The four Cs of physician leadership: A key to academic physician success

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ABSTRACT

Leadership is increasingly recognized as important in medicine. Physician leadership impacts healthcare delivery and quality. Little work has been done to determine how physician leadership in practice aligns with established models in leadership theory. We conducted 40 semi-structured, 50-minute interviews of physicians who had achieved the rank of professor in our school of medicine and were serving, or had served, in leadership positions. We used an inductive content analysis approach to identify content categories, with leadership emerging as one such category. Subsequently, for the present study, we performed a secondary analysis of the data. To do this, we reviewed all transcripts, seeking to identify if and how participants discussed leadership in relation to success in academic medicine. Following identification of subcategories related to leadership, we performed qualitative content analysis. We then used a deductive content analysis approach to determine how participants' discussions of leadership aligned with major leadership theories. Then, the principal investigator conducted a secondary inductive content analysis revealing leadership themes that were synthesized into a new model of physician leadership. Twenty-nine participants spontaneously discussed leadership and leadership-related topics as important to their own academic success and comprised the present study cohort. Participants identified contributors to leadership success that aligned with multiple major leadership theories, including leadership traits, skills, behaviors styles, and situational leadership. None of the leadership theories aligned completely with our physician leaders' discussions, suggesting an alternate leadership framework was operating. Further analysis revealed a new model of leadership comprised of the "Four Cs of Physician Leadership": *character*, *competence*, *caring*, and *communication.* Our participant group of academic physicians identified leadership capabilities as being important in their academic success. While they discussed leadership in ways that fit to varying degrees with the major leadership theories, their discussions revealed a novel, more holistic leadership framework. Further work will be beneficial to determine if this model of leadership is specific to physicians or is more generalizable.

Introduction

Leadership by physicians is critical for successful functioning of the healthcare system (Souba, 2004). Physicians serve as leaders in multiple contexts including influencing the care of individual patients, guiding clinical teams, and directing health-

care systems and national organizations. Studies of leadership among physicians in these contexts demonstrate a mixture of findings. Physician leadership has been suggested to be vitally important in improving healthcare outcomes and cost by focusing on value (Porter & Teisberg, 2007; Trastek et al., 2014). Additionally, effective physician leadership has been associated with improved clinical outcomes, increased physician engagement, and decreased physician burnout (Shanafelt, Gorringe, et al., 2015; Shanafelt, Hasan, et al., 2015).

Despite these factors, many physicians are hesitant to engage in leadership roles, whether due to viewing them as an unappreciated duty (Dickerman et al., 2018; Quinn & Perelli, 2016), having an aversion to the politics involved, and/or seeing leadership as a time burden (Collins et al., 2022). Further, most physicians overestimate their own leadership capabilities (Collins et al., 2022). In the face of these findings, the majority of physicians believe leadership training would be beneficial (Collins et al., 2022), with some authors advocating for leadership training starting in medical school or earlier (Arroliga et al., 2014). This concept of early physician leadership development has been embraced and instituted in some European countries (Berghout et al., 2017).

Within the field of leadership studies, there are multiple leadership theories, with arguably five major theories founded on leader traits, behaviors, skills, styles, and the given situation in which the leadership occurs. The earliest leadership model was based on a leader's *traits*: physical, constitutional, personal, and social characteristics that were attributed to success as a leader (Jago, 1982). Subsequently, leadership studies explored *behaviorally based models* framed on a system of interaction between "concern for people" and "concern for task" (Blake & Mouton, 1964; Stogdill & Coons, 1957). Theories focusing on *skills* promulgate the idea that successful leadership is the result of a leader possessing specific proficiencies, with the corollary that the absence of given skills results in poor leadership (Katz, 1955; Mumford et al., 2000). Leadership models based on a leader's *style* suggest it is not a leader's skills or behaviors, per se, that affect successful leadership, but rather how they go about leading (e.g., transformational leadership, emotional intelligence-based leadership, servant leadership, etc.) (Burns, 1978; Goleman, 2000; Greenleaf, 1977; Lewin et al., 1939). Conversely, the *contingency model of leadership* (also known as situational leadership) presents a system of interaction between the leader's support and direction of those they lead (Blanchard, 2007; Hersey & Blanchard, 1969, 1977). These major theoretical models of leadership are largely framed through narrow, often-binary lenses (e.g., people versus task, transactional versus transformational, presence or absence of a given trait, behavior, or skill) and could be characterized as reductionist.

The few studies investigating the application of leadership theories to physician leadership have been focused in specific specialties. Saxena et al. (2017) found that physician leadership style differs depending on the physician's positional level of leadership. Among bariatric surgeons, for example, those with a leadership style described as "constructive" or "passive" have been shown to have better surgical outcomes than those described as "aggressive" (Shubeck et al., 2019). Additionally, among surgeons, a transformational leadership style has been associated with enhanced team behaviors (Soenens et al., 2023). Beyond these few studies looking at specific leadership theories and physician leadership in well-circumscribed medical arenas, various studies have investigated individual physician traits, skills, and behaviors as they pertain to patient experience (Martin et al., 2023) or the prevalence of those within a given specialty (Sier et al., 2022).

