

Research on Physician Management Education: A Focused Review and an Agenda for the Future.

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Abstract

In the current healthcare environment, leaders with a unique blend of clinical and managerial skills might very well play the critical role in shaping the direction of the healthcare system. With a desired goal of moving the U.S. healthcare system towards a value-based delivery system, we review the research on physician management education. This paper aims to advance the health industry's ability to identify, develop and leverage those physician managers of tomorrow who have the greatest potential to serve as thought leaders who help create and implement initiatives that create value. We conduct a literature review and outline the research on management education, with a specific emphasis on physicians. We then identify gaps in the existing literature and propose a research agenda emphasizing a) the measurement of educational outcomes (individual and organizational), b) determination of the most effective educational timing/modality, c) clarification of what physician managers need to be able to accomplish (competency-based) in managerial roles, d) further development and evaluation the role of mentoring, and e) increasing the strategic focus in physician management education.

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1 Introduction

Changes to the U.S. healthcare marketplace continue to pose significant challenges for health care organizations. Contemporary challenges include sluggish economic growth, changing social demographics (especially aging) to the

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U.S. population, and wide-scale health care reform movement resulting from the 2010 passage, and subsequent implementation, of the Patient Protection and Affordable Care Act. Additionally, increased consolidation of health care organizations (both the number and size of health systems) and the widespread gradual development of integrated health care systems are simultaneously occurring within the health care delivery system.

Historically, healthcare organizations have been somewhat hesitant to move physicians into management roles below the executive level. However, in recent years this mindset appears to have shifted. A new perspective has emerged where contemporary healthcare organizations view physician managers as critical resources in their efforts to identify opportunities to significantly improve the quality and safety of healthcare services, while also increasing service efficiency and effectiveness. As a result, the number and types of healthcare management education programs for physicians continue to accelerate.

In a recent article in *Harvard Business Review* [1], the authors propose a new strategy for the health industry, with its core being “maximizing value” for patients. Maximizing value means achieving the best outcomes at the lowest costs. The authors go on to state, “Only physicians and provider organizations can put in place the set of interdependent steps needed to improve value, because ultimately value is determined by how medicine is practiced.” This fundamentally new strategic approach to health care places an even greater importance on including physicians in influential management and executive roles. To do so, the healthcare industry must improve and optimize the development of management competencies within the physician population.

The goal of this paper is to advance the efforts of health organizations to identify, develop and leverage those physician managers who have the greatest potential to help create and implement initiatives that create value. To accomplish this objective, we first review the relevant research on the development of management competencies for physicians. We then identify key issues that should motivate future research and propose an agenda designed to advance the efforts of the physician community and health organizations to build those competencies in the physician managers of tomorrow.

2 Method

We searched PubMed and Google Scholar for articles addressing management-related education within the healthcare context, specifically focusing on physicians or medical students. We used multiple combinations of the following keywords during our search: Health, Management, Administration, Leadership, Physician, Doctor, Clinician, Resident, and Competencies. Our search was

limited to health-related journals, but we also included broader management-related journals if the focus of the article was physicians. After initially reviewing the scope of the articles, we narrowed our focus to 71 articles that we deemed material to our analysis. Finally, we focused our final review on 46 articles that uniquely contributed to the relevant literature on physician management education, and those articles are referenced within this article.

3 Main Results

Our review of the research on physician management education, covering 1976 to present, demonstrates three major areas of interest. Research focused on 1) clarifying the management skills necessary to accomplish those roles and responsibilities, 2) determining the appropriate timing and setting for developing those management skills, and 3) assessing the outcomes of programs designed to develop management competencies. Each of these areas helped shape the current state of research and the direction of future research.

3.1 Necessary Skills Sets and Competencies.

The earliest research focused on the need for physicians to develop the necessary management skills in order to effectively lead organizations in a quickly evolving business environment. After initially documenting the types of management positions physicians filled, researchers focused on clarifying these roles and responsibilities. [2-5] This line of research informed the identification of appropriate competencies necessary for physicians who chose to pursue management positions. Figure 1 provides a breakdown of the competency areas identified as most relevant for physician managers. While the exact terminology used in previous studies varied, five major competency areas were deemed most useful. These areas were 1) interpersonal dynamics, 2) communication skills, and functional competencies involving 3) strategic, 4) financial, and 5) quality management.

