PHYSICIAN-CLINICIAN TO PHYSICIAN-LEADER: UNDERSTANDING THE DEVELOPMENT NEEDS AND PRACTICES OF ASPIRING PHYSICIAN LEADERS

Presented by

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Abstract

Electronic Healthcare Record's, Accountable Care Organizations, payment capitation, patient satisfaction, re-admission rates: just a few of the changes impacting healthcare as the macro-environment drives transformational change. More and more, physicians are being called on to lead these efforts. The purpose of this paper was to explore the development needs of physicians as they transition from the role of clinician to leader. In particular there was a specific need to inquire as to the degree of stress and/or trauma that occurs as part of the transformation. In a qualitative study the researchers interviewed 16 Chief Medical Officers (CMO) from a variety of hospitals and healthcare systems to examine a yet unanswered question: what do physicians need to develop their leadership competencies. Findings showed a pattern of unsupportive practices and an overall lack of soft skill developmental experiences to adequately prepare them for the complexity (i.e., healthcare reform, strategy, and finance) and subtleties (i.e., effective communication, team work, and leading change) of executive leadership.

Key words: *Physician leadership, Chief Medical Officer, leadership development*

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Medical school and residency have traditionally been in direct conflict with what is considered effective leadership practice. Commonly a top-down, command and control approach, it is vastly different than the influence-based, adaptive style recognized as best organizational practice. These dated behaviors are long-standing and heavily reinforced throughout the healthcare continuum from medical school to practice. It is within this environment that the physician is produced: individuals developed over time to be fiercely independent, tough-minded, and resolute healers.

Well known and widely shared are the challenges and difficulties of medical school. These are the educational experiences that develop the tough-mindedness necessary to provide excellent patient care in the midst of uncertainty, all with a sense infallibility (Hiadet & Stein, 2006). Likewise, medical practices are often structured in an authoritative context. The physician as leader establishes the culture, and by nature of the work gives orders that are carried out by a support team of nurses and techs. Traditionally, this environment has not extended itself to a collaborative practice (Topol, 2015) or teaming (Koster, J., MD, personal communication, January 13, 2011). Ultimately this makes the transition from physician-clinician to physician-leader both challenging, dramatic, and even traumatic (Schecter, L., MD, personal communication, October 9, 2014), by means of having to overcome the very ritual initiation practices that made them great clinicians.

Given the national trend of physician led healthcare there is a significant need to understand the best methods for developing aspiring physician-leaders. This first requires organizational leaders to understand the events that develop a student to a physician and a physician to a leader: a series of powerful cognitive-emotional events that occur throughout these transitions. There is a secondary need to identify best development strategies to apply development practices in a manner that reduces further harm, and creates a uniform development practice, as physician leaders' transition within health systems across the US.

Purpose

Due primarily to the importance of developing physician leaders, the body of literature requires a more complete understanding of their development needs. The purpose of this study is to understand those needs as they transform from clinician to leader, with the intent of creating a more effective development path for future physician-leaders. Of particular interest, is to gain a better understanding whether physicians have unique needs that differ from administrative leaders in part due to the psycho-, neuro-, socio-, physiological, and cultural elements as part of medical education and practice. Additionally, we seek to understand if current development opportunities are truly meeting the needs of physician-leaders as they transition further away from the patient relationship. Finally what development practices might make the transformation less stressful or dramatic for a population that experiences higher rates of stress, suicide, and addiction than any others (Brunk, 2015; Paolini, 2009).

The ongoing need for physician-leaders, the still to be identified best practices in physician leadership development, the current complexity of the healthcare environment, along with the high-dollar cost of medical infrastructure, gives way to a high priority need to

understand the best development practices. It is within this context that the researcher's interests were threefold:

1) *How is physician leadership development a dramatic, challenging, or even a traumatic experience?*
2) *Was the development experience adequate to prepare physicians for a role as a senior/executive leader?*
3) *What can be done to reduce further trauma to physicians as they transition from clinician to leader?*

Literature Review

The shift to physician led healthcare continues to be important as healthcare endeavors to balance competing needs and interests (i.e., accountable care organizations, increasing regulations, and declining reimbursement rates). In an effort to navigate and lead these complexities physician leaders must develop different skills: skills that allow for flexibility, collaboration, and the ability to manage complex population needs all within a turbulent environment. This is a significant change as physician-clinicians have been educated and developed over time to fix and heal. Yet within this same context of healing, physicians are developed to be superhuman: influenced by an environment of autocratic learning (Paolini, 2009).

To meet this challenge and foster collaboration, a variety of physician development programs are emerging throughout the US. Health systems, academic institutions, and even individuals are seeking to establish physician development best-practices. Individual consultants and coaches have started specialty services designed with physicians in mind. Executive

coaching has been a tool widely used with physician leaders: some coaches being physicians themselves. Academic institutions and universities alike are offering physician certifications and degrees specific to leadership. Still others promote an MBA or MHA, which tends to have a greater focus on the business of healthcare. External programs like those offered by the American Association of Physician Leadership and The Academy: GE Fellows Program serve a variety of medical specialties, focusing on quality, management, and policy related topics.

Many health-systems across the United States have developed self-sustaining internal programs, among them there is wide variation in content and duration. The greatest trends: sustaining organizational culture, creating an ideal patient-experience, and managing disruptive behavior (Stoller, 2008). Mentoring (McNamara et al., 2014; Nowill, 2011), coaching (McNamara et al., 2014; McAlearney et al., 2010;), and/or role modeling (Dobkin & Balass, 2014; Nowill, 2011; Taylor et al., 2009; Stoller) appear to be the only common thread within internally developed programs. While there is some replication among program didactic and structure, no one best practice has emerged (McAlearney et al., 2010) as even the requisite skills and competencies remain debated (Bursari, 2012). Though widely recognized as valuable and necessary (Durani, Hobkirk, & Spurgeon, 2012), little consistency or scholarship currently exists on the most effective means of developing emerging physician-leaders (McAlearney et al., 2010; Taylor et al., 2009; Stoller; Xirasagar, Samuels, & Stoskopf, 2005).

An examination of the development literature bore few results, offering little in terms of best practices. Only ten relevant articles emerged despite the growing number of physician leadership development efforts. Xirasagar et al., (2005) concluded that the development of transformational leadership skills had significant influence over clinical providers practice and outcomes. This is supportive of a long and established connection of statistically significant

research that the physician-patient relationships has a direct connection to treatment compliance (Linn, Linn, & Stein, 1982, as cited in Paolini 2009). Xirasagar et al., further suggest that the use of a 360 degree feedback assessment should be considered standard practice within physician leadership development. Specific emphasis was directed to emotional intelligence, declaring it a significant, ongoing need (Stoller 2008; Taylor, Taylor, & Stoller, 2008), and the most important skill (Nowill, 2011) in physician leadership development. Calling specific attention to the current state of physician leader competency development, Bursari (2012) declared it inadequate, despite its importance for all within healthcare (Durani et al., 2012). Speaking explicitly to the lack of research on physician leadership development, Stoller acknowledges significant gaps in available knowledge and understanding.