To our knowledge, no studies have sought to synthesize a holistic leadership theory or model that applies to physicians. Such information could be beneficial in designing physician career development programs and for individual physician faculty building their academic careers. Therefore, in this study, we sought to understand two things: i) how physician leaders in an academic center view the role of leadership on their academic career success and ii) if physician leaders' perspectives on leadership might provide a holistic leadership framework/theory for physicians.

Materials and Methods

The Physician Leaders Study (PLS) was a single-center, qualitative, cross-sectional investigation of academic physicians. The aim of the study was to address a fundamental research question: What are the contributors to career success amongst academic physicians? The study was approved by the institutional review board of our university's school of medicine (protocol #56839). Potential participants were invited via email to participate. Each potential subject received a study information sheet describing the study purpose and procedures, as well as standard regulatory information such as risks and benefits, participants' rights, and contact information. Participation in the study was deemed implied consent. Study interviews were conducted from November 2020 through December 2021.

Physician leaders study overview

The PLS was a qualitative study combining inductive and deductive methods. We performed study interviews using an inductive content analysis approach: Initially, we made observations, identified a pattern in the data, developed a hypothesis, and created a cohesive theory (Vears & Gillam, 2022). Major themes/categories and subcategories emerged demonstrating perceived contributors to physician success in academic medicine. Then, for the present study, the principal investigator conducted a secondary inductive content analysis revealing leadership themes that were synthesized into a new theory of physician leadership.

Participants

Participants in the PLS were professors with current faculty appointments in the school of medicine who currently or previously held leadership roles within the school. A purposive sampling technique was employed (Cochran et al., 2019). Participants were recruited in a stepwise fashion beginning with leaders in the principal investigator's clinical division (Pediatric Cardiology), followed by the Department of Pediatrics, and subsequently the broader school of medicine. In keeping with a purposive methodology, additional participants were identified after the study was ongoing with the goal of achieving a robust study cohort with equal representation of men and women, which was set a priori at 20 in each of the two groups.

Interviews

Interviews were conducted by a single interviewer (M.S.) with training and experience in qualitative interview methodology. Interviews were scheduled for 60 minutes according to the

availability of the interviewees with the intention of spending at least 50 minutes conducting the interview. All interviews were conducted via videoconference using Zoom (Zoom Video Communications, San Jose, CA). With interviewees' assent, the sessions were recorded. When interviewees declined to be recorded, manual notes of participants' responses were taken by the interviewer. There was no a priori conceptual framework employed to shape the interviews (Glaser & Strauss, 1967; Vears & Gillam, 2022). The interviews were initiated with the question, "What are the experiences, aptitudes, and competencies physicians need to be successful in academic medicine?" Based on participant responses to this opening question, the interviewer asked clarifying questions to allow participant to develop their comments more fully (*Supplemental Table*). Some questions were iterative as early, distinct concepts emerged (Table 1).

Upon completion of each interview, the audio recordings were transcribed using an online speech-to-text transcription service (Rev.com, Austin, TX). The transcripts were deidentified and assigned the study identification number. The interviewer reviewed all transcripts against the audio recordings and edited them for accuracy as needed. The finalized transcripts were uploaded into a secure, web application for managing, analyzing, and presenting qualitative and mixed-methods research data (Dedoose Version 7.0.23, SocioCultural Research Consultants, Los Angeles, CA).

Codification and thematic review

As the PLS interviews occurred, the study interviewer identified several major themes rapidly emerging as unanticipated (to the authors) contributors to academic success. As these major themes emerged, they were arranged on a virtual canvas, allowing for mapping of relationships amongst themes and subthemes. Themes in the data were identified by respondents' use and repetition (across respondent interviews) of particular terms (e.g., "lead," "leadership," "influence," etc.), phrases, and/or concepts (e.g., "must be trustworthy," "set a vision," "help them succeed," etc). Throughout the course of the conductance of the interviews, the emerging themes and subthemes were reviewed in a group context with two other study team members (R.T.C. and R.A.S.), and those other study members provided feedback on the codes, concepts, and emerging themes. Upon completion of the interviews, the study interviewer analyzed and codified each transcript in accordance with inductive content analysis (Vears & Gillam, 2022). Specifically, informed by the foregoing discussions and group meetings, the interviewer made observations and identified given patterns and themes in the data. The study interviewer completed the initial inductive coding phase for all transcripts and assigned topical codes for sections throughout the texts (Singh & Estefan, 2018). This analysis of the transcripts was conducted in a three-part process, beginning with open coding of small segments that generated categories, moving to defining the categories, and finishing with selective coding of an overarching theory (Cochran et al., 2019).

After completion of the initial inductive coding phase of all transcripts, the interviewer reviewed the completed coding with the two other study team members (R.T.C. and R.A.S.). These two team members then individually reviewed the transcripts in the same inductive manner, using iterative coding to assign topical and concept codes into emerging groups surrounding specific concepts—in the present analysis, i.e., leadership. This process fostered further dialogue and provided direction with evolving thematic categories (O'Connor & Joffe, 2020). After completion of this stage of review and coding, the group again reviewed and discussed the virtual canvas of themes and subthemes. These themes and subthemes were then used to form conceptual models for given major themes (e.g., leadership).

