Pathology: A Satisfying Medical Profession

Huihong Xu, MD1 and Daniel G. Remick, MD1

Abstract
Medical students are often unsure about the viability of a career as a physician in pathology. In particular, they are concerned that pathologists may not have a gratifying lifestyle or be well compensated. These worries may cause angst among medical students considering pathology and among junior pathology residents wondering if they made the correct career choice. A 2016 survey of nearly 20,000 physicians including nearly 400 pathologists provides reassuring data about compensation and career choice. This survey showed that 52% of pathologists are satisfied with their career choice and 63% are satisfied with their compensation. Among the 26 specialties that were surveyed, pathologists ranked 2 in believing that they were fairly compensated. Moreover, 66% of pathologists find that making diagnostic decisions, a core aspect of our discipline, is the most rewarding aspect of their career. Pathologists also ranked among the highest groups of physicians in reporting happiness at work and among the lowest groups reporting burnout. Overall, these 2016 surveys show that the majority of pathologists find deep satisfaction in their careers as pathologists.

Keywords
burnout, compensation, gender, happiness, pathologist, physician

Many factors, such as compensation and perceptions of stress, contribute to a sense of fulfillment in one’s career. Two recent national surveys directly asked physicians about these issues, with excellent news for those considering a career in pathology. In a 2016 Medscape national survey of 19,200 physicians (which included 384 pathologists),1 pathologists were just below the median in salary, ranking 16 of 26 specialties. Perhaps more important than the actual dollars is the perception of whether one is fairly paid for her/his professional services. Career satisfaction may correlate with compensation, but there is nevertheless a complex interaction between the 2 factors. Table 1 shows that pathologists are second only to dermatologists in believing that they are fairly paid.

Students may ask about the expected income of different specialties when making career choices. The reported income for pathologists in 2016 was US$266,000, while the top earners were orthopedists (US$443,000) and the lowest compensated physicians were pediatricians (US$204,000). It should also be noted that survey questions typically ask about compensation or income rather than salary, since compensation includes both salary and bonuses and more accurately reflects the actual earnings of the physicians. By practice setting, pathologists working in office-based multispecialty group practices are the highest earners (US$333,000), followed by office-based single-specialty group practices (US$300,000), health-care organizations (US$296,000), hospitals (US$264,000), office-based solo practices (US$222,000), academic, research, military, government (US$201,000), and outpatient clinics (US$190,000). These data also confirm that academic pathologists earn less than those in private practice.

Gender pay equity is another important issue addressed in the survey. Pathology ranks third in the percentage of female
physicians within the discipline (42%). However, even in 2016, male pathologists (US$274 000) still earn about US$18 000 more compared to their female colleagues (US$256 000), which is a 7% pay differential. It could be postulated that the lower pay is due to younger female physicians selecting more flexible schedules to accommodate family demands. However, this explanation is unlikely as 15% of female pathologists and 13% of male pathologists work less than 40 hours per week. Another possible explanation could be that male pathologists have been in practice longer.

Beyond compensation, are pathologists satisfied with their career choices? The 2016 survey also addressed these issues among the medical specialties. Pathologists are content with their decision to enter medicine and are more pleased with their choice over time. Compared to 3 years ago, an increased number of pathologists would still choose medicine as a career (59% in 2015 compared to 49% in 2012). Additionally, 52% of pathologists (compared to 42% in 2012) would still choose pathology as their career.

A composite analysis of this physician survey that factored in (1) income satisfaction, (2) who would choose medicine again, and (3) who would choose their specialty again was also performed. In this analysis, pathologists are placed in the top 3 for overall satisfaction. The top 3 most satisfied physicians were dermatologists (65%), oncologists (59%), followed by pathologists and psychiatrists (both at 58%). In the bottom 3 were nephrologists (47%), internists (48%), and endocrinologists (49%).

Can money buy happiness? To state this in a more scientific manner, is there a correlation between actual income and feeling fairly compensated? Figure 1 plots the annual income of physicians in each of the 26 specialties compared to whether they felt they were fairly compensated. This graph shows there is no correlation, confirmed by linear regression. In fact, only 44% of orthopedic surgeons, the group with the highest annual income, were content with their income. In contrast, 63% of pathologists were content with their income even though they earned less money than the orthopedists.