General trends support the common agreement that physician-clinicians are not developed as leaders, and that understanding the best practices in terms of competency and inner-personal skill development remain a critical, yet unresolved need. These practices are widely found in executive development, and function as a means of developing a shift from individual contributor to a collaborative influencer – ideas not widely taught in medical school (Bursari, 2012; Nowill, 2011; Stoller 2008, 2009; Taylor et al., 2007; McAlearney et al., 2005; Xirasagar et al., 2005).

Competencies

There are notable variances in the competencies that separate physician-clinicians from organizational leaders (McAlearney et al., 2005) (Table 1). Physicians and business leaders develop these competencies in significantly different ways. Organizational leaders develop and practice the art of leadership by honing their collaborative and influence skills over time. For many this includes reinforcement in graduate school in which students work, and are evaluated

as parts of teams. This practice refines proactive problem solving with a high tolerance for ambiguity all while focusing on a system and strategic goals.

Table 1: Differences between physicians and organizational leaders

Physicians	Organizational leaders
Autonomous decision makers	Collaborative decision makers
Reactive problem solvers	Proactive problem solvers
Focus on detail	Focus on the system
Analytical – linear thinkers	Creative – intuitive thinkers
Little tolerance for ambiguity	High tolerance for ambiguity
Patient - centered	Organization/strategic - centered

In contrast, physician-clinicians advance through medical school, residency, and practice by sharpening their abilities as reactive problem solvers, making independent decisions with little tolerance for ambiguity. Additionally, physicians are developed to be highly autonomous with a singular focus on patient outcomes.

What becomes most notable in these two competency variations is the need to be highly focused with a laser-sharp eye for detail and closure for the physician-clinician. Conversely business leaders develop a sense of openness and ability to see the larger picture, all in the context of generating and socializing ideas. It is precisely this shift of the physician-leader to address the broader context of the community of patients, the business aspects of a large organization, and the public health at large that is paradoxical; this ability and requirement to see the bigger picture is only one of the challenges facing physicians. Like leaders who practice the art of leadership over long periods of time, physicians spend an equal amount of time developing their skills as clinicians. Many of these competencies begin with medical school and are perpetuated throughout residency.

A psychological and sociological framework

The lack of literature within the professional development domain led the researchers to assess the cognitive-emotional body of work as a way of discovering the development practices that exist within medical education and residency. Of note is the supporting work suggesting that medical school and residency process is traumatic, particularly when applied to younger students (Siegel, 2013) and the developing brain (Hanson & Mendius, 2007).

Social-cognitive theory is explained as a manifestation of learned behaviors through observation, modeling, and motivation in which it is likely to be repeated and embedded over time when observed in others, particularly if there is an associated reward (Oppong, 2014). Represented contextually, this triadic relationship consists of equal influences of the person, the environment, and resulting behavior. Alongside of the psychological frame of social-cognitive theory is the sociological concept of structuration. A function of equally applied influence to human actors and external forces (i.e., rules, resources, and the macro-systems), this concept posits that human actors are the elements that enable the creation of the environment in which we function. Lamsal (2012, as cited in Oppong, 2014) identified this as "society's structure by means of invented values, norms, or those things reinforced through social acceptance," (p. 113) like that evidenced by poor role-modeling and the paternalism of medical practice. Explained further, human actions are not constrained by social factors when they are driven by strong internal motivators (Oppong). This is supported by the current power literature, which has put forth evidence suggesting that those with a strong base of positional power no longer need or require social capital (influence) in exchange for results (Rosenblatt, 2012). Combined, this provides a powerful framework that outlines both the relationship and the impact of the environment and the individual. Further, it supports the idea that poorly modeled behavior may

lead to poor individual outcomes limiting the capacity of an individual to engage in good behavior (Goleman & Boyatzis, 2008).

Medical education and practice inculcation

There is a powerful paradigm that has existed within medical education and practice inculcation for thousands of years. While this model has created an environment of high patient-physician trust (Kempen, 2012), it has simultaneously created an environment in which the developing physician, often needs to re-invent him/herself. Through lengthy exposure to autocratic inculcation practices that may be cognitively-emotionally damaging, potentially dissonant practices may invoke potent responses as a survival mechanism.

Medical Education. The competitive process of medical school actually begins as college graduates are in a progressively diminishing pool of medical school openings. Upon entering medical school, students are exposed to long and intensive hours of focused attention and academic burden. Most notably missing in medical education is collaboration or willingness to receive input from others (Taylor et al., 2008). As told to this researcher, "medical school was a constant grind in which we battled to constantly one-up each other" (personal communication, M. Hodges, MD, May 20, 2015). Paolini (2009) asserts that survival in medical school reinforces the skills and traits necessary to survive; all others are either neglected or even rejected.

In addition to the acquisition of medical skills and knowledge, there is something called a hidden curriculum (Dobkin & Balass, 2014; Mileder, Schmidt, & Dimai, 2014; Paolini, 2009). Hidden curriculum exists in all academic programs, and refers to the social elements that are present within an educational culture. In the practices of medicine this extends to both physician identity and character (Dobkins, & Balass, 2014; Mileder et al.). As described by Haidet and

Stein (2006), there are four distinct cultural elements embedded with the hidden curriculum of medicine that include the idea that 1) physicians are infallible, 2) you can know everything if you try hard enough, 3) rudeness is acceptable if you're busy, and 4) that eating and sleeping are signs of weakness. Paolini describes an atmosphere that accepts nothing less than an omnipotence as the only acceptable performance.

Psychological. Every moment of medical school is said to be a grueling practice of day-after-day coping. Paolini (2009) introduced the psychological phenomenon of splitting as a means of explaining medical school survival. Splitting, described as "difficulty with the ability to hold opposing thoughts, feelings, or beliefs about oneself or others" (p. 20), becomes the means by which medical students disassociate themselves with the day-to-day rigor in order to survive. Thus students are directly entrenched into a complex and dynamic environment that erodes individual routines and relationships. It is a highly-unconscious process that occurs as students attempt to modify their relationships with faculty, residents, and other students during a period of both high-stress and exhaustion. Denial, depersonalization, and projection become common defense mechanisms, leaving only performance as the discernable success-metric.

This process can also be used to describe psychological responses to an emotionally-charged event --or hot emotions-- that may occur in the classroom, in which there is no means for emotional regeneration (Gross, Sheppes, & Urry, 2011), and requires a great degree of self-control (Boyatzis et al., 2006). In the absence of regulatory process, individuals will behave or regulate, in a manner that is dependent on the goal: medical school survival.