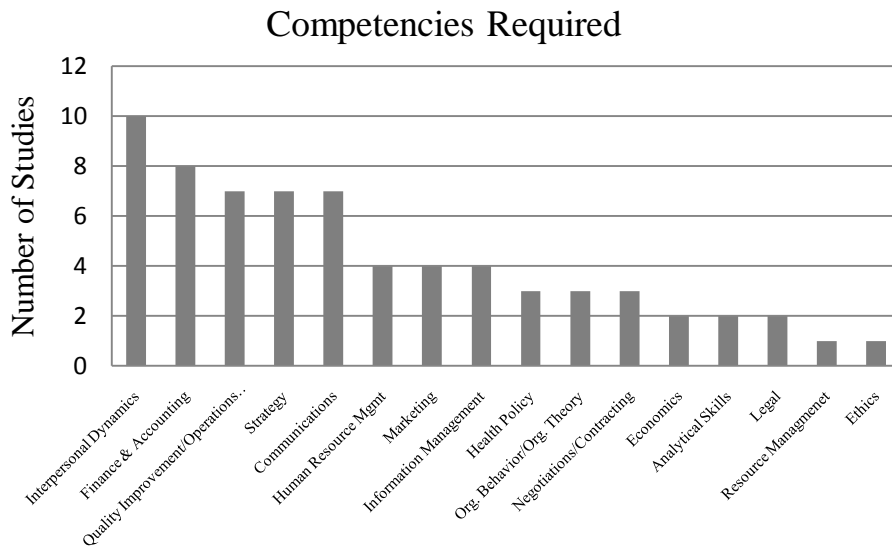


Figure 1: Physician management competencies most frequently identified in literature.

Interpersonal dynamics addressed the "human side" of management. Competencies aligned with interpersonal dynamics included leadership, conflict resolution, motivating employees, negotiation skills, team-building, and change management. [6-15] Competencies aligned with communications addressed both effective written and oral communication skills. [8-10, 12-15] The functional areas most frequently identified as important to physician managers were strategic, financial, and quality management.

Strategic management included competencies in strategic planning, implementation, and assessment. [7-13] Financial management included sources/uses of investment capital, financial decision-making, revenue cycle management, accounting knowledge, budgeting, and management control. [4, 8-14, 16] Quality management included quality assessment and improvement processes, as well as operations management. [4, 9-14] While a number of studies did address other important competency areas, those areas did not have strong consensus across the field. Table 1 provides a more detailed literature matrix linking competency areas to cited studies. [1-16]

Table1: Literature matrix showing recommended management competencies, by author(s).

	Leatt [4]	Kusy et al [6]	Tangalos et al [7]	Brooke et al [8]	Thomason [9]	Schwartz & Pogge [10]	Lighter [11]	Williams [12]	Stoller [13]	Chaudry et al [14]	Maggi et al [15]	Danzi & Boom [16]	Total
Interpersonal Dynamics		*	*	*	*	*	*	*	*	*	*		10
Finance & Accounting	*			*	*	*	*		*	*		*	8
Quality Improvement/ Operations Mgmt	*				*		*	*	*	*	*		7
Strategy			*	*	*	*	*	*	*				7
Communications				*	*	*		*	*	*	*		7
Human Resource Mgmt	*			*		*	*						4
Marketing			*	*	*		*						4
Information Management				*			*		*		*		4
Health Policy	*	*		*									3
Org. Behavior/ Org. Theory	*						*			*			3
Negotiations/ Contracting		*		*		*							3
Economics			*				*						2
Analytical Skills							*			*			2

3.2 Appropriate Timing and Setting.

A subsequent line of research focused on the appropriate timing and setting for physician management education. Our review of the research revealed an abundance of studies proposing, debating, or illustrating when and how the teaching of management content should occur, with graduate medical education playing the dominant role. The four major settings for management education were initial medical education, graduate medical education, an employer-based setting, and through professional organizations.