What about income and satisfaction with choice of specialty? Figure 2 plots the percentage of those who are satisfied with their career choice and the satisfaction with their income. Similar to Figure 1, there is no correlation. For example, 60% of gastroenterologists were satisfied with their career choice, but only 48% were satisfied with their income. Among pathologists, 52% were satisfied with their career choice and 63% were satisfied with their income.

Table 1. Satisfaction With Compensation.*

| Field                  | % Feel Fairly Compensated |
|------------------------|---------------------------|
| Top 5                  |                           |
| Dermatology            | 66                        |
| Pathology              | 63                        |
| Emergency medicine     | 60                        |
| Psychiatry             | 58                        |
| Oncology               | 55                        |
|底 7                    |                           |
| Rheumatology           | 44                        |
| Orthopedics            |                           |
| Nephrology             |                           |
| Ophthalmology (tied)   |                           |
| Endocrinology          | 43                        |
| Allergy (tied)         |                           |
| Urology                | 42                        |

*The table lists the percentage of respondents who feel fairly compensated. Adapted from Peckham,1 used with permission.

Figure 1. Annual income and percentage satisfied with income. Each symbol represents an individual medical specialty. The annual income in 1000s of dollars is on the y-axis, and the percentage of respondents to the survey satisfied with their income is on the x-axis. The straight line is a linear regression of the data. There is no correlation between annual income and satisfaction with income. Adapted from Peckham,1 used with permission.

Figure 2. Career choice and satisfaction with income. Each symbol represents an individual medical specialty. The percentage of respondents who would choose their medical specialty is on the y-axis, and the percentage of respondents to the survey satisfied with their income is on the x-axis. The straight line is a linear regression of the data. There is no correlation between the percentage who would choose the same specialty and satisfaction with income. Adapted from Peckham,1 used with permission.
What provides pathologists with these high satisfaction ratings? Table 2 shows the most rewarding aspects of medicine in the top 5 specialties (organized by the overall job satisfaction). Among pathologists, 66% report that finding the diagnosis provides satisfaction, whereas only 1% of pathologists say that patient gratitude provides satisfaction. These results show that even though pathologists do not directly interact with patients very often, they derive fulfillment from providing crucial diagnoses and helping other physicians manage patient care.

While compensation plays a positive role in career gratification, feelings of stress that can lead to burnout have a significant negative impact. A separate 2016 national survey documented increased burnout and decreased happiness in US physicians. This survey showed that among practicing physicians, pathologists had low levels of burnout. Pathologists were ranked in the lower quintile in reporting feeling of stress such as loss of enthusiasm for work. Other disciplines reporting low levels of burnout included psychiatry (40%), ophthalmology, and endocrinology (41% each), while 45% of pathologists reported burnout. In contrast, physicians with the highest levels of burnout were in critical care, urology, and emergency medicine, all reporting that 55% of physicians in those fields were experiencing burnout. And as one might anticipate, there is an inverse relationship between reported rates of burnout and reported happiness. From the same survey, pathologists also reported excellent happiness at work scores that ranked in the upper quartile. In comparison, critical care specialists, those experiencing high degrees of burnout, ranked second to last in the percentage reporting happiness at work.

The national surveys clearly show that pathologists are satisfied with their careers and their compensation. But, are there jobs available in this gratifying and rewarding career? Fortunately, this has also been studied. A careful analysis showed that there were approximately 18,000 practicing pathologists in the United States in 2010. Beginning in 2015, there will be a decline in the number of pathologists leading over time to a net deficit of 5700 pathologists, thus creating an even larger demand for board-certified pathologists. A subsequent paper developed a modeling tool that reinforced the need for additional pathologists. More evidence may be gleaned from a report from one of the most widely used websites that post pathology positions, which also showed an increase in the number of listed positions. In 2014, there were 351 positions listed, and in 2015, there were 482 positions. In summary, this gradual decline in practicing pathologists will occur at the same time as a projected gradual increase in demand for pathologists, leading to a projected net deficit favorable for those considering a career in pathology.