Neuroplasticity theory explains this as an amygdala high-jack. This includes powerful stress producing reactive behaviors of flight or fight, responses deeply embedded within the primitive brain (Hanson & Mendius, 2007). Thus responses and decision-making are based on

fear and anxiety rather than within the frontal cortex which is associated with higher quality decisions.

Neurological. Indoctrinated in the often demeaning environment of on-the-spot question and answer, berating conversations, and expectations of infallibility, students and residents are exposed to numerous examples of ineffective leadership-behavior. Neurologically, this manifestation is known as mirroring, introduced by Goleman and Boyatzis (2008) and is well described in the body of emotional intelligence work. Mirroring refers to situations in which people develop neurological responses that mirror the actions of others to whom they are frequently exposed. When coupled with advancement, promotion, and recognition these events can become powerful neurological regulators. This becomes particularly noteworthy when many physicians have been promoted into leadership positions based on academic or clinical accomplishments rather than the skills that contribute to collaboration and influence (Taylor et al 2008; McAlearney et al., 2005).

In 2006 Boyatzis et al., discussed the significance and results of power stress as defined by McClelland (1985). It is differentiated as a state of leadership influence and responsibility that is "part of the experience that results from the exercise of influence and sense of responsibility felt in leadership positions" (p. 10). Though they posit that power stress is the result of formal position, it is possible that it is not limited to those in formal leadership roles. When considering the stresses experienced by medical students – to live up to outdated expectations, to be infallible and provide excellent care, to be under constant social evaluation, and an obligation to influence others – power stress might well apply to medical students who find themselves in situations of both influence and responsibility along with high stress. Not

unlike all other forms of stress, psychological and neurological events can then manifest physiologically.

Physiological. Effects of stress on the body are widely known. During times of stress, a potent cocktail of neurotransmitters and glandular secretions combined with "neuro circuitry reallocation" (Boyatzis et al., 2006, p. 10) produce physical stress responses. These processes take a compelling toll on the body including elevated blood pressure and cortisol, decreased immune responses, and feelings of anxiety and nervousness, each compromising the body mind-connection and emotional regeneration (Gross et al., 2011). Bilirubin Oxidative Metabolite are known to be present during emotional stimuli, an indication that stress responses are present even during emotional events (Yamaguchi, Shioji, Sugimoto, & Yamaoka, 2002).

Paolini (2009) addresses the further manifestation of physiological issues noting the high rates of burn-out, addiction, and suicide amongst physicians and medical students due to a culture of silent neglect. Recent studies indicate that as few as 28 percent and as high as 62 percent of physicians are experiencing burn-out (Allegra, Hall, & Yothers, 2005). The American Foundation for Suicide Prevention estimates that physicians commit suicide at a rate of three to four hundred per year – one per day (Brunk, 2015). Even now, many physicians see depression as "a character weakness rather than a medical illness" (Reynolds, as cited in Brunk 2015, para 12).

Sociological. The role modeling literature has some significant insights into medical-student and residency life. Mileder et al., (2014) identify role modeling as important educational method encountered by medical students throughout their training. Defined as "those in positions we would like to reach" (Mileder et al., p. 1), and a "person whose behavior is imitated by others" (Taylor et al., 2009, p. 1131), even unwitting role models have a powerful influence

on students and residents. Exposure to role models can take place as events, which include hallway conversations, classroom experiences, or personal observation. In medical school and residency these are identified as a wounding experience that can negatively impact the well-being of students (Dobkins & Balass, 2014). Repeated exposure to poor role modeling has been attributed to inappropriate or unethical behavior by Mileder et al.

Considering the amount of time that medical-students and student-residents are exposed to role-models, it is tantamount to the social-mentoring construct as part of the socialization process (Jackson, 2007). Socialization is an organizational and/or professional process that ensures conformity through practices that deeply embed the professional values, norms, and practices. Negative reinforcement socialization behaviors (i.e., berating, yelling, unsupportive) are well known within healthcare, producing further stress, burnout, and turnover among both veteran and novice clinicians.

Medical practice. Thousands of years of paternalistic medical-practice are deeply embedded within the culture and practice of medicine (Topol, 2015). Outlined in Table 2, the sense of god-like and paternalistic practices have been reinforced since ancient Egypt. At that time Imhotep was both physician and high-priest. As a high priest, he would have had considerable influence and respect, perceived as an elite knowledge keeper considered close to the gods. Likewise Hippocrates, widely considered the father of medicine, believed that the practice of medicine needed to be kept secret from the patients. Since then, medical practice is rich with examples of the historical physician-patient relationship since the earliest of times.

Even the modern code of ethics, written and maintained by the American Medical Association, further reinforces these tendencies. Language within the 17 points from the introduction highlights phrases such as, a "noble task", "nobleness of their vocation", "greatness

of the mission", "condescension with authority", "patient obedience", and "attaining eminence is a duty". Though this is from the original 1847 version, Topol (2015) asserts that this language, gently modified today, has "set a lasting tone" (p. 24) within medicine. It wasn't until 1957 that the idea of informed consent was even introduced.

Table 2: Paternalistic practices

Timeframe	Healer(s)	Physician-patient rapport
Ancient Egypt	Imhotep	Earliest physician and high priest
Ancient Greece	Hippocrates	Medical formulas are to be kept secret from patients
Medieval era	European physicians	Patients must honor physicians as they have received their authority from God
Ninth century	Jewish physicians	You do not need to treat difficult patients
14th century	French surgeons	Patients will be cured only if they obey
16th/17th century	Physicians	Avoid sacrificing too much to the taste of the patient
1847	AMA Code of Ethics	"Attaining eminence is a duty"

The practice of medicine itself has created a culture in which physicians say, and people do. Many nurses feel that the role of hand-maiden to the physician remains an unwritten cultural practice that is still prevalent today (Jackson, 2007). This cultural practice perpetuates and reinforces the long-standing command and control approach that exists in medical practice.

As part of the authoritative framework, behavior can progress into a strong base of positional or even coercive power. As such, individuals no longer feel a need for influential or respectful interactions. In his 2015 book, Topol discusses the sense of power that came with a written order as early as a third year clinical rotation,

> my hand written lines (once countersigned) would be picked up in the chain of command by the nurse or the ward clerk, and then get executed. What a sense of authority this conveyed to a medical student seeing a patient for the first time…with a simple stroke of a pen, a whole staff of people was at my beck and call, not to mention the patient (p. 27)

This directive practice extends beyond nursing, reaching all areas of allied health professionals (i.e., Medical Assistants, Lab Techs, Rad Techs, etc.) encompassing further to other medical professionals who hold terminal-doctoral degrees (i.e., Pharmacists, Physical Therapists). This has created a practice in which physicians believe that they are exempt from personal influence and collaboration (Liles, J., MD, personal communication, January 15, 2015). Physicians then become the role model, perpetuating a long-standing history.

