



Effectiveness of a Formal Business of Ophthalmology Course for Trainees

Jonathan Siktberg, MBA¹ Alexander de Castro-Abeger, MD, MBA^{2,3} Sean T. Berkowitz, MD, MBA³
Janice C. Law, MD⁴

¹Department of Ophthalmology, Vanderbilt University School of Medicine, Nashville, Tennessee

²Department of Ophthalmology, Keck School of Medicine, University of Southern California, Los Angeles, California

³Pediatric Eye Care, Redondo Beach, California

⁴Vanderbilt Eye Institute, Vanderbilt University Medical Center, Department of Ophthalmology, Nashville, Tennessee

Address for correspondence Janice C. Law, MD, Department of Ophthalmology, Vanderbilt Eye Institute, 2311 Pierce Avenue, Nashville, TN 37232 (e-mail: janice.law@vanderbilt.edu).

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Abstract

Objective In medical school and residency training, there is little emphasis on the administrative and business aspects of running a clinical practice as either an employee or a business owner. However, by the first day of practice, young ophthalmologists need to have a basic understanding of the business of medicine to be successful in clinical practice and to avoid common pitfalls. Areas such as risk management, negotiation, financial health, lawsuits, marketing, coding, and professionalism are particularly important for practicing ophthalmologists to grasp. We instituted a formal practice management course to increase the early exposure of our trainees to the business aspects of ophthalmology.

Methods Ophthalmology trainees engaged in 11, 1-hour sessions over 3 weeks during a practice management course covering 10 of the most relevant business topics for early career ophthalmologists. A precourse needs assessment, and a postcourse satisfaction and outcomes survey were administered.

Results Of the 24 trainees who completed the presurvey, 96% of respondents had no previous training in contract negotiation, 88% lacked training in lawsuits, and 88% had no training in liability insurance. 96% had no inpatient coding education, and 88% had no outpatient coding training. Seventeen trainees completed the postsurvey, and statistically significant improvements in confidence ratings were found in all domains including coding, malpractice claims, and building a practice. 88% of trainees reported that the course improved their ability to code, and 100% agreed that the course improved their understanding of lawsuits, ability to negotiate a contract, and their understanding of the business of ophthalmology.

Conclusion A formal, targeted business of ophthalmology course improved the knowledge of trainees on essential business concepts. This course can serve as a model for other programs looking to meet this educational need.

Keywords

- business of ophthalmology
- practice management
- residency education
- malpractice
- negotiation

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After 12 years of intense postsecondary education, graduates of ophthalmology residency programs are finally ready to put their years of hard work to use as practicing ophthalmologists. But while they are well prepared to care for patients, many struggle to navigate the array of employment challenges encountered immediately following graduation, particularly those related to the business of ophthalmology.¹

To increase success in the business practice of ophthalmology and to avoid common pitfalls, residents ought to have a formal introduction to the business of medicine.² Topics that could be covered include negotiation skills, basics of coding, and differences in practice types such as private practices, academic medicine, and hospital employed models. An introduction to entrepreneurship, risk management, and financial statements would be useful for all early career ophthalmologists, especially those entering private practice. Most residency graduates would also benefit from formal training in billing, contract negotiation, noncompete clauses, and the nuances of malpractice insurance.^{2,3}

Unfortunately, residency programs have yet to meet these needs.² A survey of 269 ophthalmologists who had been in practice for less than 5 years found that 63% felt their residency program poorly prepared them in coding and reimbursement, and 70% felt poorly prepared in practice management skills.¹ These results are not limited to ophthalmology, as residents across specialties feel unprepared for the business of medicine.^{2,4} In a study of general surgery program directors, 87% agree that residents should be formally trained in business and practice management, as discussed by Lusco et al.⁵ Yet finding time in an already busy didactic curriculum with the clinical and procedural needs of residents is tough. Even more challenging is locating available and experienced faculty to teach specific business topics.² However, there are programs in anesthesia, general surgery, plastic surgery, internal medicine, and urology that have implemented practice management training with promising results.^{2,3,6-8} Other graduate training programs such as dentistry and optometry have long recognized the importance of including these topics in their curricula.^{9,10} Still, the literature lacks any formal residency education models specific to the business of ophthalmology.