Figure 2 provides a graphical depiction of the career stages when physician managers become exposed to management content, aligned with the time in which they are exposed to physician education. The top portion of Figure 2 (Physician Development) shows when physicians receive their undergraduate medical education, graduate medical education, and then subsequent continuing education throughout their professional careers. The bottom of Figure 2 (Management Development) shows when physicians are exposed to management content.

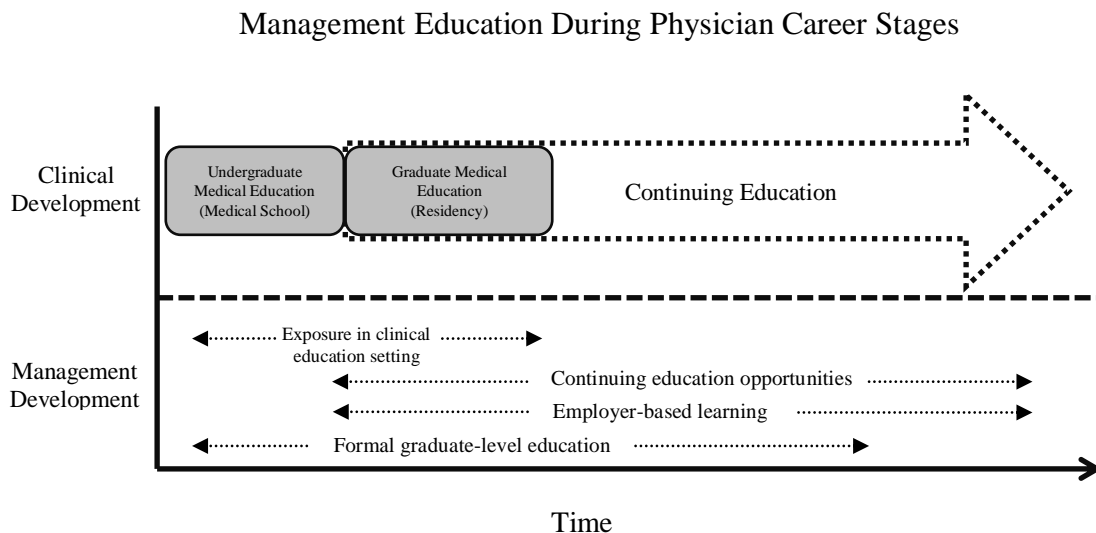


Figure 2: Physician management education during different career stages.

While numerous studies addressed physician exposure to management content during their undergraduate medical education, the majority of the research focused on providing management content during graduate medical education. Studies frequently asserted that exposure to management content during graduate medical education came at a more appropriate career stage, once physicians begun refining their scopes of services as healthcare providers and had chosen to pursue future management positions. Exposure during initial medical education was frequently deemed premature (before physicians had even developed their initial skills as a provider), or even unnecessary (considering that many providers would not even pursue management positions).

The literature also focused on examples from employer-based programs and professional organizations. Employer-based programs included cases where health organizations provided management content directly, brought in faculty from university partners, or brought in experts from professional organizations. Although employer-based examples in the literature were infrequent, the quality of the health organizations adopting such an approach (e.g. Cleveland Clinic, Mayo Clinic, Duke University Health System, etc.) indicated that internal management development programs might provide a first-mover advantage for those organizations that sought to develop management competencies in their physician leaders.

Figure 3 illustrates the frequency in which each setting occurred in the research we reviewed. Over half of the studies focused on providing management content

during residency programs in academic medical centers. Studies addressing undergraduate medical education and employer-based settings were equally split. Several studies addressed management education for physicians exclusively through professional organizations. Table 2 provides a more detailed matrix aligning the specific studies with the setting they addressed. [7, 14,17-45]

