

General

Exploring a Masters of Business Administration's Impact on Surgical Subspecialists

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Objectives and Study Design

As healthcare evolves, more physicians are taking on administrative roles and pursuing additional graduate education, particularly obtaining a Master's in Business Administration (MBA.) To facilitate a better understanding of these practitioners, we conducted a comparative study of MD/MBA clinicians in multiple surgical fields.

Methods

This study aims to compare clinicians with MD/MBAs across multiple surgical subspecialties. Reported metrics include demographics, MBA program structure, salary changes, and professional pursuits. Nine studies were obtained from the PubMed, Cochrane, and Embase databases. Four studies met the inclusion criteria and were analyzed.

Results

The majority of MD/MBA degree holders in plastic surgery (95%), orthopedic surgery (89-96%), and ophthalmology (80%) are male. Ophthalmology (37%) demonstrates the highest number of subjects obtaining an MBA via a synchronous MD/MBA. Most clinicians return to clinical practice after degree completion and show high levels of non-clinical pursuits after receiving their MBAs.

Conclusions

Though there appear to be differences across surgical subspecialties regarding how an MBA is applied, most maintain clinical duties. Of those that do not, the largest portion transition to administrative duties, consulting, entrepreneurial endeavors, or other professional opportunities. Despite the financial ambiguity of an MBA, physicians value the transformative experience it offers.

Key Points

- There is currently no comparative study describing how surgical subspecialists apply their MBA.
- There is a lack of research describing the effects of an MBA on physicians' careers; we hope prospective and current surgeons (and non-surgeons) can use this paper to see if the degree makes sense for them.
- Physicians are pursuing MBAs and administrative roles at an unprecedented rate. Shedding light on who these physicians are and their motivations for doing so is necessary for understanding this trend.

INTRODUCTION

In the United States, it has become increasingly important for doctors to become both successful businessmen and competent clinicians. Though managerial and leadership training is gradually finding its place in medical education, the prevailing approach for honing one's business acumen remains the Masters of Business Administration (MBA). There has been a tremendous increase in the number of physicians seeking managerial training, chiefly through an MBA.¹ This trend began in the early 1990's, with the number of concurrent MD/MBA programs increasing from 33 to 92 between 2002 and 2022, respectively.^{2,3} The exact impetus for this trend remains ambiguous; however, studies cite physicians' dearth of formal leadership training, bolstered credibility in business matters, and greater dexterity

in navigating the physician-administrator interface as the most common reasons for pursuing an MBA.⁴⁻⁶

In addition, the ever-evolving healthcare landscape brings new obstacles for physicians and administrators. This evolution was accelerated in the post-COVID era, and research suggests physicians with managerial training may better weather it.^{7,8} The literature is limited regarding how those physicians use their MBA degree and what impact it has on their careers. Current literature suggests most surgical subspecialists with MD/MBAs remain clinically active, and those that do not commonly occupy administrative roles.⁹⁻¹¹ To date, there are no studies comparing the utilization of an MBA among different surgical subspecialists. The purpose of this paper is to fill this gap in the literature by examining how different surgical subspecialists apply their MBAs.

METHODS

Studies were selected from PubMed, Cochrane Library, and Embase databases. Articles were identified by searching either Master of Business Administration (or MBA) followed by the following fourteen surgical specialties recognized by the American College of Surgeons: cardiothoracic surgery, colon and rectal surgery, general surgery, gynecology and obstetrics, gynecologic oncology, neurological surgery, ophthalmic surgery, oral and maxillofacial surgery, orthopedic surgery, otorhinolaryngology, pediatric surgery, plastic and maxillofacial surgery, urology, and vascular surgery.¹² No other filters were applied.

Research articles were added to the study if they met a pre-established list of requirements. To begin, the research had to be specific to a single surgical specialty. As well, the papers included had to focus on the effects of an MBA on surgeons' professional careers. Papers examining other master's or professional degrees could be included if these degrees' outcomes were clearly delineated from that of obtaining an MBA. Ultimately, nine articles were reviewed while four met the inclusion criteria for this comparative study. Covered here are two orthopedic articles, one based on survey data from 127 respondents and the other on public domain information of 66 surgeons.^{7,11} Another study is derived from the survey responses of 19 plastic surgeons, and the final study is extrapolated from public domain information of 120 ophthalmologists.^{6,10} Descriptive statistics were employed to compare the articles chosen; statistical analysis beyond this was hindered by the heterogeneity of metrics assessed in each study as well as differences in sample size. Any statistically significant results reported reflect the statistical analyses performed in the original studies.