Noting this need for business education in our residency program, the Vanderbilt Eye Institute (VEI) began annual lectures for trainees on the business of ophthalmology in 2014. After positive feedback from participants, the education committee instituted a formal business of ophthalmology course. We conducted surveys to assess the value of this program in preparing trainees for the business side of ophthalmology in 2020.

Methods

Business of Ophthalmology Course

The business of ophthalmology course consisted of 11, 1-hour sessions covering 10 of the most relevant topics for ophthalmologists in training. These topics are summarized in ►Fig. 1. The coding cases topic was split into two sessions to allow for additional practice. All sessions were delivered

virtually due to the coronavirus disease 2019 pandemic, and formats included traditional lectures, case-based sessions, and question and answer panels. Lecturers and panelists included content experts both at VEI and across the country. The course ran from June 8, 2020, to June 29, 2020.

Study Population and Surveys

This study was approved by the Vanderbilt University Institutional Review Board (#201146). We developed two web-based, voluntary surveys, which were delivered before and after the course. The study population included VEI ophthalmology residents and Vanderbilt medical students interested in ophthalmology. The course was a component of the resident lecture series, so lecture attendance was mandatory for all residents and voluntary for medical students. The precourse needs assessment gathered information on attitudes and previous exposure to business topics. The post-course satisfaction and outcomes survey focused on the level of satisfaction with the course and the change in knowledge and skills in fundamental business domains. The survey item format included 5-point Likert scale questions, multiple choice questions, and free response questions for general comments.

Data Collection and Analysis

The voluntary surveys were e-mailed to all attendees of the business of ophthalmology course. All responses were anonymous, and data were stored in a secure survey account. Descriptive statistics and a one-tailed *t*-test were employed for analysis of survey responses.

Results

Twenty-four trainees completed the presurvey, and their training levels are broken down as shown in ►Table 1. Few trainees reported previous training in business of medicine domains during medical school (►Fig. 2). 96% of respondents had no previous training in contract negotiation, 88% lacked training in lawsuits, and 88% had no training in liability insurance. 96% had no inpatient coding education, and 88% had no outpatient coding training.

In the postsurvey, 17 trainees completed questions on the course's effects on their competency in the business of ophthalmology. Statistically significant improvements in confidence ratings were found in all domains including coding, malpractice claims, and building a practice (►Table 2). In addition, 88% of trainees reported that the course improved their ability to code (►Fig. 3). Finally, 100% of trainees agreed that the course improved their understanding of lawsuits, their ability to negotiate a contract, and their understanding of the business of ophthalmology.

Discussion

The top priority of any residency program is, first and foremost, training skilled clinicians and surgeons in the safe and effective practice of ophthalmology for our patients.



Fig. 1 Business of ophthalmology course topics.

Table 1 Training level of survey respondents

	Presurvey (N = 24)	Postsurvey (N = 17)
Medical student	5 (21%)	3 (18%)
PGY-1	3 (13%)	0 (0%)
PGY-2	4 (17%)	5 (29%)
PGY-3	5 (21%)	4 (24%)
PGY-4	4 (17%)	5 (29%)
PGY-5 or higher	3 (13%)	0 (0%)

Abbreviation: PGY, postgraduate year.

However, success in a career in medicine depends on more than just clinical and surgical skills. In 1999, the Accreditation Council for Graduate Medical Education (ACGME) created the core competencies for residents in training, including domains such as interpersonal and communication skills, professionalism, and systems-based practice, recognizing the needs of education beyond clinical and procedural learn-

ing.¹¹ Though formal business in medicine education fits under the systems-based practice domain, it is not required by the ACGME, and there are few examples in use today. This reality has left a gap in current ophthalmology resident education, and we sought to change that with this course.

Measured by our results, our course achieved its goal of improving basic knowledge of the business of ophthalmology. Although our surveys published in this report are only from 2020, our education committee has seen value in this lecture series ever since its inception in 2014. Our 2020 results validated this sentiment, as they showed improvements in trainees' competencies across a variety of business of ophthalmology domains.

