Journal of Healthcare Leadership

Dovepress
Taylor & Francis Group

Open Access Full Text Article

PERSPECTIVES

Addressing Conceptual Gaps in Physician Leadership Development: A Critical Perspective

Anurag Saxena

Department of Pathology and Laboratory Medicine, College of Medicine, University of Saskatchewan, Saskatoon, Saskatchewan, Canada

Correspondence: Anurag Saxena, University of Saskatchewan, Rm 2870, Department of Pathology and Laboratory Medicine, Royal University Hospital, 103 Hospital Drive, Saskatoon, SK, S7N 0W8, Canada, Tel +1 306-655-2157, Fax +1 306-655-2223, Email anurag.saxena@usask.ca

Abstract: There is a focus on leadership in organizational discourses and physicians are playing an increasing leadership role in healthcare and medical education (HC&ME). However, there is a need to reconcile continuing considerable investment in leadership development and only modest evidence (although growing) of its impact on outcomes, especially at the organizational and systems level. The purpose was to identify conceptual issues related to leadership development in HC&ME that are likely contributing to the intent-action and impact gap. Using Jabareen's methodology for developing a conceptual framework, the concepts were identified through an iterative process of identifying key words associated with the main ideas in leadership development. Informed by grounded theory principles, the "text" critically analyzed included, a) narrative review of interdisciplinary literature on leadership development in HC&ME and across industries, b) focused review of adult education principles and adult development theories, c) insights from conferences and conversations with thought leaders, and d) notes on experiences in leadership praxis, research, and offering and receiving leadership development. The eleven conceptual considerations under three broad categories include, a) philosophical – clarity of purpose and discerning leader and leadership development, b) theoretical/ foundational - a lack of leadership development theory, limited influence of non-dominant leadership discourses, paucity of conceptual frameworks, and c) pragmatic /pedagogical – teaching and learning aspects with skewed utilization of education, training and development pathways, predominance of Western notions of leadership, restricted considerations informing content, need for a nuanced consideration of context, integrating individual and joint development, and leveraging readiness and timing. Consideration of these conceptual issues informs a strategic approach at the organizational and individual level to the design, development and delivery of leadership programs for sustained learning and effectiveness. Research using a collaborative interdisciplinary approach is likely to systematically synthesize high-quality evidence to enhance leadership development work.

Keywords: leadership development, leader development, leadership development conceptual issues

Introduction

Leadership by physicians in healthcare and medical education is being increasingly discussed, addressed, and utilized. Involving physicians as leaders in the inextricably linked complex adaptive systems (CAS) of healthcare and medical education is a strong and widely held belief.[1–5] The assertions for the role of physicians[1] to drive change in healthcare transformation are supported by empirical evidence linking effective leadership with positive healthcare outcomes.[6] In medical education, physicians have traditionally held leadership positions in governance, and administration (decanal and departmental leadership) and medical education leaders continue to lead educational reform. Although studies linking effective leadership with organizational outcomes are lacking, medical educators are viewed as leaders for healthcare transformation[7] and a need to align medical education and healthcare has been articulated.[8] Consequently, an increasing number of physicians are being assigned to formal leadership roles at various organizational levels, either individually or as part of dyads.[9–12] Concomitant with several calls,[1–3,13–15] there has been a growing emphasis on enhancing leadership development in healthcare[16] and medical education.[17]

There are several observations regarding leadership development in healthcare and medical education (HC&ME) that, taken together, highlight an intent-action and impact gap and require reconciliation. First, there is widespread commitment and a heavy investment (time, money, efforts, and human resources) in leadership development across industries[18,19] and for

https://doi.org/10.2147/JHL.S561996
Received: 10 September 2025
Accepted: 13 January 2026
Published: 29 January 2026