RESULTS

DEMOGRAPHICS

Demographic features are compared among the cohorts of each study, focusing on gender, subject's clinical practice setting, and experience. The relevant data is summarized

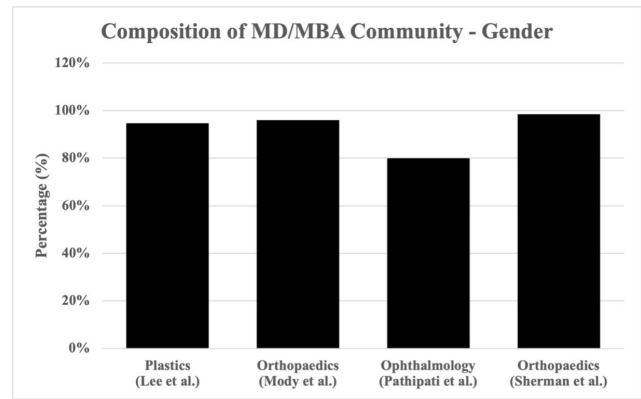


Figure 1. Gender breakdown of clinicians with MBAs reported in individual studies.

in [Figure 1](#) and [Table 1](#). A male predominance is noted across all studies, with ophthalmology having the lowest at 80%. Plastic surgery and orthopedic surgery were 95% and 96-98%, respectively.

Similar levels of clinical practice before obtaining an MBA are demonstrated among surveyed individuals. In plastic surgery, 68% of physicians report one to 10+ years of experience prior to pursuing an MBA, while in orthopedic surgery, 65% report a similar path. High levels of continued participation in clinical practice are reported in both ophthalmology (92%) and orthopedic surgery (97%). Notably, differences exist in the reported clinical environments of the surveyed physicians. Plastic surgeons are more likely to work in an academic medical center (68%) than in a private setting (11%). By contrast, orthopedic surgeons show higher participation in private practice (53%) than in an academic medical center (47%). The proportion of physicians with fellowship training varies across surgical subspecialties as well, with orthopedic surgeons (98%) having a higher level than their ophthalmology counterparts (80%).

MBA PROGRAM CHARACTERISTICS

Structural and financial differences among the MBA programs attended by surgical subspecialists were also examined. Variation in the setting of MBA education, either synchronous via a dual-degree program or asynchronous, is evident across multiple surgical fields. Ophthalmology has the highest proportion of physician participation in dual MD/MBA degree programs (37%), followed by orthopedic surgery (28%) and plastic surgery (26%). However, the predominant route for obtaining both degrees is asynchronous (>60% in all studies.) ([Table 2](#)).

Data pertaining to the cost of an MBA is limited to plastic surgery and orthopedic surgery, estimating an average, individual price of ~\$87,000 and ~\$59,000, respectively. Notably, orthopedic surgeons pursuing an asynchronous MBA program report a significantly higher cost (~\$92,000) compared to those in a synchronous MBA program (~\$59,000, $p = 0.016$).

For plastic and orthopedic surgeons, personal financing funding is the most common way to finance the additional

Table 1. Demographic features of clinicians with MD/MBAs reported in individual studies.

DEMOGRAPHICS TABLE								
	Lee et al.		Mody et al.		Pathipati et al.		Sherman et al.	
Surgical Subspecialty Number of Subjects (n)	Plastics		Orthopaedics		Ophthalmology		Orthopaedics	
	19		127		120		66	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
Composition of MD/MBA Community								
Gender								
Males	18	95%	122	96%	96	80%	65	98%
Females	1	5%	5	4%	24	20%	1	2%
Role of Clinical Practice Before and After MBA								
Clinical Practice Before MBA (years)								
Zero	6	32%	44	35%	-	-	-	-
More than one	13	68%	83	65%	-	-	-	-
Clinical Practice After MBA								
Yes	-	-	123	97%	110	92%	-	-
No	-	-	4	3%	10	8%	-	-
Clinical Practice Setting After MBA								
Academic Medical Center	13	68%	60	47%	-	-	-	-
Private Practice	5	26%	67	53%	-	-	-	-
Additional Fellowship Training								
Yes	-	-	124	98%	96	80%	-	-
No	-	-	3	2%	24	20%	-	-

Abbreviations: MBA, Master of Business Administration; MD, Medical Doctorate

business degree, at 79% and 77%, respectively. Institutional scholarships were less common for these surgeons, at 26% and 14% for plastic and orthopedic surgeons, respectively.