This may be explained by Acquired Situational Narcissism (ASN). A form of narcissism that develops in late adolescence or adulthood, brought on by a sense --real or perceived-- of celebrity or power (Plante, 2006). Differing from the traditional narcissistic behavior, ASN develops after childhood at the time when situations trigger or support celebrity based status, creating a sense of more importance than others as well as invulnerability. Long-term consequences of ASN include unstable relationships, substance abuse, and/or erratic behavior.

It can be concluded therefore that the culture of medical school and residency may have lasting effects that influence the psycho-, neuro-, and sociological experience of medical students, thus shaping a clinical career that has a propensity to lead from position rather than influence.

The current reality

Today's physicians are operating in an increasingly demanding world. This list of environmental demands is adding to the burdens of physician stress, proof that the stress of medicine is not alleviated with a medical school diploma. In addition to the environmental

demands, physicians must also be the professional gatekeepers, requiring the mental tenacity to 1) uphold practice standards, 2) limit burdens to an already taxed system, 3) ensuring patient satisfaction, and 4) avoid medically unnecessary practices, which includes lifestyle medications prodigiously advertised on TV.

Many report seeing an average of 40-60 patients per day as healthcare providers pursue increased reimbursement. Insurance companies are demanding more supportive documentation that translates to long evenings signing orders and requesting procedural authorization. Equally, health systems now employing greater numbers of physicians, require skillful charting to ensure maximum reimbursement. Many health systems continue to hire a complex tier of vice presidents and C-suite executives. The salary burden frequently lands on the back of providers as the revenue generators (Jehle, A., MD, personal communication, January 13, 2016). The list of demands increases once physicians move into leadership roles. One of the greatest challenges comes to those who leave clinical practice to focus exclusively on leadership.

CMO as a team member. Transitioning to the role of Chief Medical Officer (CMO), a senior member of the leadership team, is not without its challenges and stress. Considered a difficult transition the shift from physician leader to CMO frequently includes the abnegation of clinical practice all-together. Moreover, they are unwittingly placed in a role of boundary spanner, connecting the language and practice of business and healthcare. Despite the fact that physicians are now seen as an integral part of the leadership team many CMOs claim that they do not feel like they're a part of said team (Nowill, 2011; McAlearney et al., 2005). Even more challenging is the feeling that is fostered amongst providers that physician-leaders have gone to the *dark side* or *sold out*. Many are likely to face peer criticism for abandoning the profession altogether (Xirasagar et al., 2005). Even though there is an expectation that they behave like an

organizational leader, physicians cannot simply abandon their medical values and patient focus. These values are often at odds, as the operational burden becomes a question of FTE, equipment, and profit balanced with quality patient-care.

Professional identity. In addition to their diverse competencies, this team challenge may stem from the generic term of *value*; a term given so much meaning to so many things. As suggested by Busari (2012) the term value has been characterized as *reliable*, *cost-effective*, *state-of-the-art*, and *evidence-based*, each leadership team member being responsible for some nebulous form of the idea, yet perceived differently by each. Therefore, it is not uncommon for an intact executive team to challenge the ideas of others. This lack of a common definition, the consequence being the misinterpretation of goals, leads to a team cycle that includes the emergence of conflict, distrust within the team, and a breakdown in collaboration (Busari; Lee 2012). The greatest test for physician-leaders in this scenario is that clinical expectation of value (evidence-based, quality) can be seen as competing with operational expectation of value (cost-effective).

Individuals develop a sense of their professional role, worth, and/or identity by internalizing language. For the physician this sense of value is placed on quality of care or clinical outcomes. Challenging professional identity was called out specifically by Maitlis and Ozcelik (2004) as a scenario that can yield a strong emotional response and cause individuals to withdraw from organizational activities. This is also supported by Withey and Cooper's (1989) seminal work on predicting ones organizational citizenship based on the perception of being heard. Physician leaders then may be left at the leadership table feeling even more isolated with limited coping skills.

How physician-leaders are prepared to balance both the internal and external difficulties of this transformation is said to be difficult as many have expressed feelings of isolation and abandonment. All while losing the physician-patient connection as they give up their clinical role for the health of the organization.

A basic argument resulting from the literature reveals that over time the learned behaviors from medical school, residency, and practice are a result of psycho-, neuro-, physio-, and sociological events (Table 3). A series of impactful human events that creates a powerful new paradigm reinforcing a set of physician competencies and behaviors in which clinicians function. This presents as a significantly complex framework in which we can be begin to understand the prevailing influences which shape or re-shape a person over time, and begins to outline the difficulties associated with the transformation from clinician to leader. Though many leadership development programs and opportunities exist to better develop physician leaders, the aim of this research is to understand what development opportunities might make the transformation less stressful, yet more impactful for aspiring leaders. Specifically, for physician leaders that are transitioning completely away from patient care, yet hold tightly to their patient values and mental models.

If the transition from student to physician is traumatic in itself, how can development practices be better utilized to reduce further trauma, and improve efforts overall. This may be of particular importance for faith-based health systems seeking to sustain their faith-based traditions of caring for the whole person, not limited to patients alone. Furthermore, the stability and continuity provided by a robust leadership team is as important to organizational health as to patient health.

Table 3: Cognitive-emotional responses during medical school, residency, and practice

Medical School and Residency			
Psychological	Neurological	Sociological	Physiological
Emotional stimuli	Amygdala high-jack	Self-care is weakness	Increase blood pressure
Lack of emotional regeneration	Mirroring	Role modeling	Decreased immune response
Splitting	Power stress	Socialization	Increasing anxiety and/or nervousness
Medical Practice			
Acquired situational narcissism	Mirroring	Rewards and recognition	Increased cortisol
Depression/anxiety	Power stress	Paternalistic practices	Alcohol/drug dependence

This literature review began with an attempt to answer the question, what are the best development practices currently available to aspiring physician leaders, revealing that this subject has received minimal attention. The lack of scholarship led the researchers to seek a better understanding of the cognitive-emotional responses to medical school and residency to inform our practices today as healthcare develops future leaders, and answer the question, is the transformation from physician-clinician traumatic, and how can leadership development efforts minimize that trauma in the interest of advancing highly skilled physicians to highly skilled and authentic leaders?

Methods

The purpose of this study is to understand the perspectives and experiences of emerging physician leaders. The researchers will explore the reality of the participants' experience in

relation to the process of development from physician-clinician to physician-leader, drawing heavily from their emotions, tone, and body language, to find the hidden meaning of their development experiences. Coupled with the lack of substantial knowledge about physician development needs, this study is ideal for a qualitative methodology.