physicians and medical learners.[16,16,20] Second, the literature highlights scattered, siloed, pulsed approaches to leadership development,[16,17,20–23] while the evidence for a strategic organizational approach to leadership development for physicians and the entire organization is scarce. Two specific examples include, a) the approach at the Mayo Clinic, which highlights linking organizational design, unique context, cultural alignment, and a customized leadership development model[24] and b) the longitudinal Darzi fellowship in the UK contextualized to the National Health Service (NHS) and linking specific organizational strategy, addressing specific complex challenges, and utilizing a combination of individualized and group learning activities.[25] Third, the evidence linking leadership development to outcomes is fraught with two issues, a) although generally positive, the evidence is limited and modest, especially at the organizational level[15,16,19,26] and b) the current evaluation approaches have significant limitations including poor study designs, predominance of self-reported outcomes at satisfaction and learning levels, limited measurement of meaningful outcomes, and reporting of correlational findings with no accounting for directionality.[16,26] Fourth, there has been minimal system-level impact and distant realized benefits, as evidenced by little movement in the 60:30:10 (appropriate: wasteful: harmful) metric related to quality health care over the last 30 years.[27] Finally, there is an urgency to address continuing and evolving societal expectations to address health inequities,[28] health human resource issues,[29] and societal narratives around equity, diversity, inclusion, Indigeneity, access and anti-racism (EDIIAA),[30] and planetary health,[31] amongst other issues. Outside of medicine, concerns regarding leadership development approaches have been raised in peer-reviewed[32–35] and grey literature.[36,37]

These practical observations pose a question, "could there be conceptual issues at the core of leadership development for physicians that have not been fully explored and addressed?" This question calls for robust collaborative inter-disciplinary research including empirical studies and systematic and realist reviews into underlying theories, principles and foundations for good leadership development. Although the peer-reviewed leadership development literature in HC&ME (empirical studies, reviews, commentaries, perspectives and opinion pieces) is extensive (see the section below on current state of leadership),[16,17,20–23] it is mostly focused on pragmatic aspects (details of program components and evaluation of programs) with very limited attention to underlying theoretical and conceptual considerations. A few exceptions include studies articulating components of a conceptual framework,[38] developing a learning ecosystem,[39] and presenting a framework for leadership development.[40] These studies, while highly informative, have limitations. These limitations include; a) the study's limited scope focusing on considerations informing the curriculum,[39] b) a commentary article with restricted focus on medical education settings and paucity of information on methods involved in identifying the six principles,[40] and c) proposal of a framework based only on four data sources (two systematic reviews on leadership development in healthcare, a review of studies focused on transfer of learning, and an self-authored unpublished dissertation).[20] With continuing investments in leadership development and increasing utilization of formal physician leadership roles, it is imperative that underlying conceptual issues be recognized and addressed for more meaningful, practical, and effective programs that justify the return on investment in resource constrained HC&ME systems. The purpose of this perspective was to identify conceptual issues related to leadership development in HC&ME that are likely contributing to the intent-action and impact gap. This was achieved through insights developed by critically examining multiple data sources.

In developing this perspective, the current state of leadership development for physicians was summarized based on a narrative review of literature (2000–2025) including peer-reviewed literature (empirical studies, reviews (narrative, scoping, systematic, and umbrella reviews), commentaries, and editorials) and grey literature (theses/dissertations, white papers, reports, books, and websites). The concepts underlying leadership development were identified using the first six steps outlined in the development of a conceptual framework.[41] For this discussion, a concept is understood as an idea, theme or aspect underlying phenomena associated with a complex topic[41] (in this case, leadership development) being explored and is based on the notions of Plato's "forms" and Aristotle's "universals."[42] The key question informing the identification of concepts was, "how does leadership actually develop?" In general, it is agreed that it involves acquisitions of skills, enhancements in relational-capacity, ability to solve higher levels of abstractions and complexity, ethical approaches to use of power, and changes in mindsets and identity.[43,44] It is non-linear and uneven involves considerable inner work,[45] and includes elements of personal and human development.[45] Undergirded by this understanding, the concepts were allowed to emerge through an iterative process of identifying key words associated with the main ideas in leadership development and then naming/renaming, and, if required, writing concise definitions. The "text"

analyzed included a critical analysis of, a) literature on leadership development in healthcare and medical education, b) interdisciplinary literature on leadership development across industries and sectors, c) literature on organizational development and learning, d) insights from conference presentations and conversations with thought leaders, e) review of adult education principles and adult development, and f) notes on experiences in leadership research, praxis, and offering and receiving leadership development.

This approach identified two broad areas related to leadership development that require further exploration - the evaluation of the impact of leadership development programs (LDPs) and the design and delivery of leadership development approaches. The issues related to evaluation have been published elsewhere highlighting the need for a robust, comprehensive, and strategic approach to evaluation and a proposal for an evaluation framework with relevant outcomes at individual, organizational and community levels.[26]

This perspective focuses on the conceptual considerations for enhancing design, development and delivery of leadership development approaches undergirded by a deeper understanding of underlying philosophic, theoretical/foundational and pragmatic/pedagogical considerations. Following a brief overview of the salient aspects of the current state of leadership development in HC&ME, key conceptual considerations and their practical and research implications are discussed.