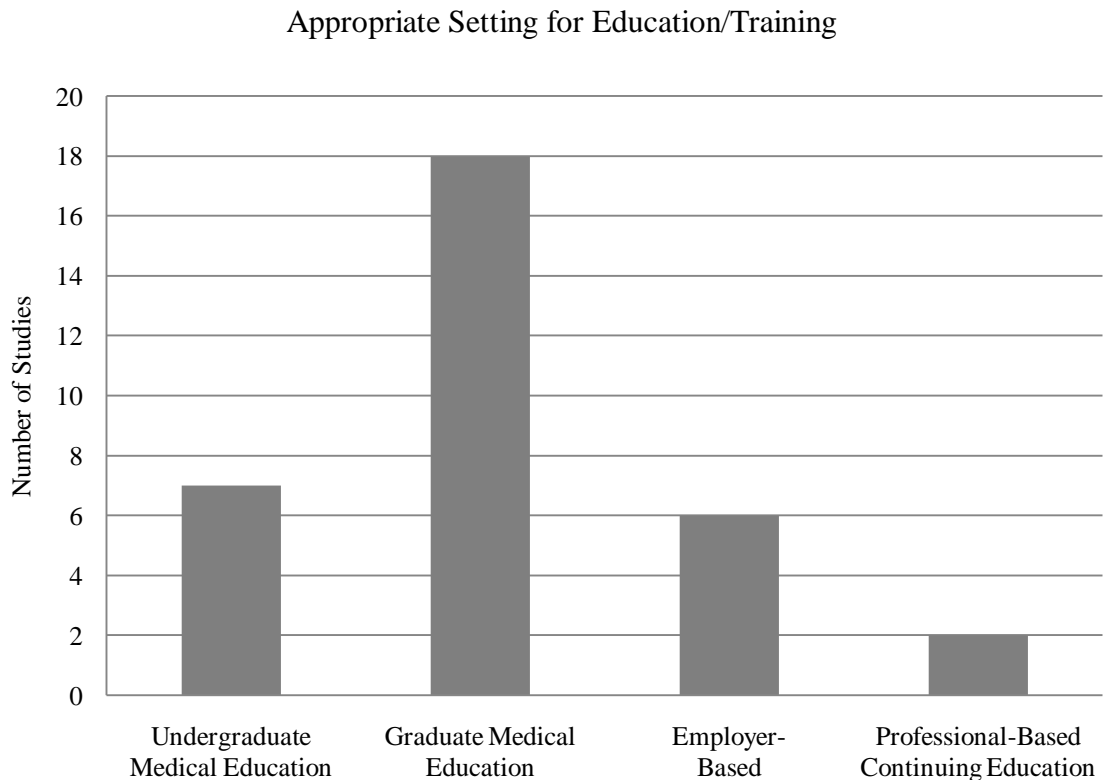


Figure 3: Physician management settings deemed most appropriate within the literature.

Table2: Literature matrix showing existing/recommended settings for physician management education.

	Undergrad Medical Education	Graduate Medical Education	Employer- Based	Professional-Based Continuing Education
Tangalos et al [7]			*	
Chaudry et al [14]				*
Lawson & McConnell [17]		*		
Cordes et al [18]		*		
Marr & Kusy [19]			*	
Lurie [20]	*			
Scott et al [21]			*	
Williford et al [22]		*		
Paller et al [23]		*		
Schwartz et al [24]	*			
Sherrill [25]	*			
Bayard et al [26]		*		
Fairchild et al [27]			*	
Chan [28]		*		
Amin [29]	*			
Babitch [30]		*		
Moore et al [31]	*	*		*
Hemmer et al [32]		*		
Gunderman & Kanter [33]		*		
Kaur & Singh [34]	*			
Stergiopoulos et al [35]		*		
Ackerly et al [36]	*	*		
Busari et al [37]		*		
Horowitz et al [39]		*		
Junker et al [40]		*		
Taylor et al [41]		*		
Mirowitz [42]		*		
Crites & Schuster [43]		*		
Kaplan & Feldman [44]			*	
Stoller et al [45]			*	
Totals	7	18	6	2

Recent studies (2000-present) provided detail on the structure of the physician management programs. Most were taught internally, either by faculty (in educational settings) or practitioners (in employer-based programs). The length of the programs varied from an intense, three-day program [38] to a program split up over two years. [39] Most were a year long and consisted of seminars intermingled with clinical education (in an educational setting) or healthcare delivery (in employer-based programs). Additionally, most programs did not involve ongoing or capstone projects. Nor did they choose to utilize experienced executives in any type of mentoring role. However, programs located in employer-based settings were more likely to include projects and mentoring as means to optimize learning.