A discussion guide will serve as the tool to better understand and explore the participants' experiences, thoughts, and emotions by uncovering the true experience of the actors as they transitioned from clinician to leader, elements missing in a traditional survey. This will also serve as the primary means to explore the best practices as well as missed opportunities for developing physician leaders. As validity is a common criticism of qualitative research, the researchers will ensure validity through the practices of credibility, dependability, transferability, and confirmability.

Research plan and sampling

This research used a purposive sampling plan to recruit 15 - 25 physician leaders who have functioned, or are currently functioning, as a physician-leader at an executive level. In order to look for patterns in physician-leader experiences there will not be any geographical limitations. This sample will inform the research about the entire scope of the leadership development journey, spanning throughout the leadership ladder. In addition, this group will bring a depth and richness of experience that may not be shared by others.

Data collection methods

Subjects participated in interviews. Face-to-face interviews were the preferred method, but geographical limitations and time constraints required more telephone interviews than in-person. Additionally, the researchers limited the interview time to one-hour. As is customary in qualitative research, the researchers functioned as the research tool, collecting not only anecdotal

evidence, but human reactions to their experience. For the purpose of this study, the researchers also employed a data collection tool or interview guide (Appendix B) as part of the participant interview process. Data analysis followed using a coding format to identify patterns and themes.

Data Coding and validation

Data coding and analysis used an open coding method to develop concepts, categories, and properties, designed to capture the experiences of physician leaders. For the purposes of this research, substantive and theoretical coding captured a variety of themes early on. Complete data saturation was reached early in the process with no new information presenting after 10 participants. The researchers carried out six additional interviews to test and validate that assumption. Researchers relied primarily on triangulation as the primary means of data validation, while ensuring participant confidentiality. As part of the interview process, a rich and detailed narrative emerged providing researchers with a sense of the participant's experience.

Participant characteristics

Participant characteristics were wide and varied. Most notable: a lack of female perspective and a lack of ambulatory care representation. Of interest was the number of both emergency and internal medicine participants, representing half of the CMOs overall. Overall characteristics and demographics are represented more fully in Table 4.

Table 4: Cognitive-emotional responses during medical school, residency, and practice

		Total
Gender	Male	15
	Female	1
Age	40 - 49	5
	50 - 59	5
	60 +	6
Medical degree	MD	16
Specialty	Anesthesia	1
	Critical care	1
	Emergency medicine	3
	Family medicine	1
	Immunology	1
	Infections disease	1
	Internal medicine	5
	Neuro-surgeon	1
	Physical medicine/physiatry	1
Years in clinical practice (in years)	1 – 9	1
	10 – 19	4
	20 – 29	9
	30+	1
Years in leadership positions, i.e., Chief of Staff, Medical Director. (in years)	1 – 9	7
	10 – 19	4
	20 – 29	4
Current leadership position	CMO	14
	CEO	2
Years in current leadership position (in years)	< 1 year	1
	1 – 5	9
	6 – 10	4
	11+	1
Leadership or team opportunities in medical school or residency	Yes	2
	No	14

Summary of Findings and Emerging Themes

Central question: *Does the experience of medical school, residency, and practice create trauma in developing clinicians?*

The central research question was asked in part to validate the psycho- and sociological framework that medical school and residency in and of itself is a traumatic experience. Results were both mixed and surprising, only partially supporting the question. Most participants indicated that while it was intense and trying with distressing moments, only five agreed it was traumatic. Half of the participants described their experience as feeling unsupported, primarily because of the lack of opportunity for emotional regeneration during distressing residency events. Distressing as it might have been, many agreed that without the experience, they would not have acquired the necessary skills to be an effective physician.

Question 1: *Is physician leadership development a dramatic, challenging, or even a traumatic experience?*

Research question one was partially supported. About half of the participants shared experiences that left them challenged by unrealistic expectations as they transitioned from a structured physician role to an ambiguous CMO role. As stated by one participant, "I didn't realize the challenge of the transition." For some, the experience was ameliorated by a supportive administrative team. For those that did not receive that support, the transition was lonely and stressful, particularly as they were left to deal with situations that had no definitive right or wrong answer. Others found the position thankless; a vacuum of endless and sometimes pointless discussions without resolution, only to have their expertise challenged.

Question 2: *Was the development experience adequate to prepare you for a role as a senior/executive leader?*

This question was not supported as 13 of the 16 participants indicated that they did not feel adequately prepared or supported in their development efforts. One participant referred to it as haphazard and ad-hoc. Leadership development, considered necessary to prepare for an executive role, was both random and varied. While most research participants participated in some type of formal development (i.e., coursework, graduate programs), it was the informal development (i.e., organizational exposure, team events, etc.) that was lacking.

Most indicated that there was a sense of passing the baton as well as feeling ill-prepared to fully participate in organizational decision-making and operational level conversations. For many the language of finance and strategy was the greatest barrier. As such, they were left to navigate operational complexities without any operational guidance. The degree of development and related support was limited to the empathy, structure, and strength of the executive team. Those with a supportive team had a much more positive experience overall.

Question 3: *What can be done to reduce further trauma to physicians as they transition from clinician to leader?*

This was an open question to physician leaders whose experiences and perspectives shaped a real and deep sense of what was needed for the next generation of physician leaders. Responses trended around the reoccurring themes of the need for time to learn, develop, and master the art of leadership. This was followed closely by the need to support development with mentors and/or executive coaches.

Patterns and Trends

As it relates to the central research question, while not entirely validated, it is important to call out the themes that did emerge. Most consistent was around the lack of feeling supported during medical school and residency, and the resulting *psychological stressors* identified as such by some of the participants.

Psychological stressors: non-supportive environment

Residency had a unique form of stress, called out by some as psychological stressors. Referred to as severely hierarchical, fear based, and dictatorial, of particular note was the significant impact by Chief Residents. Anthony, termed them "classic demagogues." Greg shared his experience with one Chief Resident who enjoyed torturing new residents by placing both new physician and patient in situations in which both suffered. Peter, had a similar experience, like being supervised by residents who enjoyed wielding their position with the game of *got-cha.*

Mostly it was the experience of isolation during times of crisis. These were identified as performing new or difficult procedures, and/or the occurrence of medical errors, compounded by shared experiences that consisted of periods of isolation and a lack of support. Peter shared an experience of ordering the wrong medication during his cardiac rotation, realizing his mistake too late he recalls, "feeling nauseated and sweating, and really just want[ing] to pass out." In this setting he recalled, "you can't admit that you made a mistake, you're really unsupported."

Experiences similar to this were mirrored by others who shared instances during residency that left them feeling emotionally detached and isolated. Jonathon recalls, "as physicians we're trained to withhold our emotions and be like a machine. This is where medical school does us a disservice. I remember my first patient who died – there was no one to talk to."