Current State of Leader and Leadership Development for Physicians

There is an extensive array of leadership development programs (LDPs) in healthcare[16] and medical education.[17] The programs are generally informed by articulated competencies and capabilities - the latter viewed as the application of competencies to relatively unknown and complex situations to solve problems.[46] These include, a) leadership frameworks, eg, LEADS in Canada,[46] NHS leadership framework in the UK,[47] Health LEADS in Australia,[48] and CanMEDS educational framework,[49] b) leadership competencies specific to certain areas eg, medical education,[50–52] c) a needs-based "tailoring" of generic leadership and management competencies eg, interpersonal skills, conflict resolution, teamwork, and change,[17] and d) topics relevant to medical education leadership eg, assessments and/or managing departments/deaneries. The programs predominantly utilize informational learning (leveraging experiential- and self-directed learning, and constructivist and adult learning principles) with limited emphasis on transformative learning.[16,17,20–23] There is a variable combination of in-house and "external" programs utilizing in-person, hybrid or virtual approaches.[16,17,21,23] Most programs are pulsed exposures (ranging from short workshops to longer-duration courses including master's programs),[16,17,22,23] and, in general, longitudinal programs eg, the Darzi fellowship in the UK,[53] are uncommon. Multiple teaching /learning methods are used, including didactic, interactive, action-learning, and simulations, utilizing project work, mentoring, coaching, psychometric testing, and multisource feedback.[16,17,20–23] There is a variable emphasis on incorporating organizational context.[16,17,24,25] Some institutions have curated a set of best practices to inform leadership development[54] and there is varied utilization of principles articulated for successful programs.[18] The evaluation of LDPs is suboptimal as indicated by a lack of strategic approach to evaluation at the organizational level, predominant use of taxonomy-based functionalist Kirkpatrick's framework with most reporting at lower levels (reaction and learning) in a subjective manner, limited evidence of impact on behaviors and organizational outcomes, suboptimal study design and a lack of long-term follow-up.[16,26]

Conceptual Considerations for Leader and Leadership Development for Physicians

Several conceptual issues have not been completely resolved, and their clarity would be helpful in enhancing leadership development efforts. These are considered in three categories – philosophic, foundational/theoretical, and pragmatic/pedagogical and shown in Figure 1.

Philosophic Considerations

These include purpose of leadership development and the overlap and distinctions between leader and leadership development.

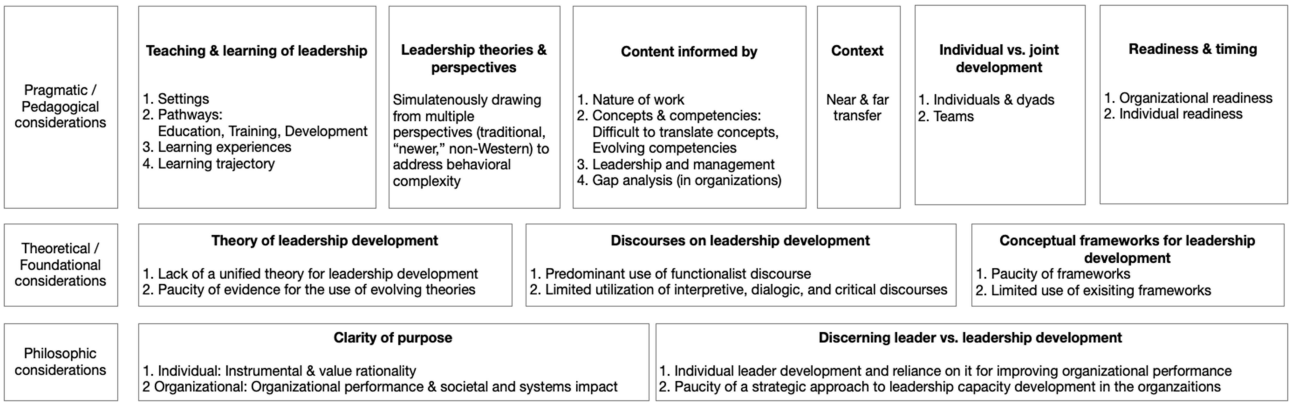

Figure 1 Key concepts in physician leadership development.