Leadership as an emergent theme

As the inductive content analysis unfolded, the theme of leadership unexpectedly emerged as a contributor to academic success. Because of the frequency with which participants discussed leadership as being important when they were asked what experiences, aptitudes, and competencies physicians need to be successful in academic medicine, we determined to explore it further in this analysis. Those 29 participants who discussed leadership constituted the cohort for this secondary analysis on the role of leadership in academic success.

For the present work, after the initial thematic review and codification, the study team members reviewed all 40 transcripts in the inductive manner previously described seeking to identify concepts of leadership. Leadership-related concepts were defined in accordance with the Leadership Management Concept Scale (Collins et al., 2023). Notably, none of the original study questions were related directly to leadership. Thus, the data acquired from the interviews represent the participants' spontaneous discussions of leadership and leadership-related topics within the context of their discussions on success in academic medicine.

After the completed inductive review of the transcripts for leadership-related data, those data were analyzed using deductive content analysis. For this present study, we analyzed the data through the lens of the established leadership theories using predetermined codes and confirmed the hypothesis (Vears & Gillam, 2022). Specifically, responses were analyzed to determine if they were most representative of leadership theories regarding leader traits, behaviors, skills, style, and situation. One author with expertise in and an advanced degree in leadership (the principal investigator [PI]) performed this deductive content analysis of the transcripts and allocated those to the appropriate leadership theory frameworks. The PI subsequently performed secondary inductive content analysis of the transcripts and identified major themes that were then synthesized into a holistic leadership theory.

Table 1. Principal qualitative findings.

Finding
Leadership positions are often viewed as both contributing to and being indicative of success in academic medicine.
A physician's leadership capability plays a significant role in achieving career success in academic medicine.
Physician leaders discussed leadership in ways that ranged across the major leadership theories of traits, behaviors, skills, styles, and situation, demonstrating that none of the theories adequately describe physician leadership.
Physician leadership in this study fit within a novel, four-part model comprised of *character*, *competence*, *caring*, and *communication*.

Results

Of the 29 participants for this study, 59% were male, with a median age of 57. The median time as a full professor was eight years, and each participant had served in a prior academic leadership role.

Leadership as an important contributor in academic success

Participants commonly viewed reaching leadership positions as being synonymous with achieving success in academic medicine. For the majority, their framework of leadership was tied to formalized roles with accompanying positions; that is, when they expressly used the word "leadership," they were referring to formalized leadership roles. Participant 22, a department chair, exemplified this perspective when she said, "success could be defined as achieving a leadership position in any of the academic parts of medicine." Only a few participants reflected on leadership as being outside of a formal position, i.e., the formal practice of leadership, which henceforth will be broadly defined as "Influencing the actions of others to achieve mutually beneficial goals" (Collins et al., 2023, p. 670). This view that leadership contributes to academic success was also alluded to by Participant 23 when she spoke of the need to "set a vision," learn "the leadership style that engages people," and "build enthusiasm and joy through your leadership." As exemplified by Participant 1, our participants "[weren't] striving to be leaders" solely for positional titles, but rather, "[were] doing it because it [was] the natural thing" as they progressed in their careers.

In discussing leadership and career progression, Participant 12 said that he "always thought about leadership [...] as something you get after you've accomplished something like recognition." However, he came to realize that "leadership opportunities" are "really helpful to get the next bigger thing done." This idea was mirrored by Participant 10, a former department chair, who said his role as a leader "was not to be a leader," but rather, "to be able to do things that being a leader was necessary to do." This view of leadership as an indicator of career progression and a means of accomplishing bigger things was typical.

While many participants viewed leadership positions as something attained as part of successful academic career progression, others focused more on leadership as a practice or way of being that is separate from a titled role. Participant 31 exemplified this by saying, "being a leader isn't about me having a title." Instead, for her, leadership is about "being able to look out for" and "support" the faculty members she leads. Participant 5 also challenged the notion that leadership connotes a title by saying, "every physician in their own right is a leader, a de facto leader." This is because "they are running teams on a daily basis" and "having a relationship with patients."

Physician leadership encompasses the major leadership theories

When viewed through the lenses of the five major leadership theories, our physician leaders' discussions included components of all of them: traits, behaviors, skills, style, and situation. When discussing leadership traits, our participants emphasized a leader's i) growth mindset, ii) emotional intelligence, iii) flexibility, and iv) self-assurance as essential cognitive and emotional attributes necessary for success within the context of academic medicine. For instance, Participant 6, a department vice chair, suggested the most important trait for a leader "might be this growth mindset concept,"—the outlook that one's abilities can be developed with effort over time (Yeager et al., 2019)—because "the ability to evolve, and improve and to change [...] is so important to a leader."

Emotional intelligence was a common theme. Participant 40 expressly invoked it, stating, "It comes down to emotional intelligence as much as anything else."

Participant 23 discussed the contrast in flexibility from medicine to leadership, saying in medicine, there is a tendency to think "there should be a right diagnosis and a right treatment," whereas in leadership, flexibility is required to do things "that are different than the way we do it in medicine."

Self-assurance was a trait Participant 19 described as needing to be cultivated by leaders, saying, "I want everyone to like me," but "you're going to go home many days, and there'll have been experiences that people may not be very happy with you," but "you have to […] learn that's okay."