Stephen recalls a similar situation, "[the] neuro rotation was traumatic from an emotional perspective; it was hard because you had to detach emotionally. It's a situation of buck up, but we were all in it together."

Many reported that medical school and residency were so highly stressful that they took a physical toll in an environment that nurtured competition and autonomy. As experienced by Ron, a 25-year practicing neuro-surgeon and now CMO, he recalls the immense competition that was present from the beginning,

> its all about getting to the next rung on the ladder, which will get you into the right residency program. Shifting to a team based approach meant that someone else might have gotten that coveted spot. As such, medical students had less propensity to work collaboratively

The autonomy competency is well honed in medical school and residency as Peter recalls, "coming to the aid of your teammates was not taught at all. This comes out very strong, and docs are not used to functioning as a team."

Developmental Opportunities

As it relates to all three research questions a general trend emerged around the ability for the time and grace to learn new soft skills. Most notable were challenges related to role stress and leadership comportment. Instances of role stress occurred 40 times, with 86 specific references. Leadership conduct, role models, and time were all stated as development essentials – requirements for adequate leadership assimilation. The need for developing leadership conduct occurred 75 times, with 178 references. While positive role modeling (which includes mentoring and executive coaching), and time stood out as strong trends as well.

Role Stress. Role stress can be one of the most complex and confusing aspects within any organization. Considered a panacea term that encompasses the disparity between individual

perspectives and role characteristics, for the purposes of this research it will also include the degree of loneliness expressed by many physician leaders.

The sense of trauma of going to the leadership table was present with about half of the participants. Many expressed a sense of abandonment, uncertainty, loneliness, and isolation. Additionally there seems to be a great deal of confusion as it relates to the role of CMO.

Role of CMO. While there is no standard definition of the CMO role, participants expressed concern over what felt like a lack of understanding within the executive team. The expectation among participants is that they bring their expertise and function as a CMO specific to patient safety and quality. Yet, according to Tim it's not enough to have even the clinical team aligned,

> you get to the [administrative] team and you feel displaced. You don't belong. Certainly not in the early phases. Once you're seen as an administrator, that's when you loose the connection to the physicians. In order to drive the patient and quality changes and be a physician advocate you have to be frustrated in your administrative role. You have all these people on the leadership team who truly believe they have a voice. They're making decisions, and my experience is not even considered! The sense from administration is that you're just a bunch of prima-donna doctors.

For others, the lack of direction, clarity, and feedback was the greatest challenge. Consider Andrew's experience, "the job description is vague, you don't get a lot of prioritization they let you do what you want. I don't have a lot of feedback, people are reluctant to give [physicians] feedback." According to Sam, the difficulty arose after moving from an administrative or managerial to executive role,

> there was no preparation for understanding the strategy. They [admin] may not even know what the job is. The senior leadership team assumes that the CMO knows, so they keep the doc in the box. As such, I lacked the sense of adequacy that I felt naturally in clinical practice, this can be very damaging to young executives

Jason shared that as the CMO "it took me a year of building credibility before I was even placed at the table." Ron summarized it simply, "I no longer felt like my contributions mattered."

Lonely role. There is an old leadership adage, *its lonely at the top*. The difference in the operational world is the connection and support to each other. In the CMO role, that support and connection was limited by both the continuity and compassion of the leadership team. For some, a strong, focused executive team helped with both the clarity and the conduct. Ron one of the few physician leaders with a supportive team explains,

> if your leadership team is not willing to be patient with you and soften the rough edges it could be quite different. You really need to be emotionally aware to dial it down. I was lucky that I was given that time. Had I been plopped right into that CMO role it might have been a different outcome

For most, they experienced a non-supportive leadership team. As shared by Tim, "the administrative team did nothing to help you get out of your shell."

This detriment is further compounded by the loss of peer-physician support and role-expertise. There is a strong bond among physicians. Not because of title or degree, but the shared experience of loss through medical error, lack of support and resulting survival skills, and the need to push on despite anxiety, despair, grief, and sleep deprivation. Introduce two physicians and an automatic bond surfaces, rarely understood by others due in part to experience and the fraternity of medicine: a dedication to patients and saving lives. These are experiences that no one person in any administrative role can understand. That places the physician in a lonely space in their leadership role. One of the most compelling themes was related to role stress, ambiguity, all with an acute sense of increasing visibility and a recurring sense of feeling unsupported.

Andrew has given up all social interactions with physicians. In his role as CMO, he recognized that sometimes letting colleagues go was the right decision for the organization. Still, he bemoans

> it becomes more difficult to maintain friendships. I won't go to doctor parties any longer, there is no longer a socialization aspect to it. No one ever told me what I was supposed to do [thinking] its changed my relationships with other physicians. My peers have shifted from doctors to administrators

When asked by the researcher if that was a lonely place, the participant nods in response, "yes, it's definitely different. I've lost a lot of social aspects." Mark concurs, "it's a lonely role – not fully accepted by either [physicians or administrators]. Tim experienced almost complete professional isolation, "once you give up clinical practice the residents wouldn't even talk to you – they look away and don't even acknowledge you." Only those participants who maintained even the slightest clinical connection expressed minimal loss in this area.

Overall, confusion over the role and expectations might be one of the most frustrating aspects of physician leadership development. Punctuated further by the loss of physician peers and clinical connections participants expressed misgivings by leaving their clinical vocation.

Leadership Comportment. One of the strongest themes was the notion of leadership conduct, the subtleties of leadership that make you effective in your role; the hard lessons that administrative leaders learned long ago. For many business leaders, learning occurs over time and explicit development opportunities like formal education, observation, and multiple feedback iterations.

Many physician leaders are not provided the same development opportunities. The most common path to leadership advancement into leadership roles was being voted into the position, without any opportunity to increase their leadership development, function, or behaviors. For nearly a half of the participants, the transition into leadership came as a result passing the baton, or being in the right place at the right time. Many shared that it was just their time to serve. In these roles, physicians often rely on maintaining a strong bond with one-another, with many not

fully understanding their role, scope, or function as a leader (J. Younger, MD, personal communication, April 14, 2016).