Clarity of Purpose

The purpose (the reason for which something is done, Merriam-Webster dictionary) is understood as, "an abiding intention to achieve a long-term goal that is both personally meaningful and makes a mark on the world."[55] What is the purpose of leadership development? Despite multiple views, generally agreed upon elements of leadership phenomenon are actors (leaders and followers/constituents), actions (bilateral influence amongst them and working together), and goal(s) (shared desired vision) in a contextualized manner and usually include ethical dimensions.[46,56] Delineation of the purpose is likely to be informed by following considerations, how leadership is defined, operationalized, and embedded through varied utilization of leader-centric (reviewed in),[57] shared,[58] systems,[59] and complexity[60] paradigms, b) adaptation of these approaches to virtual and hybrid environments,[61] and c) the context and organizational/personal beliefs.

At the organizational level, in addition to the usual considerations, such as improving performance related to key outcomes, managing change, executing strategy, and influencing culture (eg, creating a culture of learning), other contemplations include long-term realized benefits at the community level, contribution to the ongoing evolution towards an integrated model, and social accountability-driven outcomes, eg, societal outcomes of competency-based medical education. At the individual level, considerations include whether leadership development is important for their current and future work in leadership positions related to successfully achieving outcomes (instrumental rationality) or whether they view leadership development as a life-long process with no destination and a journey towards self-actualization (value rationality). Clarity of purpose is likely to help with taking responsibility, as it has been shown that when individuals take charge of their own learning they learn best.[62]

These philosophic and pragmatic (including resource availability) considerations would likely inform organizational commitment and alignment with culture, direction, and momentum (time span, scale, and scope) – as observed in the Mayo Clinic[24] and Darzi[25] programs as well as individual efforts.

Reliance on Individual Leader Development for Organizational Leadership Development

In general, leader development is focused on individual development (intrapersonal and interpersonal competence - the human capital) while leadership development is about enhancing the capacity of the collective ie, the groups, teams, units, and organizations - the social capital). In practice, "leadership development" refers to development of leadership capabilities of both - individuals and groups.[63] Evolution of leadership in an organization requires both as these are complementary. However, in a review reported in 2000 it was identified that most organizations pay less attention to strategic leadership development across the entire organization and rely on leader development for improving organizational performance.[63] Twenty five years later, there is still only limited evidence of organizations adopting a strategic approach to leadership development, eg the Mayo Clinic and the Darzi fellowship.[24,25]

Four main considerations at the organizational level that require simultaneous attention are; a) linking leadership development to organizational strategy and outcomes, b) developing, implementing and evaluating a leadership development strategy, c) ensuring conditions for the success of the leaders who have enhanced their capabilities through LDPs,

and d) developing a comprehensive and strategic approach to evaluation of leadership development through positivist, realist and constructivist approaches that consider outputs, outcomes (at individual, organizational and community levels) and realized benefits methodology.[26] At the individual level, commitment to and developing a personal learning strategy would be invaluable in "taking charge" of one's own development. This would be guided by instrumental or value rationality and an honest appraisal of the motivation to lead coupled with readiness and commitment to learn. Further, a deliberate use of psychometric testing,[64] seeking feedback and advice through multisource feedback,[16] coaching and mentoring,[16,65] engaging in leadership experiences to address challenges and reflective practice,[25,66] and utilizing programs tailored to individual needs[65,66] are likely to assist with this journey.

Foundational/Theoretical Considerations

These include, theory of leadership development, discourses on leadership development and conceptual frameworks for leadership development.

Paucity of a Theory of Leadership Development

There is no widely accepted theory of leadership development and this lack is compensated for by pedagogy, which relies on adult learning theories. Recently, there have been attempts to develop leadership development theory, based on relational aspects[67] and individual world views and ethics of leadership practice.[68] However, the evidence for these having been translated into the practical domain is lacking. With the evolution of organizational structures including networked, distributed, temporary teams/working groups and hybrid work,[69,70] there is a need for theory building on how leadership is developed or emerges in these collective settings.

Heeding the calls for further research into theory development[44] would help enhance the rigor of development efforts. Otherwise, leadership development is likely to be excessively driven by generic competency frameworks,[19] remain predominantly practitioner-driven, and run the risk of advancing "popular" thought and "fads" rather than being informed by robust theories.