Multiple participants discussed various behaviors conducive to successful leadership with the most common being the ability to i) collaborate with others, ii) know something about and understand your people and what motivates them (henceforth, "know your people"), and iii) delegate responsibilities and tasks. For instance, Participant 17, a former vice dean, said, "You can't solve [problems] by yourself. If you're going to be successful, you have to be able to work with other people." He elaborated that "the ability to work with groups of people or teams and understand the different perspectives and integrate them" is an "important factor" that "increases your chances of success," whether in "leading a division, […] a department, or a school." The value of knowing your people was discussed by Participant 39 when thinking about his time as a division chief and trying to help his faculty be successful: "I can't make them be successful if I don't know what's going on" in the lives of those he leads. Participants also recognized delegation as a learned behavior, as exemplified by Participant 29 who recalled when he became a department chair, "not being involved in every detail" and "grow[ing] comfortable with […] delegation" was something he "learned."

Participants identified communication and the ability to influence others as crucial leadership skills, and the ability to communicate effectively was cited as highly valuable by nearly all participants. For instance, Participant 5 stated that, "Communication is key, especially as a leader." Participants also recognized the value of the ability to influence others. Participant 29 said, "change […] can't just get dictated by one person any more. So, learning how to influence and support an argument […] are skills that help you grow and become more relevant […] as you transition to various leadership type roles."

The majority of participants discussed leadership in a manner that inferred a particular leadership style. Participant 2, for example, recognized, "There are multiple styles of leadership," and leaders "have to understand that" so that they are "able to effectively carry out different leadership activities." Nine leadership styles were identified among participants, with the most common styles being servant, bureaucratic, authoritative, visionary, and laissez-faire. Participant 19 was most overt about a particular leadership style, stating that leaders should "focus on the servant leadership idea." Conversely, Participant 24, a department chair, demonstrated a bureaucratic leadership style when he described "defining roles and setting up barriers where [people know] […] we're not socially best friends." An authoritative leadership style was exemplified by Participant 2 who believed people "want[ed] [him] to be [their]

leader," because they had seen he was capable and would "do the job well for [them]." Participant 23 evoked a visionary leadership style, saying the role of the leader is "to set a vision and be effective in accomplishing it, whether that's like creator, do a research project, or create a new program, or get enthusiasm for a new direction." Finally, those who demonstrated a laissez-faire style of leadership relied heavily on delegating responsibilities to others, for example, "what [they] can periodically [be] involved in" or "just […] get periodic updates" (Participant 13).

Concepts of situational leadership were discussed often and included the two principal components of situational leadership: understanding the people and the situational context in which leadership is occurring. Participant 20 shared that to be successful as a leader, he needs to "get to know [his people] personally," and "understand what makes them tick," because "it's very different" for each individual. By understanding the people, he knows how to "best support" them and "help them succeed."

Awareness of the situational context was also emphasized as important for effective leadership. This was exemplified by Participant 7 who said, "You have to know how things work on the inside" and how to handle the organizational "politics." A part of that, he said, was knowing that "one person is open to suggestions," while another "you never suggest anything to."

A new model of leadership

Despite finding evidence to support the five major leadership theories, participants demonstrated that leadership in academic medicine crosses those five major theories, indicating none is comprehensive as a model of leadership. We repeated an inductive content analysis to identify the most prominent, encompassing leadership concepts that would inform a multidimensional perspective on leadership. This analysis revealed four principal domains of successful leadership: character, competence, caring, and communication. These four domains provide a comprehensive model for successful leadership in academic medicine (Figure 1).

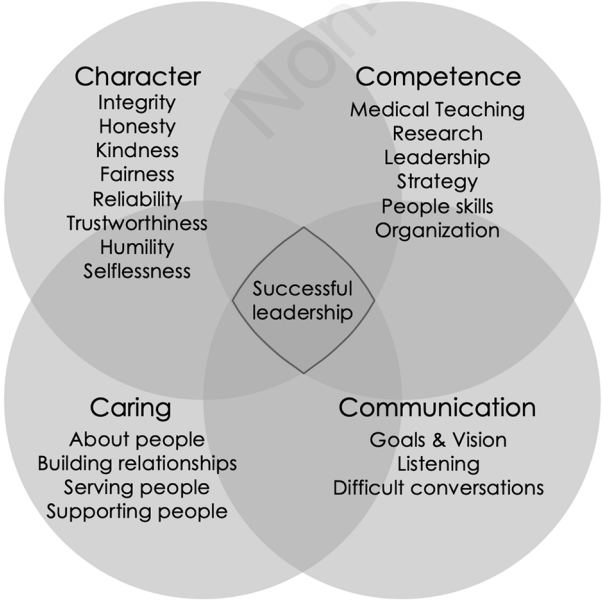

Figure 1. The four Cs of physician leadership.

Character

Participants frequently cited components of strong moral character as being critical for successful leadership, whether by expressly delineating character traits or describing circumstances that exemplified strength of character. Integrity, honesty, kindness, fairness, and reliability were among those discussed repeatedly. Participant 17, for example, said, "I think integrity is critical," before adding other valuable character traits. "People need to be honest, treat people well, and be able to […] think about how you would want to be treated and treat people that way." Participant 2 echoed some of the same ideas about character, recalling

> I was known as […] someone who was fair, someone who was honest, and this gets back to that integrity issue. I think those are all the basic things that allow people to say, "We want that guy to be our leader," [and] "That guy will do the job well for us."