During our lecture series, it became apparent that much of the business education that currently occurs in ophthalmology is part of the "hidden curriculum" of residency. Our lecturers and panelists repeatedly encouraged the trainees to reach out to mentors or recent graduates to learn about different types of practice, job opportunities, and contract negotiations. During their own graduate medical education experience, they learned the business of ophthalmology

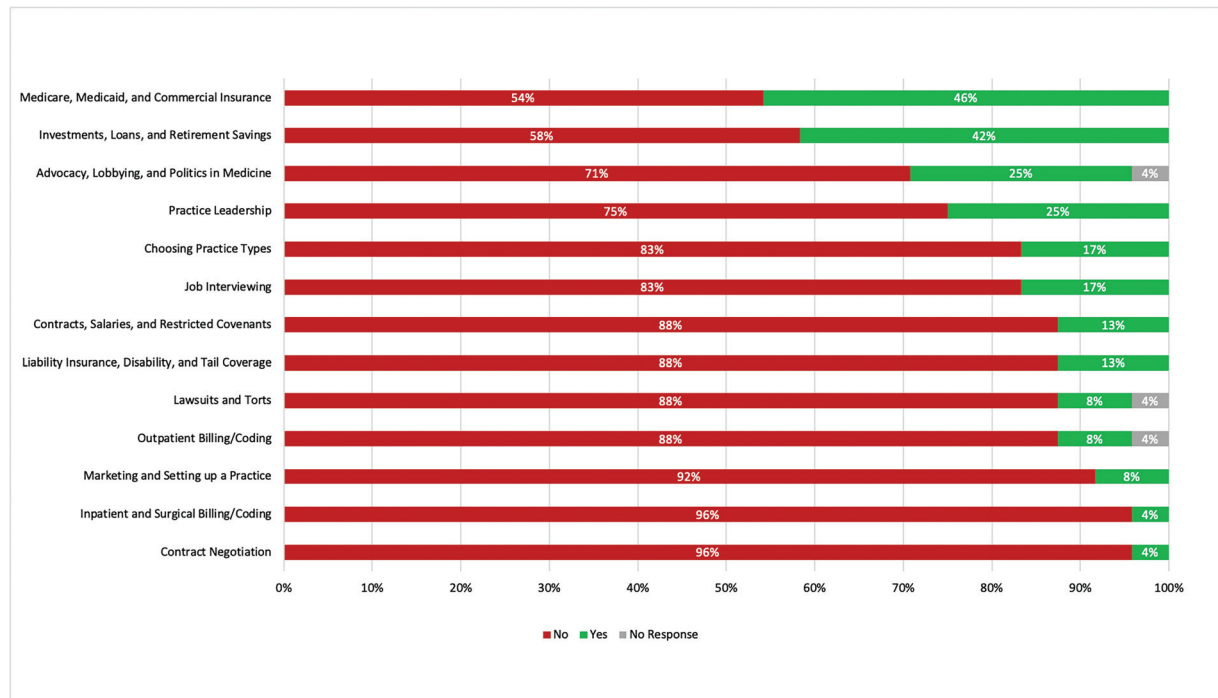


Fig. 2 Presence of previous training during medical school in practice management domains ($N = 24$).

Table 2 Survey on practice management competencies

Prompt: How would you rank your knowledge or skill to do the following? Rate your level both before and after the course on a scale of 1–5, with 5 being the most confident			
Domain	Precourse mean	Postcourse mean	p-Value
Keys to retirement saving	2.81	4.13	< 0.001
The first rule of coding	1.94	4.59	< 0.001
Malpractice claims and payouts	1.27	3.60	< 0.001
Building an online reputation	1.86	4.21	< 0.001
Leadership and financial skills for building a practice	1.69	3.81	< 0.001

informally and individually through interactions with different mentors as well as by trial and error.

The literature supports this reality. Melendez found that one-fifth of ophthalmologists who left their first job in the first 5 years of their career was significantly less likely to have sought advice from other physicians before signing their contract.¹² Thus, the informal and unstructured nature of business education increases the risk that some graduates, especially those who lack access to experts or formally trained or business-minded mentors, are at a disadvantage when reviewing a contract or managing a practice, further emphasizing the need for standardized business education in residency.