3.3 Research on Outcomes.

Finally, numerous studies focused on outcomes from the various types of programs designed to teach management content to physicians. At the individual level, participants conducted self-assessments and identified improvement in their leadership abilities, [38] their self-confidence, [41] and their overall knowledge of management content. [40, 42-44,46] The research did not externally measure outcomes at the individual level (self-assessments only).

Some studies did address organizational outcomes. A case study of the Maimonides Medical Center [44] showed how creating an in-house training program for physician managers contributes to the fulfillment of Joint Commission leadership standards. Another case study of the Cleveland Clinic [45] developed a metric to measure the success of the physician management program. That study reported the number and types of business plans developed in the course that were either implemented at the Cleveland Clinic or had directly affected existing program implementation initiatives.

3.4 Relevance to Contemporary Healthcare Management.

In recent years, the need for physician management education appears to be accelerating. In 2010, the Cleveland Clinic announced they were entering the management education marketplace by offering their physician executive education to outside providers. In 2011, the American College of Physician Executives, a professional organization providing education programs for physician executives, reported a 100% increase in the number of days they taught physician leadership courses.

In 2013, the Health Forum/AHA Leadership Summit held an interactive, half-day session in San Diego. The session addressed both the changing healthcare landscape and the leadership competencies providers need to be effective managers. The forum included presentations of physician leadership programs at Unity Point Health and Mountain States Health Alliance. One of the more interesting presentations involved an initiative between the Metropolitan Chicago

Healthcare Council and the American College of Physician Executives, which drew 250 providers from 60 organizations within the metropolitan area.

Given the growing need for physician managers, our review shows a number of areas unaddressed. The research does not sufficiently address what physician managers must accomplish in management roles. Research must progress from the knowledge physician managers need (i.e. “What they need to know”) to the management competencies they need (i.e. “What they need to accomplish with what they know”). The competency focus for physician managers must be prioritized since physicians have significant demands on their available time. Considering most physicians are balancing the need for continuing healthcare delivery while acquiring management competencies, the key research question involves identifying “must have” competencies, versus “nice to have” competencies.

Individual and organizational outcomes are another undeveloped area within the literature. While previous research measures participant satisfaction with their learning experience, as well as their self-assessed improvement in selected skill sets, competency assessments are left unmeasured. Likewise, organizational outcomes need further study. While numerous organizations believe developing physician management competencies is beneficial, few studies have actually attempted to measure the benefit. Studies should focus on both the micro-level benefits (for individual participants) and the macro-level benefits (to the organization) resulting from the physician management programs. For practitioners and organizations, the key research question here involves “What is the payback for investing in these programs?”

Current research also fails to adequately address the role mentoring plays in the development of physician managers. Management competencies can be initially built in an educational setting. However, those competencies will be refined and honed through years of experience in real-world settings. Mentoring by senior executives will enable less experienced managers to hone their management competencies. Additionally, an education gap exists between management competencies at the grassroots and strategic levels. The existing programs focus on developing the basic management competencies. As physician managers progress through their careers, some will aspire to positions of strategic importance. Basic management development programs do not provide the competencies necessary to run large, complex organizations. Mentoring can help bridge this gap. For executives, the key issue is “How can our organization help these physician managers continue to grow transition to strategic roles?”

Current research also fails to adequately address how the Patient Protection and Affordable Care Act (PPACA) might alter the roles of physician managers in an industry bracing for major changes over the next 5-10 years. With the legislation’s increased focus on health outcomes, rather than the delivery of health

services, physicians are uniquely positioned to help health organizations develop delivery models that improve quality while driving down costs. Physician managers will need a unique combination of the provider skills necessary to improve health outcomes and the management competencies necessary to successfully develop and implement the new delivery models.

3.5 Facilitating and Deterring Factors.

Clearly, facilitating and deterring factors will influence the need for physician managers. Facilitating factors are those factors, internal or external, prompting organizations to invest time and energy in developing management competencies within their clinical staff. Deterring factors arise when organizations must face tradeoffs when developing management competencies within their medical staff.