OBJECTIVE OUTCOMES

Multiple objective outcomes related to physician MBA pursuits were collected and summarized by surgical subspecialty in [Table 3](#). The degree of financial compensation derived from an MBA was similar between plastic and orthopedic surgeons. The majority in both specialties (63% in plastic surgery and 64% in orthopedic surgery) report no additional financial compensation. The maximal increase in salary ranged from 20 thousand among plastic surgery respondents to 150 thousand among orthopedic surgery respondents. In both medicine-adjacent and non-adjacent industries, the most common ventures reported among MD/MBAs include: consulting, practice management, academia, hospital administration, government & health policy, non-profit administration, entrepreneurship, venture capital, and investing. ([Table 4](#)).

SUBJECTIVE OUTCOMES

Clinicians' opinions of dual degree obtention were collected from each study. Plastic and orthopedic surgeons appear to have contrasting reasons for pursuing additional education in business. In plastic surgery, top incentives

include "entrepreneurial drive," a "career change," and "adding a new dynamic to an existing career position." Orthopedic surgeons, on the other hand, cite "learning more about the business of healthcare," "surviving in a changing healthcare system," and "seeking promotion in a hospital system" as their top motivations for pursuing an MBA.

The same studies gathered clinicians' opinions on the value of an MBA and their recommendation to other physicians regarding an MBA. Among plastic surgeons, 100% endorse the additional education, while 89% of orthopedic surgeons find the MBA "extremely valuable" or "valuable," and 92% believe getting an MBA is a "great idea."

DISCUSSION

To date, there is no research comparing how surgical subspecialists apply their MD/MBA. Despite the increasing prevalence of physicians pursuing an MBA, its impact on their careers remains underexplored. In this study, we compare the effects of an MBA on 332 surgeons from four subspecialties, focusing on demographics, MBA program characteristics, and objective and subjective outcomes.

A striking finding in this study is the male predominance among MD/MBAs. Plastic and orthopedic surgery had similar percentages (89%-96%) of male MD/MBAs while ophthalmology was lower at 80%.^{6,7,10,11} This is similar to the gender composition of plastic and orthopedic surgery as

Table 2. Structural and financial characteristics of MBA programs reported in individual studies.

MBA PROGRAM CHARACTERISTICS TABLE								
	Lee et al.		Mody et al.		Pathipati et al.		Sherman et al.	
Surgical Subspecialty	Plastics		Orthopaedics		Ophthalmology		Orthopaedics	
Number of Subjects (n)	19		127		120		66	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
MD/MBA Structural Characteristics								
Program Type								
Synchronous (MD/MBA combined program)	5	26%	35	28%	44	37%	-	-
Asynchronous (ex. Full-time, Part-time, Executive)	14	74%	92	72%	76	63%	-	-
MD/MBA Financial Characteristics								
Funding of MBA Degree								
Personal	15	79%	-	-	-	-	51	77%
Institutional or Departmental	9	47%	-	-	-	-	9	14%
Cost of MBA Degree (in thousands)								
Average - Synchronous	87		-		-		59	
Average - Asynchronous	-		-		-		91	

Abbreviations: MBA, Master of Business Administration; MD, Medical Doctorate

Table 3. Financial consequences of MBA obtention for clinicians in plastic and orthopaedic surgical fields.

OBJECTIVE OUTCOMES TABLE 1				
	Lee et al.		Sherman et al.	
Surgical Subspecialty	Plastics		Orthopaedics	
Number of Subjects (n)	19		66	
	Number	Percentage	Number	Percentage
Outcomes Related to MBA Obtention				
Change in Pay Related to MBA Degree				
No Change	12	63%	42	64%
Increase	7	37%	22	33%
Maximum Increase Reported (in thousands)	20+		150+	

Abbreviations: MBA, Master of Business Administration

a whole, with 83%, and 94% male predominance, respectively.¹³ By contrast, 57.5% of practicing ophthalmologists are male.¹⁴ One possible explanation for the male majority of MD/MBA surgical subspecialists is a female sex bias within these specialties which can not only make women feel segregated into certain fields but also hinder residency offers, job opportunities, and promotions.¹⁵⁻¹⁷ It is equally probable that historical disparities in women's representation and ability to pursue careers in business decrease their interest in applying to MBA programs. The male predominance noted in this study is consistent with the gender composition of MD/MBA programs across the country. Studies of MD/MBA students at Harvard and Wharton found 72% and 85% male majorities, respectively.^{4,9} Given the lack of distinction between surgical and non-surgical fields in these studies, the skew toward a male majority may be even more pronounced.