Consider Andrew's first experience. As the medical staff VP, he found himself taking on a tense investigation. The president had recused himself leaving a green leader to manage a complex situation involving unethical physician practice. For Mark, it was two separate incidents around poor communication. He concludes that lessons in leadership by trail-by-fire are painful, consider his immersion,

> at the end of a conversation with a director, she told me that she felt that she had gotten a good ass-chewing. I saw this as another failure on my part. The learning was that people really understand the power of poor communication. I now have a much greater respect of words and communication overall. The learning is huge, experience is a great, great teacher…what I didn't realize, and now do, is that you're not free to speak even if it's the truth. Its about seeing the whole picture and these are the lessons that you're not prepared for

Not all participants had difficult experiences, but the lack of formal development meant that the subtleties remained elusive. That was the experience of both Sam, "how to communicate with them as I entered their culture…this can be very damaging to young executives" and Jason respectively,

> even once I took on this leadership role, there was no focus on development…there was a long learning curve it was mostly on the job training, being thrown into situations that you were not trained for. I was kind of dumped into the role, this could be considered traumatic

Time. There seems to be an ideal and/or expectation that physicians should transition easily into leadership roles. Time -- a repeated expression with 60 occurrences and 97 specific references from all 16 participants – was a luxury not afforded to many. Themes included, the grace of time to learn new skills, understanding the broader organizational context, followed by the expectation that because we're physicians we should just get this. There was need for time to

develop an entirely new language and skill set, while learning the complexities of organizational demands. Consider Margo's perspective on leadership essentials, time, and repetition

> physician leadership is no different than leadership in other fields. Its all about change management, but this is neither taught nor felt that to be needed to be taught in the leadership positions in medicine. I needed to learn that and I learned it through seeing it modeled and hard knocks – Incremental steps allowed for a foundational philosophy to grow and be tested again and again. Everything gets better with repetition

Douglas also speaks to the need for time,

> its time and breadth of exposure, my scope of activities was wide and broad, [it] provided me with a really large scope of activities and influence, it was a learning experience – on the job training – the ability to apply things in different situations and using the same techniques to think differently

As shared by Tim, it's the ability to understand the differences between the theory and the application, and much of the application may not occur quickly,

> you read about the [leadership] models of behavior, but when it's not in practice it's difficult to develop. You understand the concepts, but the experience is the exact opposite. Medicine was so easy, there was so much experience and training, its second nature.

Eventually however, "you develop a tool kit of leadership qualities and skills. Some experiences, some didactic; some in forums. Its an additive process" (Jason). Perhaps Ron expressed it best,

> suddenly, I am interacting with these people in a completely different way, its, who am I rubbing the wrong way? You have to learn it pretty fast, you don't get 20 years to learn it. I had 25 years of a gradual learning curve, I didn't have 25 years of innate subtleties of what to do or not to do. Having to think about these [leadership behavior] rather than having them be second nature.

Discussion

The socialization of an aspiring physician begins early with many indicating that medicine and healing was a calling rather than a vocation. As such, the aspiring physician begins a process of intense focus and study at an early age, with competition for grades and

medical school slots occurring at a very formative time. It is not surprising then that the physician would develop a unique set of skills and perspectives. This could explain why experiences considered traumatic by most are simply stressful to them.

Perhaps time does really does heal all wounds. With medical school and residency in the distant past for most participants, it is possible that the trauma has softened over time. When asked specifically about it, the most immediate responses indicated that it was not traumatic. Stressful, distressing, difficult, and challenging, but generally not traumatic. Only after some reflective consideration did a few participants conclude that there was a degree of trauma. This was described as not only the fear of harming a patient, but the fear of being yelled at, disrespected, and ultimately not being good enough.

Driven by a unique set of motivators and circumstances, it could be that the physician brain develops differently than others over time. As explained to this researcher by a retiring physician,

> I didn't watch TV in high school, even though it was new and everyone was talking about the show they were all watching. From the earliest days I knew I wanted to be a doctor. All of my free time was spent studying, I didn't do the normal things that kids do (R. Crick, MD, Personal communication, March 8, 2016)

Consider the perspective from Beck Weathers, MD who achieved notoriety in a failed Everest expedition of 1996. Being 'Left for Dead' (2015), he was left on Everest after experiencing extreme frostbite and altitude sickness; he shares his transformation from quiet pathologist to key note speaker explaining,

> pathology as I know it is an idiot savant skill practiced in a room by oneself. While pathology is a fascinating career and presents interesting puzzles to solve, it is not exactly what you would call a people profession (p. XI)

Developed during the early to mid-20's, the frontal cortex is responsible for the understanding of others along with other higher level emotional functions. It is conceivable that

the natural propensity for reading body language is neglected, therefore making the leadership subtleties more difficult to develop over time. This may also explain the nuances of many intellectually smart people, who often are known to lack emotional intelligence (Goleman & Boyatzis, 2008). Consider Mark's inability to read the body language that caused frustration.

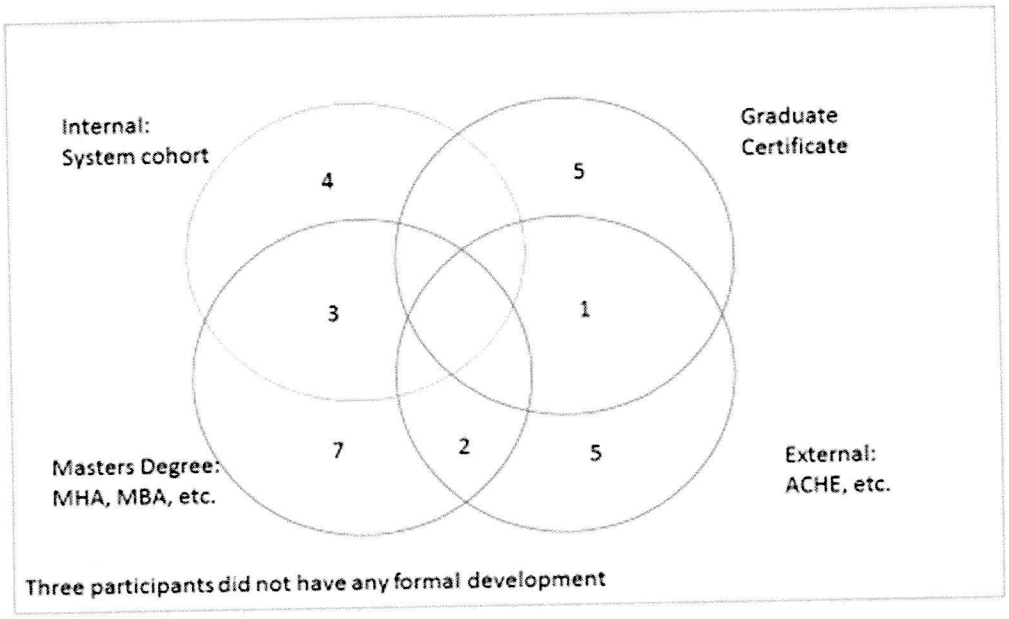
Perhaps through their training and education, physicians become hard-wired to act on stimuli that creates a response in which they are in search of a greater sense of reward. This could be explained by an over-development and -reliance on the nucleus accumbens, the area of the brain that seeks pleasure and reward. In MRI Studies younger subjects exhibit significantly greater responses to medium and large reward when compared to adults (Powell, 2006).