As the health industry continues to change, organizations have a major need for greater physician input into organizational decision-making. At a bare minimum, physician input will ensure physicians are aligned with the future of the organization. Physicians may also significantly influence the strategic direction of the organization through helping identify and articulate opportunities that have the potential to serve stakeholders' interests. Physicians would also play a role in determining the feasibility of those services, and assisting with the implementation and assessment processes. Unfortunately, medical education does not focus on the management competencies necessary to optimally participate in each of these steps. Therefore, organizations must either attract physicians who already possess such competencies or enable them to develop the competencies.

Another facilitating factor is the physicians' increased desire to play a role in shaping the future of healthcare. Under the legislative uncertainty caused by the Patient Protection and Affordable Care Act, as well as public pressures to reduce costs while maintaining high-quality healthcare, the industry faces enormous pressure to change. As physicians see this pressure impacting how they deliver care, many will choose to proactively shape those impacts. Physicians may seek a role at the grassroots level to impact their immediate work environment, or they may seek strategic roles in health organizations. Either way, the management competencies will become a necessity in order to effectively shape the healthcare system.

Regarding debilitating factors, the literature indicates that physician management education is often treated as a one-time event, and not as an on-going process. The literature indicates that physician management education should occur in one setting or another. However, no research establish esaninter-temporal framework that indicates how to develop and enhance managerial competencies over the course of a career, and not simply at a specific stage in a career. Moreover, while educational institutions, employers, and professional organizations all play a role

in the education process, employers can greatly facilitate the on-going process through effective mentoring programs.

A high opportunity cost is another factor limiting the ability of physicians, and their health organizations, from investing in management competencies. Time invested in developing management competencies is time not spent delivering healthcare. Lastly, healthcare organizations and providers may have difficulty balancing their short-term and long-term interests. Organizations and providers need to balance the short-term need for providing patient care against the long-term need for optimized managerial decision-making. Those with a short-term focus may simply deem the investment unwarranted or may have difficulty quantifying any tangible or timely return on investment.

4 Discussion and Conclusion

Our review of the literature indicates some key issues that should form the basis for future research. These priorities include a) measuring outcomes, b) identifying the critical management competencies for physicians, c) evaluating the role of mentoring in physician management education, and d) incorporating more of a strategic focus into physician management education.

Academics and practitioners need to emphasize measuring individual (e.g. career choice, self-confidence, knowledge acquisition, etc.) and organizational outcomes (e.g. return on investment, impact on cost-quality tradeoff, number and type of business plans implemented, accreditation attainment, etc.). Additionally, any identified benefits of physician management development programs should address both short-term and long-term outcomes.

Another area of research emphasis should involve clarifying and developing the role of mentoring in physician management education. While initial management education is designed to develop management competencies, that educational process is simply the starting point. Physicians will apply their base level of management competencies in a real-world setting, and their competencies will evolve, grow, and improve with experience. Mentors will help facilitate this growth by enriching that experience with their own experience, gained over their many years in leadership positions. Research on physician management education also needs to develop more of a strategic focus. A knowledge gap exists between the current focus on management skills, and the strategic competencies necessary for the executive positions physicians will ultimately attain.

Managers with a medical background have a great deal to offer organizations; recognizing the unique attributes of this population is of significant importance. A valuable perspective would be to adopt a life-cycle approach to management education, where all of the major participants (initial medical education, graduate-

level medical education, employer-based education, professional organizations, and mentors) play a key role in helping develop different sets of competencies, and different competency depths, at different stages throughout a physician's professional career. This approach would then tailor delivery of management education to each stage in the life-cycle.

Throughout this paper, we have drawn a close link between continued rapid change in the U.S. health care delivery system and the growing need for health care systems to ensure their physician managers have requisite management knowledge and skills. Clearly, the leading health care delivery systems are increasingly aware of the importance of management education for physicians who occupy managerial roles.

Certainly, it is difficult to project future demand for health care management education and training programs for physician managers. However, it does provide an excellent opportunity for leading academic health care management education programs to collaborate with health care systems in the development, implementation, and assessment of new programs that effectively integrate both academic experts in health management and senior-level health care managers.

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