicians as “Doctor” [36]. These unconscious assumptions also influence how work is assigned, valued, and compensated within organizations and are the likely engine behind women's stalled career advancement and the gendered career paths we continue to observe in healthcare and other industries.

Letters of recommendation for medical school faculty positions differ systematically by gender [37]. Letters written for women tend to be shorter and lack specificity and detail about the record of the applicant. They are also twice as likely to include negative phrases or phrases that raise doubt. Presumably, these factors are partly responsible for the fact that women in academic medicine receive fewer resources at the start of their career. Among junior biomedical researchers, women's start-up packages have been shown to be \$539,000 less than men's [38], even after accounting for differences in degree, experience, or institutional characteristics.

Based on traditional gender norms of prioritizing others over self-interest, women are not expected to advocate for themselves [6, 7, 39], and there are well-described social penalties when asking for salary and resources [40, 41]. Although likely unintentional and unconscious, such organizational and interpersonal consequences compromise women's ability to obtain equitable and appropriate compensation.

Gender-based differences in salary and resources at the beginning of academic women physicians' professional trajectory initiate a cascade of events that impacts advancement and compounds pay disparities over a career, resulting in large salary inequities among the most senior faculty [42]. When women receive smaller start-up packages and less protected time for research, they may have inadequate time to prepare manuscripts for publication and secure grant funding. Though the rates of publications in high-impact journals authored by women have increased over the past few decades, a gender gap remains, with less than one-third of citations authored by women [43, 44]. Gender-based differences in publication rates during early career have profound implications for subsequent citation of women's work [45].

Gender differences also exist in the granting of career development awards by the National Institutes of Health: fewer than half of K08 and K23 recipients are women [46]. Among first-time R01 applicants, women physician-investigators are less likely to be successful than men. Additionally, among career development awardees, fewer women than men successfully obtain R01 funding at 5 and at 10 years, even after controlling for type of and year of K award, specialty, funding institute, and institution tiers. R01 applications submitted by women principal investigators (PI) are scored lower than applications submitted by men, despite similar narrative evaluation of methodology [47]. Moreover, women PIs receive lower scores on priority, approach, and significance, even after adjustment for level of experience, funding outcome, priority score, and interactions among PI sex, experience level, and funding outcome. Indeed, among all R01s awarded to MDs and MD/PhDs, less than one-third are led by women principal investigators [48]. Advancement in academic medicine (and perhaps healthcare writ large) is largely driven by publication in high-impact journals and the amount of independent grant funding obtained. As such, these phenomena likely contribute to the observed gender disparities in organizational and academic promotion.

## Less Sponsorship for Women

Sponsorship differs from mentorship in its focus on career advancement and spotlighting highly talented individuals. Despite decades of near equal numbers of men and women graduating from medical school, only 18% of medical school deans, 18% of department chairs, and 25% of professors are women [49]. Similarly, women represent only 13% of chief executive officers, 29% of chief operating officers, and 23% of chief financial officers in healthcare [50]. Women receive less sponsorship than men, which limits their visibility, credibility, and upward mobility within organizations [51–55]. Lack of sponsorship may also underlie the tendency of women to pursue advancement in areas that are consultative or supportive, like human resources or faculty affairs, rather than those with budgetary or managerial responsibility, like chief operating officer or associate dean for clinical affairs, that are incubators for the highest rungs of leadership and compensation [50, 56–58]. Additionally, women are asked to assume greater responsibility for organizational service and citizenship tasks. Time and effort to accomplish these endeavors are typically not tracked and therefore are not evaluated or compensated [59–61].

## Summary

Implicit gender bias, sometimes referred to as second-generation gender bias, leads to disparities in performance evaluation, allocation of resources, and workplace expectations for women in medicine compared with male colleagues with equal training and specialization. Such unconscious gender stereotypes contribute to stalled advancement and lower compensation. Understanding second-generation gender bias and its myriad manifestations within an organization's structure and practice is the necessary first step to addressing pay equity.

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