Skewed Utilization of Discourses on Leadership Development

A discourse is a set of statements, expressions and concepts which are believed to be true and constitute a way of writing and talking and behaving about an issue.[71] Leadership development is influenced by four discourses – functionalist, interpretive, dialogic, and critical.[72] The functionalist discourse focused on organizational performance is primarily concerned with enhancing the capabilities of individuals through organization-driven, structured formal activities and measuring the results. The interpretive discourse views leadership as a context-dependent social co-creation that resides beyond one individual and manifests itself through collective actions. Leadership development goes beyond specific behaviors to a deeper conceptualization and continuous real-time workplace-based and culturally grounded learning through incidental and informal strategies in an emergent manner. According to the dialogic discourse, leadership is a discursive accomplishment (ill-defined and partial), "in a state of becoming as opposed to anything more fixed or stable,"[72] and leadership identities are multiple, fragmented, intertextual, constantly shifting, and are enacted in specific socio-historical contexts. Leadership development is fluid, fragmented, and overlapping, and sometimes contradicting the growth of self in each context and may be perceived by the participants to be both helpful and isolating. The critical discourse imbues leadership notions with emancipatory social change by considering justice, ethics, power and language. This discourse helps recognize the complexity of leadership learning and development and brings issues related to power, politics, dominance, and exploitation.

The predominant discourse reflected in LDPs for physicians is the functionalist discourse.[72,73] While the four discourses are somewhat contradictory and it may not be possible or even advisable to combine these in one program, a deeper exploration and either complementary or purposefully contradictory approaches may be used to teach/learn the nuanced and "messy" nature of leadership emergence and practice.

Paucity of Conceptual Frameworks

There is a paucity of healthcare and medical education leadership development frameworks. Conceptual frameworks contain context, content, pedagogy, assessment and evaluation components. A growing attention to conceptual frameworks is reflected in recent proposals eg, a) the FourCe-PITO framework that includes the four "C" elements – character, competence, context

and communication,[38] b) a learning ecosystem approach centered on six principles, including a conceptual framework,[39] and c) an "Optimizing System" with 65 strategies.[40]

However, there is limited, if any, evidence of wider adoption of conceptual frameworks. These are likely to have informed leadership development at the Mayo Clinic[24] and in developing the Darzi fellowship.[25] This shows that programs developed within organizations have the highest potential for including conceptual framework elements in a comprehensive approach.

Pragmatic and Peda/Andragogical Considerations

These include teaching and learning of leadership, utilization of diverse leadership theories and perspectives, considerations informing content, a deeper and nuanced utilization of context, readiness and timing, and individual vs joint development.

Leadership Theories and Perspectives

The behavioral complexity for effective leadership is immense and a simple attention to one or two perspectives is limiting. For example, a reductionist transactional-transformational continuum needs to be complemented by a four-quadrant perspective that includes directive and empowering leadership behaviors, the former relying on power and the latter promoting self-direction and autonomy amongst the followers.[74] Exercise of agency would benefit from integrating and simultaneously upholding a range of leadership theories spanning traits, skills, and behavioral approaches and "newer" approaches (transformational, authentic, and adaptive leadership) - reviewed in,[57] renewed emphasis on ethical leadership,[75] and broader conceptualizations, eg, complexity[60] and systems[59] perspectives.

Given the increasing global nature of interactions and mixing of workforce and international cooperation in HC&ME,[76,77] requiring working with different cultures and societal norms it would be useful to draw from non-Western notions of leadership, eg Indigenous perspectives,[78] and approaches such as contingency leadership theory based on five world religions.[79]

Teaching and Learning of Leadership

There are two considerations – settings and instructional aspects.

Settings

The 70:20:10 model of learning and development,[80] which refers to learning through challenging job-related experiences, through social interactions, and from formal educational events, respectively, advocates strongly for a larger component of in-house learning. The importance of learning in naturalistic settings[24,25,81] and the evidence supporting a combined use of external and in-house programs to achieve better results[82] helps organizations decide on the optimal use of settings suited to their unique context.

Instructional aspects

These include pathways and learning experiences.

Pathways: Training, Education, and Development. There are three terms related to teaching/learning: education, training, and development. Education is concerned with knowledge and concepts (learning about leadership), training with acquiring skills (learning how to lead),[83] while "development" is mostly internal work through experience, practice, and reflection (indeed, with some outside support from education and training) to a different level/order of thinking or "being" and is a long-term more profound and deeper change[84] associated with changes in self-construct, mindsets, mental models and identity.[85] A deliberate mix of training, education, and developmental pathways will likely yield the best outcomes for individuals as "leading wisely rely on cognition preceding action."[86] Both informational and transformative learning, with increased use of the latter, are required. This is consistent with the concept of "vertical development" where, as opposed to the technical skills and other leadership competencies (horizontal development), the aim is to acquire newer perspectives, mindsets and mental models for more expansive thinking and developing more profound insights.[87] Ultimately, learning needs to be constructivist, reflective, and integrative aimed at metacognition and change in behavior.