Participant 20 added to the concept of fairness by including the idea of support, saying "Everyone needs to see that you're fair, that you're incredibly supportive of all of them."

For Participant 27, a department chair, her self-image was that of "very much a consensus builder," "honest and predictable," and trustworthy. The people in her department had "to know that if I say I'll do something, then I actually do it," and they could rely on her "to have the back of the people, [and] the department."

Humility and selflessness were also common character traits our participants discussed. Thinking about her own leadership experience, Participant 38 said, leaders must "get along with other people in a humble way," and Participant 1 went so far as to say, "Humility is really the most important part of all of this." He continued, "The most effective leaders out there are functioning in a service role and not in an ego-driven capacity."

Participant 5 agreed that "Leaders need to let go of their ego." He said, "What I think leaders fail to realize sometimes is that the people under them are smart people, probably a lot smarter than [the leader is]."

As he reflected on the shortcomings of "leaders who are not leading well," Participant 6 opined, "I don't know how you teach altruism. I don't know how you teach selflessness." Participant 31 said to "be an effective and successful leader," a leader must "lead by example," and "be pretty selfless." Similarly, for Participant 19, a department chair, leading by example and being selfless meant he was "doing the same things that [he was] asking everyone else to do."

Participant 2, a division chief, confirmed the vital role of character in leadership as he recalled watching a leader take responsibility for a poor outcome:

> I saw one individual in an important leadership position who took responsibility for something that didn't go well, something that didn't work out, something that resulted in a very different outcome than anyone wanted. […] That, I thought, was an example of really good leadership practice, and of course what that comes down to in the most basic sense, it's integrity—all about integrity—which includes honesty, truthfulness, the ability to be direct, the ability to be self-critical. Those all are bound up in leadership integrity. […] seeing examples of that, also occasionally seeing examples where that wasn't done, really solidified the importance of integrity to me.

Competence

Our physician leaders consistently spoke about the role various skill sets and competencies play in successful leadership. The first place the need for competence shows up for academic physicians who become leaders is in demonstrating personal academic success. Participant 9, a department vice chair and division chief, spoke to this philosophy within academic medicine, saying, "Historically, people get promoted into those [leadership roles] because of […] academic qualifications and clinical skills and the respect they have." A department chair echoed this expectation in the context of junior faculty who "want to be a chair when they're in their third year of practice."

> […] it's this whole thing of walking before you run, making sure you develop your reputation as an excellent physician, a go-to person. Be a good educator. Get your research program going. You can't lead until you understand all of those things.

Beyond the expectation that leaders in academic medicine should be academically accomplished, participants discussed numerous skills in which leaders must be competent to be successful. These various competencies can be divided into subthemes of skills: general, strategic, people, and organizational, with further subthemes of delegation and people development within the category of general skills (Figure 2). There was a general outlook among many of the participants that these skillsets could be developed—a perspective best expressed by Participant 2, a division chief, who said,

> No one is born a leader. […] I think that people who are excellent leaders almost always are individuals who've had quite a bit of formal training—formal development training and experience in mentoring and coaching to go along with that.

As our participants discussed leadership and the need to be skilled at various parts of it, some discussed general leadership concepts that are valuable for success. For instance, "the ability to evolve and improve and to change," were recognized by Participant 6 as "so important as a leader." He added, "you've got to be able to adapt […] mature […] [and] evolve. I think that's an incredible skill."

The concept of adaptability was also one that was highlighted by Participant 1 who recognized that "being an effective leader requires a tremendous amount of nimbleness." He said, "There really are not set rules. So, you just have to figure [things] out […] flexibility is really probably the most important thing."

In contrast to the idea of nimbleness, Participant 24 cautioned that when it comes to navigating complex decisions, leaders should "be a little slow to react." He advised, "Don't form a judgment too early. Make sure you got all the facts. […] don't react too early or too quickly to a situation [because] half the time you'll be wrong."

Within general leadership competence, there were two prominent subcategories: delegation and developing the careers of those one leads. Like Participant 6, multiple leaders recognized, "You cannot do it all." Consequently, a department chair (Participant 19) suggested "to be successful, to have adequate bandwidth," leaders "need to be able to rely on other people and delegate for them to do it." A former department chair agreed, saying, "If there's a problem that comes up, and somebody else can handle it, have them handle it, and you only handle things that no one else can handle."

Participant 13 also advocated for leaders to delegate, saying, "the big thing is really understanding where you and your skillset is really needed and how much you can delegate and how much you can just be on a time to get periodic updates." He admitted delegating appropriately can be difficult and acknowledged, "I work with my [executive] coach a lot on trying to just figure that balance out, and what I need to be actively involved in and what I can kind of periodically involved in."

Multiple participants cited the need for leaders to develop the people they lead. Participant 19 tied this development ethos to the concept of delegation, saying leaders need to

> […] view delegation as not simply what may be valuable for you, but it's also valuable for them. So, delegation is also part of faculty development, and you need to not simply task people. But, you have to mentor them and supervise them throughout so that they can become better at it.