Further, this may explain why many participants called out the loss of definable and/or rewarding activities such as patient care, as compared to the work of leadership, which often has no definable end or reward. This is reinforced by Andrew's experience that physicians are simply treated differently, thus reinforcing both social cognitive theory and ASN. Similar experiences were documented by Boone (2002) in which CMOs expressed a sense of futility brought on by the inability to accomplish anything meaningful.

Compounded by the loss of collegial support and a steep learning curve, the transition is stressful at best. Most of the participants in this study, marked a noted absence of development opportunities generally afforded to their administrative counter-parts. Yet, the same leadership expectations were present, and often flanked with difficult ethical or quality implications as they as they transitioned into their role.

Referring to figure 1, it is apparent that many of the participants had some formal exposure to leadership development, through courses and/or lecture series.

Figure 1: Physician leadership development opportunities



Despite the formal development opportunities, it is the informal opportunities (project work, stretch assignments, development in place) that appear to be the missing element in physician leadership development. According to Tim, "the [masters] degree was great, but you don't have any experience, and you can't get the experience."

Most participants indicated that they were left to figure it out on their own; others relied on personal resources, such as the cost for an executive coach or incurred the cost of another graduate degree. Applying a generalization rule, it can be inferred that many other physician leaders have not had privilege or access to the development pathways to aid in their success. This finding is consistent with the results from a 2012 study on physician and nursing burn out (Ozkan, Celik, & Younis). Though their study examined hospital based physicians findings indicated a strong correlation (.05) of role stress to inadequate training.

Socialized in an environment where leadership attributes are not widely modeled, physician leaders need to be exposed to more development occurrences. Whatever the case the

research points to the need for organizational leaders to understand that the physician experience is uniquely different than any other.

Recommendations

Healthcare organizations have promoted a group of physicians, highly educated and respected individuals functioning in highly specialized roles, into leadership positions. These physicians who developed their skills from a place of stress at minimum, are now placed in a role where they are exposed to more stress. Often, they are left to navigate uncertainty and complexity, finding their expertise questioned, all while learning the language of business. Additionally, they are expected to navigate the complexity of human nature and team dynamics within an increasingly complex environment from a background alien to them. The expectation that as smart, well-educated, and intelligent people they'll be able to pick up on the subtleties of effective leadership comportment in situations of high stress and ambiguity is unrealistic.

Role Models

Of all the themes, the idea of role models, which includes executive coaches and mentors, was called out as a significant need or development experience for all 16 participants. In the situations where participants had such resources they were better able to navigate the complexities of the executive table and leadership conduct, within the relationship to time.

Time

It is assumed by the nature of their degree that physicians are leaders, but the subtleties of leadership conduct are developed neither quickly nor within a vacuum. Many physicians take on leadership roles early as chief residents, chiefs of staff, departmental directors, and/or medical staff officers; formal leadership development should begin prior to these appointments. This

would also provide emerging physician leaders greater exposure to organizational context, business acumen, and working as parts of teams.

CMO role

Identified as stressful, role ambiguity was present for most of the participants. More frustrating however was the lack of understanding among the leadership team. This occurs as two separate incidents: 1) the executive team itself is conflicted by physician presence and 2) they may be reticent to provide peer mentoring or coaching. The executive team needs to work on how to better understand and integrate the CMO into the overall work of the hospital. Additionally, the leadership team must model appropriate behavior.

Allow CMOs to maintain a clinical presence. Even a minimal clinical presence could alleviate stress among developing physician leader by ensuring that aspiring physicians can maintain their both their skills and their connection to physician-peers while keeping abreast of important quality concerns. This is one of the greatest challenges to healthcare today. For many CMOs the demands of the role severely limit the amount of time that can be dedicated to clinical practice.

The cost of leadership development

Health organizations must recognize the need to support physician leaders with time and resources so that both can take full advantage of development opportunities and leadership outcomes. Participants found the financial disincentives to participate yet another barrier to leadership development. Those still functioning in a clinical capacity experienced the loss of both RVUs and productivity. Many also bore the additional out of pocket costs of graduate school and/or executive coaches.

Physician culture

Finally, no clear leadership pathway to leadership exists within medical school, residency, or practice. Even in the role of Chief of Medical Staff, physicians are still functioning in a space of their peers and vacuum of patient safety and quality. As such, they are not exposed to leadership behavior or organizational context that extends beyond the scope of the patient.

While some medical schools are developing these pathways as part of their curricula, health systems, hospitals, and ambulatory groups could create early pathways to provide opportunities for development over time, and exposure to role models. Clearly defined roles and expectation to alleviate the stress of moving into leadership roles including more opportunities to put theory into practice in a culture that honors competition and autonomy.

Further research

This study initially attempted to answer the question, what can be done to improve physician leadership development. Responses were enlightening in many ways, prompting more questions, and the need to continue this research. The most notable and missing feature of this study was the lack of female physician executives. With only one female participant, the voice of the female physician was not fully represented. The other underrepresented area was the ambulatory care sector. There is particular need for understanding leadership development in this setting as healthcare is moving towards an accountable care model in which all clinical support members need to be functioning at the top of their license. The most significant limitation was time. Due to the nature of the CMO role, interviews were restricted to one hour. Longer interviews would have most likely deepened the narrative, and provided a greater complexity of challenges. In addition, the allied health and professional clinical roles will continue to experience resource needs.

Eight of the CMO participants were specialists in either emergency or internal medicine. It was reported to the researchers that both specialties required a tendency to team involvement and/or managing ambiguity. Hojat, Erdmann, and Gonnella (2013) refer to this as a current need as well, referring to it specifically as benign neglect. Opportunity might also exist to correlate physician leadership development to the four variables (role stress, leadership comportment, and time) identified within.

Finally, this research flirted with the idea of the developing brain and questioned if the physician brain developed differently over time. Further cognitive assessment would be of valuable research to better understand the role of stress in developing physicians and the ability of aspiring physician leaders to best develop.

Conclusion

In the light of the current healthcare environment physician leadership is more important than ever. More and more physicians are being asked to lead significantly complex change in a fast-paced environment. This research attempted to answer the question of how do we best develop physician leaders in the context of medical school, residency, and clinical practice challenges. Moreover, how do we make this transition from clinician to leader as meaningful as possible. Most participants did express some degree of frustration with their development journey, most notably in the areas of support, or lack thereof, in learning how to speak the language of their administrative counterparts, their role, and leadership behavior. In light of transformational healthcare nationwide, health system compression, increasing complexity, and the changing population, physician leadership will continue to increase in demand. Providing development opportunities in which all stakeholders (i.e., patient, allied health clinicians, and physician) thrive will be key to current transformational changes.

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