Commentary: The majority of pathologists are satisfied with their career choice and their compensation. Compared to other physicians, they experience substantially less burnout. Medical students interested in pathology should be reassured of a rewarding career. The time flexibility of a career in pathology may contribute to feeling gratified with the career choice. For example, the senior author (D.G.R.) was able to work early Saturday mornings and still be home with doughnuts before the children woke up. Table 3 provides some of the reasons why pathology is a satisfying career.

### Table 2. Sources of Career Satisfaction

| Field               | Overall Satisfaction | Finding Dx | Patient Gratitude | Good Money | Improve the World | Being a Doctor |
|---------------------|----------------------|------------|-------------------|------------|-------------------|----------------|
| Dermatology         | 65%                  | 33%        | 32%               | 16%        | 9%                | 6%             |
| Oncology            | 59%                  | 26%        | 41%               | 7%         | 14%               | 7%             |
| Psychiatry          | 58%                  | 29%        | 32%               | 11%        | 17%               | 6%             |
| Pathology           | 58%                  | 66%        | 1%                | 15%        | 8%                | 3%             |
| Emergency medicine  | 57%                  | 36%        | 17%               | 19%        | 13%               | 8%             |

Abbreviation: Dx, diagnosis.

*The table lists the top 5 specialties where physicians are most satisfied with their careers and the most rewarding aspects of their specialty. Adapted from Peckham, used with permission.

1Actual questions.
2Being very good at what I do/finding diagnoses.
3Gratitude/relationships with patients.
4Making good money at a job that I like.
5Knowing that I’m making the world a better place.
6Being proud of being a doctor.

### Table 3. Reasons Why Pathology Is a Satisfying Career

- Recognition as the doctor’s doctor: Pathologists provide the gold standard diagnosis. Many pathologists derive great satisfaction from their ability to render a definitive diagnosis that directs patient care.
- Career flexibility: Training in pathology allows multiple career paths both within our specialty and in other fields of medicine. Pathologists may pursue either basic science or translational research, and many investigators seek out pathologists for our expertise with the microscope. Our training in laboratory management allows for a natural transition into administrative roles.
- Challenging medical specialty: Most pathologists enjoy the challenges of our discipline, which include keeping abreast of the literature such as changes in tumor classification or blood bank protocols. There is satisfaction in maintaining a broad foundation of medical knowledge to provide the best patient care.
- Disciplined work environment: Pathology practices are very busy, but the necessity of completing the workload and providing high-quality diagnostic work fosters a disciplined environment. The structure of the work environment, and knowing that cases are handled appropriately, brings satisfaction.
that pathology brings satisfaction to the authors. Residents and fellows can take comfort in the fact that after training they will be engaged in a satisfying career with less stress than other specialties.

**Declaration of Conflicting Interests**

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

**Funding**

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This work was supported in part by NIH grant R21 AI112887-01.

**References**

1. Peckham C. Medscape Physician Compensation Report 2016. Web site. http://www.medscape.com/features/slideshow/compensation/2016/public/overview?src=wnl_physrep_160413_mscpedit&uac=&implID=0&faf=1&page=1. Accessed April 27, 2016.
2. Peckham C. Medscape Lifestyle Report 2016: Bias and Burn-out. Web site. http://www.medscape.com/features/slideshow/lifestyle/2016/public/overview?page=1. Accessed April 27, 2016.
3. Robboy SJ, Weintraub S, Horvath AE, et al. Pathologist workforce in the United States: I. Development of a predictive model to examine factors influencing supply. *Arch Pathol Lab Med*. 2013;137:1723-1732.
4. Robboy SJ, Gupta S, Crawford JM, et al. The Pathologist Workforce in the United States: II. An interactive modeling tool for analyzing future qualitative and quantitative staffing demands for services. *Arch Pathol Lab Med*. 2015;139:1413-1430.
5. Pathologyoutlines.com. Pathologist Jobs Report 2015 Summary. Web site. http://pathologyoutlines.com/pathjobs2015summary.html. Accessed April 27, 2016.