Similarly, Participant 35 said effective leaders "figure out how to stand back and support a team to do" the job. Participant 20, a department chair, added, "[In] more consequential leadership […] you become someone whose job it is to create an environment conducive to the success of others."

Competence subtheme 1: Strategy

Multiple physician leaders identified a high degree of capability in creating and enacting strategy as part of their leadership success. Participant 5, a division chief, said a leader has to know "when you have to move into a certain direction," how to "create a consensus," and how lead "culture change." This resonated with a department chair who said effective, strategic leaders are

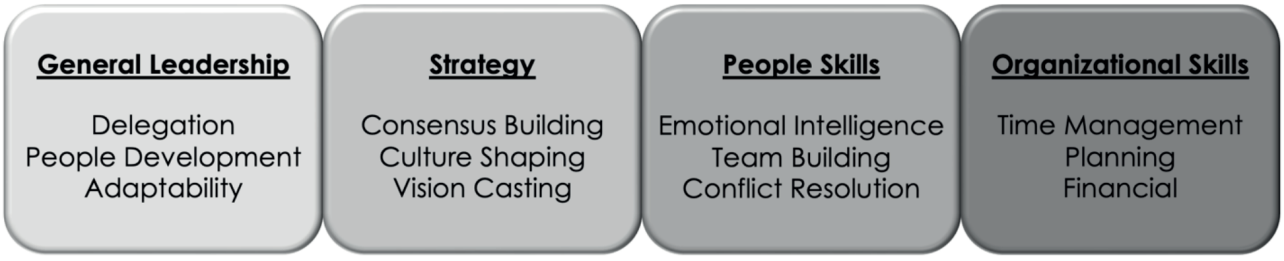

Figure 2. Competencies needed for successful leadership in academic medicine.

"able to shape the vision, build the culture, [be] forward-looking, inclusive, and innovative."

Adding the role others play in successful strategy, Participant 17 said successful leaders "integrate [other people's ideas] into [their] overall strategic plan for accomplishing the goals [they] think are important." He concluded, "So that, for me, is an important factor" in successful leadership.

Participant 23 also identified the importance of incorporating those one leads into affecting successful strategies, saying successful leaders "are able to […] set a vision and be effective in accomplishing it, […] [to] get enthusiasm for a new direction, […] and to bring other people along."

Competence subtheme 2: People skills

Like Participant 4, many participants recognized "There are a lot of interpersonal skills that are important in building a cohesive group," which is critically important to successful leadership. For instance, reflecting many published definitions of leadership, Participant 17 noted that effective leaders have "the ability to work with groups of people or teams and understand the different perspectives and integrate them" toward "a particular goal" and then can "persuade others to join […] in that effort."

According to Participant 40, "It's the emotional intelligence of the people that are definitely leading […] who can resolve conflicts between parts, divided groups." The role she identified for leaders in "navigating difficult [interpersonal] situations," was also discussed by other participants.

Participant 3 said, a leader needs to be skilled at "managing conflict, managing expectations, and helping people to achieve their best potential on an individual level." He said, for the leader, this means "learning how to really bring out the best in people."

A department chair said she thinks physician leaders need training and skills in "conflict resolution, negotiation, how to meet in the middle, [and] teambuilding" (Participant 22). Another department chair expanded the range of required people skills when suggesting leading in academic medicine is challenging because leaders have "to balance being kind, supportive, generous, and understanding with also […] protecting the interests of the institution and the students and the other faculty" (Participant 21).

Competence subtheme 3: Organizational skills

The final subtheme within *competence* was centered on organizational skills, such as "how to organize departments, how to set priorities, how to keep checking that you're doing the right thing," according to Participant 10. According to Participant 40, "what it takes in medicine" to be a successful leader is "achieving things, getting things over finish lines, putting together things that make an impact," i.e., things that take planning, organization, and effort.

A significant part of leadership planning is "some element of time management skills," which was mentioned by multiple participants. For instance, Participant 24 said leaders need to "focus on [their] goal" and "set up a timeline and build [their] infrastructure." Additionally, as a division chief, Participant 13 noted that he has found "the concept of the time management [and] schedule balance […] continues to be even more and more paramount as I take on more leadership responsibilities."

Beyond general organization, planning, and time management, financial competence was noted to be valuable, but something that most physicians have to expend effort to learn. Participant 3 noted academic physician leaders need competence in "managing teams, managing budgets," admitting, "these things I think I'm still learning how to do better." This sentiment was echoed by Participant 13, who said, "[I'm learning the language of finance] by asking a lot of questions. […] it's a slow process." He noted, "It's the balance that some things you just [got to] give up on the details."

Caring

Caring about the people one leads was a third major theme related to leadership success. Within the concept of *caring*, there were three principal subthemes: simply caring about people, building relationships with them, and serving them.

Caring subtheme 1: Caring about people

Participant 23, a medical director, said leaders must be "really committed and care deeply about what happens" to their people. She said, a leader must be able "to bring other people along" through a "leadership style that really engages people, excites people, rather than one that deflates people." Good leaders are characterized by "building enthusiasm and joy through [their] leadership and not [creating] a feeling of being tread upon."

Another medical director, Participant 27 acknowledged that the COVID-19 pandemic reframed her approach to leadership. "There's been a lot of changes from that." She said now she spends much more effort trying to get "a better understanding of what people are going through, trying to figure out how to help."