Two of the studies we examined explored physicians' continued commitment to clinical work after obtaining an MBA; 92% of ophthalmologists and 97% of orthopedic surgeons maintained a clinical presence after MBA completion.^{10,11} A study exploring the career outcomes of Harvard MD/MBAs found 84% entered residency but only 27.7% reported clinical medicine as their primary professional role. This study also found internal medicine physicians were significantly more likely to remain clinically active than peers in other fields, including surgery.¹⁸ Another study of Wharton's MD/MBAs found ~80% to have completed a residency; however, clinical involvement of these physicians decreased the longer they were from graduation.⁴ Notably, two recent studies of dual-degree MD/MBA candidates indicated that all surveyed students wished to attend and complete a residency.^{9,19} From these results, it seems most MD/MBAs will complete a residency, but may have a diminished clinical presence over time. However, a diminishing clinical presence is not unique to MD/MBAs and may be a greater problem in the post-COVID era. In 2021, a national survey of 20,655 health care workers found 25% of physicians and 40% of nurses were moderately to highly likely to leave their practice within two years.²⁰ One's specialization may also impact clinical presence as it may be more feasible to integrate part-time clinical work into a career of internal medicine than a surgical subspecialty.

Regardless, our study showed surgical subspecialists maintained a commitment to clinical work once obtaining their MBA. However, this commitment to clinical work did not prevent these specialists from adopting novel professional roles. These roles align with those pursued by other MD/MBAs including: administrative/ managerial, entrepreneurial, logistics, investment banking, biotech/device/ pharmaceutical, venture capital, and consulting.^{1,4,18,21}

In terms of practice setting, our study found 26% of plastic surgeons and 53% of orthopedic surgeons practice in a private setting after MBA completion.^{6,11} This contradicts the norm for plastic and orthopedic surgery as 89.7% and 73.5% of all surgeons in these fields practice in a private setting, respectively.^{22,23} These findings also challenge traditional stereotypes which insinuate physicians obtain MBAs to pivot into a more lucrative career and suggest many surgeons may pursue an MBA to instead further their academic career.⁴ This assertion is further supported by Lee and Patel who found financial gain motivated 25% and 0% of surgeons to pursue an MBA, respectively.^{4,6}

Synchronous MD/MBAs pursue both degrees concurrently while asynchronous MD/MBAs obtain their degree after their medical studies. Depending on student needs and preferences, asynchronous MBAs can be full-time, part-time, executive, or online. Of the 266 surgeons for whom this data was available, ~68% opted for the asynchronous MBA track.^{6,10,11} This data suggests a pronounced inclination towards the asynchronous MBA tract among surgeons. However, this finding may be due to the historical rarity of synchronous MD/MBA degrees, with only 26.4% of medical schools offering the degree path in 2002.³ Regardless, an inclination for the asynchronous tract is supported by Lee showing 66% of plastic surgeons recommended pursuing an MBA while already in practice.⁶ The prevalence of physicians pursuing their MBAs asynchronously is not surprising considering 69% of medical students incur debt to fund their medical education, at an average cost of \$202,453.²⁴ For these individuals, the prospect of being burdened with additional debt is likely daunting. Mody further supports delaying one's MBA, arguing although the degree's cost is substantially lower during one's student years, the opportunity cost of deferring an attending physician's salary for a year outweighs these potential savings.¹¹ It is

Table 4. Representative non-clinical pursuits undertaken by MD/MBA clinicians reported in individual studies.