Recently, some medical students and medical graduates have met this need by completing formal business education through master of business in administration (MBA) programs either through devoted time or via executive MBA type curricula. Although an MBA may have value for certain physicians, an understanding of basic business concepts is

likely essential for all early career ophthalmologists. Instead, a targeted, abbreviated business course in the resident curriculum is a practical and efficient method of teaching these concepts.

Finally, we observed that technology enabled our course to overcome the barrier of finding qualified and available faculty. Due to the coronavirus disease pandemic of 2020, this year's course was delivered via Zoom, an online video-conferencing system. Though we may have missed out on in-person interaction, the virtual format enabled us to have 15 guest lecturers and panelists from across the country, each bringing a specific area of expertise. It also allowed residents and trainees in different locations to participate in a way that would not have been possible with an in-person format. In addition, remote lectures enabled our residents to ask specific questions to national experts with the added benefit of networking opportunities. Ironically, the candor of the virtual format made it easier, not harder, to discuss topics traditionally absent in the residency curriculum.

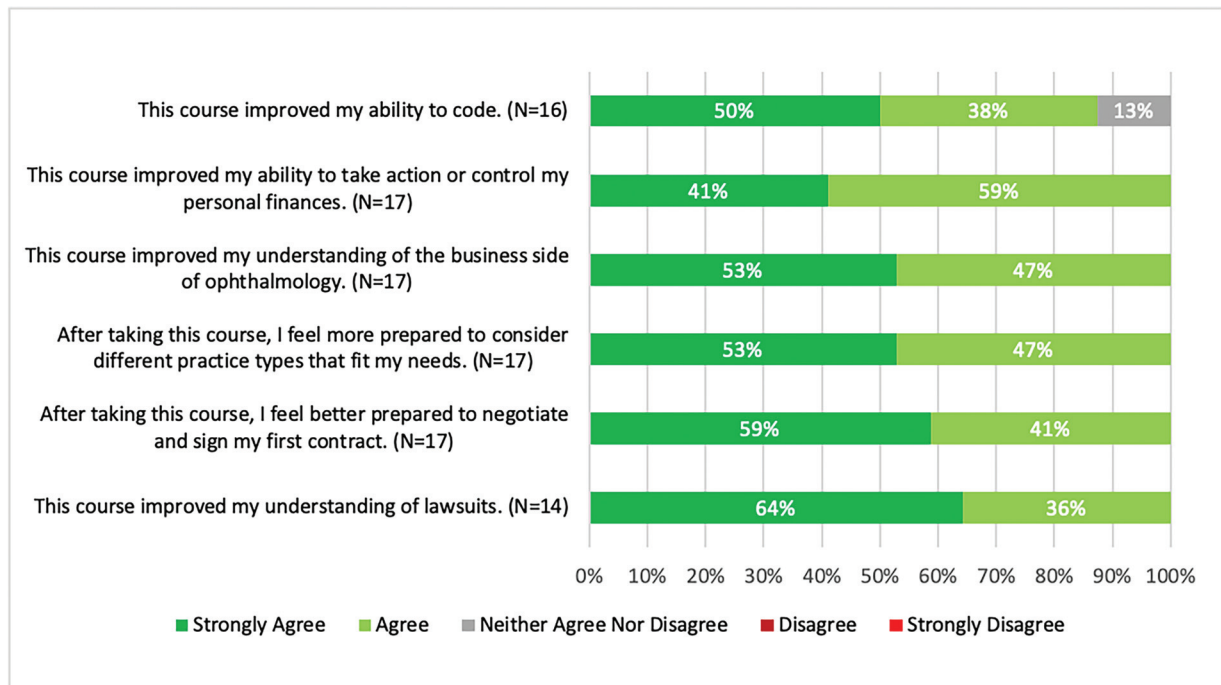


Fig. 3 Postcourse survey on practice management domains ($N = 17$).

Conclusion

We conclude that a formal, targeted business of ophthalmology course improved the knowledge of trainees on essential business concepts, preparing them for success as young ophthalmologists and beyond. This course can serve as a model for ophthalmology residency programs across the country that are looking to meet the need of basic education in the business of ophthalmology.

Note

This project was presented at the 2021 AUPO Annual Meeting Educating the Educators session and was recognized as one of the top six abstracts with the 2020's Best Research Prize.

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None.

Conflict of Interest

None declared.

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