Participant 22 was a department chair who also acknowledged growth in caring about the people she leads. "I'm very fact-driven and very data-driven. […] I have since learned that emotion is a much bigger part of it than data." She said, "No one's going to just follow you. How do you become the leader that people want to follow and not just the one they hate because you're a leader that's assigned to them?" The answer to her question was the second domain in the caring theme.

Caring subtheme 2: Building relationships

Numerous participants discussed the vital role of building relationships with those they lead. Participant 2 viewed his success in leadership was because he "built a lot of strong, positive relationships," and he was "known as someone who was very reasonable to work with." Similarly, Participant 1 said, "Connection is an important thing that [leaders in medicine] don't pay enough attention to," and Participant 17 added that he built connections by "work[ing] with people in a collegial way."

Participant 20, a department chair, described good leaders as people who build relationships with their people by "get[ting] to know [the people they lead] personally and ask[ing] them about their families, wish[ing] them well on holidays." They "go and meet people where they are," "sit with them at their desk," or "go out to the front, [and ask them,] 'How are you doing?'" He said that to be successful, leaders must "understand every student is different, every faculty member is different," and recognize "what motivates them, the skills they bring, [and] the effort they put in." A good leader, he concluded, knows "what's important to them."

In addition to knowing those they lead, Participant 37 acknowledged that [the best leaders have] the ability to always make people feel valued." She said, "It doesn't matter how out there other people's comments maybe, they will always ac-

knowledge those comments, always thank them for contributing to the discussion."

Participant 38 also recognized the role contribution plays in building relationships, and she framed it within the need for humility on the leader's part, saying, "You have to learn […] to really get along with other people in a humble way, to get groups to work together and not impose anything bad, [to] let everybody contribute."

One of the department chairs (Participant 20) summed up well the concepts of relationship building, saying leaders have to be invested in

> developing the culture that's positive, where everyone feels enfranchised in the full missions of the department and feels pride when there are successes across it. It's not balkanized into "you, you, and you." […] You bring people together, […] and there'll be some relaxed times where people can sit and chat and get to know each other and meet each other.

Caring subtheme 3: Serving the people one leads

The final major domain within *caring* was serving those being led. Like Participant 1, multiple participants expressed that "at the end of the day, [leadership is] actually a service role." He said, "I think that the most effective leaders out there are functioning in a service role and not in an ego-driven capacity," surmising, "if you can do that, then you succeed" as a leader.

The idea of service was intimately related to humbling oneself and putting the needs of others first. For instance, Participant 31 framed leadership as being about "looking out for junior people and looking out for people other than yourself." Similarly, a former department chair (Participant 10) said, "The skill that I thought that was most important was being able to put other people's academic needs ahead of my own." He realized "it wasn't all about what I could do, but what I could help others do" and that leaders "actually end up working for more people. They don't work for you." He concluded that a person's ability to put others first and serve them should be the litmus test for "thinking about leadership positions" and that the important question is

> "Are they at a place where they're willing to put their own individual desires second to the needs to make sure that the people who can succeed?" Otherwise, you shouldn't be a leader. […] you got to want to do something for others and feel really good about […] their successes.

Within the domain of serving, many participants expressed it like Participant 12, a division chief, who said leadership is about "supporting others." Participant 31 defined her principal responsibility as a division chief as "to look out for my faculty and to make sure that I am supporting them to do what they want to do and what's important for them to do."

Multiple participants endorsed the view of leadership as being principally about supporting individuals in their personal pursuit of success. For instance, Participant 3 said leadership is about "helping people to achieve their best potential on an individual level," and Participant 20 insisted, "People should always know that you're indefatigably their best support, and that you want to help them succeed in what they're doing." Acknowledging this responsibility for leaders, a division chief (Participant 9) said that he consistently asks himself, "How do I help people succeed?" According to a department chair (Participant 29), the answer is to ask them: "What do you need to both be […] successful, but also fulfilled. What do you want?"

Communication

Communication is the final major theme identified as a fundamental contributor to successful leadership in academic medicine. Among those who discussed important skills for leaders, nearly all cited the ability to communicate effectively as highly valuable. Participants who spoke about communication agreed with Participant 5, who said, "Highly skilled communication abilities […] [are] key, especially as a leader."

Participant 12 described the value of communication as "really important to both establish and maintain relationships and collaborations," as well as "to understand and respect the perspective of other people." A similar sentiment was shared by Participant 17, who said a leader "has to really understand how to communicate effectively to be able to discuss the complex details […] but to also be able to be effective in communicating the big picture very simply is important." In speaking about those "who are not leading well," Participant 6 said, "it almost always comes down to personality and communication style."

In recalling her own leadership failure when she was a residency program director, Participant 22 had decided if she was going to do it, she was "going to do it well." She decided, "I want my residents to be the smartest, fastest, brightest, and bestest ever in everything. But, I didn't actually ask them if that was something they wanted to be." Her residents soon told her, "'That's not what we want. We just want you to be nice and let us do to stuff.'"

Within the theme of *communication*, two prominent subthemes emerged: the importance of listening and being able to navigate difficult conversations.