OBJECTIVE OUTCOMES TABLE 2			
	Lee et al.	Mody et al.	Pathipati et al.
Surgical Subspecialty	Plastics	Orthopaedics	Ophthalmology
Substantial Non-Clinical Pursuits			
Consulting	+	+	+
Practice Management	+	+	+
Academia	+	+	+
Hospital Administration	+	+	+
Government & Health Policy	+	+	+
Non-Profit Administration & Advocacy	+	+	+
Entrepreneurship	+	+	+
Venture Capital	+	+	+
Investing	+	+	+
Starting Other Businesses	+	+	+
Business Plan Competitions	+		
Medical Education Website Management			
Medical-Legal Work		+	
Pharmaceutical Administration			+

Abbreviations: MBA, Master of Business Administration; MD, Medical Doctorate

also likely that many physicians initially prioritize practicing clinically and seek the dynamic opportunities offered by an MBA later in their careers.

We reviewed two studies that disclosed salary information; surprisingly, 65% of the 83 surgeons included in these studies reported no change in salary.^{6,7} This contradicts previous literature including a survey by Goldman that found the average starting salary of MD/MBAs to be \$292,500 compared to \$192,196 for non-MBA counterparts.²⁵ Similarly, Butcher and Hall reported a higher average starting salary for physicians who supplemented clinical work with leadership roles or business pursuits.^{26,27} Beyond starting salary, Sherrill and Butcher's studies revealed that executive MBA degrees increased the probability for higher lifetime earnings.^{28,29}

The discrepancy of salaries reported in this study to traditional ones may be due to the dataset being survey-based, decreasing its generalizability. It may also be explained by the study's cohort being limited to surgeons. A study by Holzer reported that among 14 unique tasks, surgeons viewed administrative ones as the least attractive way to spend time; beyond that, a low perceived legitimacy was associated with administrative tasks.³⁰ Surgeons also experience heightened emotional distress and a burnout rate ranging from 30%- 38%.^{31,32} Acknowledging these facts, it is possible that surgeons with MD/MBAs do not pursue administrative tasks and business ventures to the extent of non-surgical MD/MBAs, decreasing their potential compensation. As well, it may not be fiscally responsible or even possible for private practice surgeons to jettison clinical duties for administrative tasks.

Though physicians apply their MBAs in different capacities, hold various professional roles, and specialize in different medical fields, one constant is the value they attach to the degree. From the studies we examined, 100% of plastic surgeons endorsed the additional education while 92% of orthopedic surgeons believe getting an MBA is a "great idea."^{6,11} A literature review examining the impact of an MBA on physician executives found it added value to their skills in leadership, team building, finance, and population health while concurrently enhancing their lifestyle.¹ Parekh reports 81% of the physicians surveyed considered an MBA invaluable to their career advancement and 70% of respondents believed 20% of all current physicians should acquire an MBA.²¹ However, Patel cautions that an MBA can be perceived as a distraction by some and "pigeon-hole" physicians into certain roles or jobs.⁴

LIMITATIONS

Though study is based on the information of 332 surgeons, its results and inferences should still be interpreted with caution. There is significant heterogeneity among the four included studies. The small number of studies that met the inclusion criteria combined with study heterogeneity frequently resulted in non-overlapping data points that could not be compared directly. Sample size was low for the plastic surgery study (n=19) which mitigates the overall strength of the observations discussed.⁶ Sample size was larger in our other cohort studies, ranging from 66 to 127 surgeons.^{7,10,11} This study highlights the lack of research on physicians with dual MD/MBA degrees. This is a problem

noted by other authors and limited the comparisons explored and conclusions drawn.¹ To provide an example of this, the American College of Surgeons recognizes fourteen surgical subspecialties; among these fourteen, research examining how physicians apply their MBAs is currently available for three.¹²

CONCLUSION

This analysis focuses on the various uses of and motivations for getting an MBA among surgical subspecialists. In a field as rapidly evolving as medicine, physicians are more inclined to diversify their skillsets than ever before. The reasons for this are broad but typically include improving business literacy, leadership, or managerial skills. Though

there appear to be differences across surgical subspecialties regarding how an MBA is applied, MD/MBAs generally remain in clinical practice. Of those that do not, the largest portion transition to administrative duties, consulting, entrepreneurial endeavors, or other professional opportunities. To our knowledge, this is the first study to attempt to describe the applications of an MBA among surgical subspecialists. Given the rising popularity of the degree, it will be imperative for further research to be done in this area, not just to determine how an MBA is used, but how physicians with MBA training impact their organizations, community, and medicine in gen

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