Communication subtheme 1: The importance of listening

As Participant 22 alluded to in her story, many participants discussed the importance of leaders listening to the people they are attempting to lead. For instance, Participant 17 said, "listening to other people, understanding their perspectives, is a key to ultimately assuming leadership roles." He reiterated, "If you're going to be successful, you have to […] listen to what [your people's] perspectives are." Participant 12 spoke similarly in saying leaders need to "work with people in a collegial way and […] more importantly, listen to their perspectives."

As participant 20 said, "by listening, you understand [...] what makes [your people] tick, and it's [often] very different [from what you thought]. Sometimes, you learn that your assumptions you made were wrong." In describing a leader's "ability to always make people feel valued," Participant 37 said it takes "listening, a lot of listening."

Communication subtheme 2: The ability to navigate difficult conversations

The need and ability to handle difficult conversations was discussed frequently. Participant 13 stated that "one of the biggest skills" leaders have to acquire is handling "crucial conversations." She expounded on this by saying, "If I had my magic wand, […] the one thing I would do is to make those skill sets ... mandatory from day one. […] communication skills, career communication skills, […] [and] crucial conversation[s]."

Participant 19 also endorsed the ability to conduct "difficult

conversations" as "an important skill" for leaders. Similarly, Participant 11 said that "navigating challenging conversations, either with people that you're supervising or people that are supervising you" is a part of leadership.

For multiple leaders, the challenging conversations entailed the need to provide unambiguous feedback on the need for improvement. For instance, Participant 2 said, "Sometimes you're going to be dealing with people where you have to be tough, and you have to be able to deliver a strong message about that person needing to change or do something differently." Similarly, Participant 20 said leaders must "set expectations, and there are some times people fall short of that, and you've got to be clear and firm about it."

Discussion

This study investigated how accomplished, academic physicians relate leadership abilities to their personal academic success. We found that while leadership plays an important role in academic success among physicians, none of the major models of leadership adequately describe leadership in academic medicine. Consequently, we have presented a novel, comprehensive leadership model for academic physician leaders.

Participants viewed positions of leadership as both contributing to and being indicative of their success in medicine. However, upon further discussion, all acknowledged the importance that leadership ability and actions—"Influencing the actions of others to achieve mutually beneficial goals" (Collins et al., 2023, p. 670) —played in their success in academic medicine.

Most physicians recognize that leadership abilities are important for physicians (Collins et al., 2022). The recognition of the importance of leadership has led some countries to implement formal leadership training as part of medical school curricula (Berghout et al., 2017). This increasing recognition of the importance of leadership capabilities among physicians is undoubtedly related to the increasing dependence on collaborative models, in both care delivery and scientific inquiry (Ginzburg et al., 2018). Consistent with those studies, multiple participants in this study recognized that all physicians serve in leadership roles, whether leading a clinical team to provide care to patients, a team to conduct scientific research, or students in their development. It follows that if a physician has the capability to lead teams successfully in clinical, scientific, and educational endeavors, those teams will be more productive and successful, and, as a result, so will the physician leader. These things suggest that physician leadership training may have significant positive impacts on not only the tripartite mission of academic medical centers, but also on the career success of academic physicians.

Nearly all participants identified important contributors to leadership success that fit within the five major leadership theory frameworks: traits (Jago, 1982), behaviors (Stogdill & Coons, 1957), skills (Katz, 1955), style (Burns, 1978; Goleman, 2000), and situation (Hersey & Blanchard, 1969, 1977); however, none of the leadership frameworks was universally represented. Further, none of the leadership frameworks adequately covered most of the facets of leadership discussed. The inadequacies of major leadership theories have led to newer concepts on leadership, including "adaptive leadership" (DeRue, 2011) and "agile leadership" (Attar & Abdul-Kareem, 2020), as well as the need to understand volatile, uncertain, complex, and ambiguous (a.k.a. VUCA) environments (Rath et al., 2021).

In light of the shortcomings of the major leadership theories, we used our data to develop a novel theory of leadership based on four domains: *character*, *competence*, *caring*, and *communication*. Our model displays greater nuance and adaptability for leadership in academic medicine, and we believe it would be equally applicable in other domains of leadership. Additionally, our model provides clear and distinct areas wherein leadership development can be focused to train and improve leaders.

Implications

The principal implication of our work centers on physician career development. With the goal of increasing physician career success, many medical institutions have invested heavily in physician career development programs (Lucas et al., 2018; Sonnino et al., 2013). In light of this, our work not only indicates that significant attention should be paid to leadership development in such programs, but more importantly, it provides a comprehensive framework for physician leadership development. Further, based on our data and the extant literature, it is clear that intentional and effective physician leadership development has the potential to increase the career success of physicians. What's more, it could also have larger societal effects through decreasing physician burnout and improving physician productivity, which lead to improved healthcare quality and outcomes (Shanafelt, Gorringe, et al., 2015; Shanafelt & Noseworthy, 2017).

Limitations

Although our study has multiple strengths, there are limitations that must be considered. Our study is from a prestigious, private academic medical center in the United States. We only interviewed academic physicians who had attained the rank of professor, and our results may not be reflective of more junior level physicians. All of our participants currently and/or previously serve(d) in a formal leadership position, which likely impacts the saliency of leadership as it pertains to their consideration of success in academic medicine.

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Online supplementary material:

Supplemental table. Study interview questions.