Learning Experiences and Learning Trajectories. A robust combination of experiences and instructional methods is already utilized in many LDPs eg, experiential learning through project work, and the use of mentoring and coaching. In view of the observation that there is a gap in teaching, reflection and application of learning to workplace,[37] meaningfulness and sense-making are likely be enhanced by, a) using computational models to identify most effective leadership behaviors at different timepoints related to business cycle and diverse situations,[88] b) utilizing interpersonal experiences with learners of diverse backgrounds allowing learning from different viewpoints and enhancing social awareness,[89] c) incorporating technology-assisted learning, d) leveraging individual learning styles, and e) offerings at appropriate levels of complexity that require efforts for learning "to stick",[90] and f) multidisciplinary programs for collective leadership development are likely to be helpful for cross-boundary leadership and strengthening the networks.[91]

The importance of prior (learning) experiences to enhance and consolidate learning is well established; however, some of these prior experience may have led to "habits" and "practices" that might be inappropriate in different or diverse settings, and leadership development would require some "unlearning" of this knowledge and these behaviors.[92] A related issue in the effective use of learning experiences is considering teachers/facilitators with leadership experience coupled with a deep knowledge of effective facilitation skills, rather than practitioners who are solely in the business of leadership development. This is important as trust and relevant leadership experience are central to credibility[93] and it is true to a large degree "that we teach who we are and not what we know."

The success of a longitudinal approach, evidenced by the Darzi fellowship in the UK,[53] can be emulated in adopting this strategy, which allows for a better integration of training, education and developmental pathways and utilization of learning trajectories – the latter shown to be of immense value in informing "progression" in competency-based medical education.[94] Constructs such as leader developmental readiness (LDR)[95] discussed below in the section on "readiness and timing" can be utilized initially and for formative feedback.

Content (Expanded and Tailored)

The content is usually informed by relevant competency frameworks or generic leadership competencies. However, an overreliance on the competency frameworks without proper contextualization has been identified as a concern.[19] This can be addressed by additional considerations including, a) the nature of work, b) specific leadership constructs and the expanding repertoire of competencies, c) leadership and management distinctions, and d) knowledge and capabilities gap in the organization.

Nature of Work (Situational Complexity, Organizational Hierarchy)

Mintzberg distinguishes those leaders at the strategic apex from the mid-level operational leadership (of which there can be multiple layers) and leaders with or without formal positions in the operating core.[96] Although important for all leaders, the situational complexity increases at higher levels of organizational hierarchy. Leadership skills in technical (eg operations), human (eg, social skills) and conceptual (systems thinking, alignment) categories have different relevance at different organizational levels, with the former more important for front-line leaders and the latter for executive leaders;[97] although there is some overlap and human skills are important for all levels. Particularly relevant at higher organizational levels is the ability to address complex issues, which requires higher cognitive functioning including perspective taking,[98] moral judgment and critical thinking,[99] simultaneously upholding multiple viewpoints/realities (polarities),[100] and managing paradoxes.[101] However, this distinction is not explicitly articulated in most competency and capability frameworks, which rely on universal leadership perspectives and normative leadership models, eg, transformational leadership, and describe unitary behavioral dimensions,[102] with the NHS leadership framework (UK) being an exception, which has guidelines on training leaders at different levels.[47] Explicitly addressing these distinctions and subjecting participants at different levels to tailored content is more beneficial than generic offerings.

Difficult to Translate Leadership Constructs and the Expanding Leadership Competencies Repertoire

Many leaders struggle with currently relevant leadership perspectives, especially systems leadership,[59] complexity leadership,[60] and relational leadership.[67] These perspectives are difficult to translate into actual practices and often remain

at higher levels of abstraction.[103,104] These intertwined concepts are either addressed as vague generalizations or over-simplified into itemized lists – neither of which is helpful for meaningful exercise of agency; consequently, accountability suffers. This, coupled with the ability to use leadership language and positional authority, is highly dangerous, as some leaders may then inappropriately exercise power, subjugate constituents and indulge in self-promotion. These aspects must be explicitly addressed in leadership development programs beyond generic overviews for meaningful practice.

New and evolving competencies or an increasing emphasis on certain aspects need to be included in LDPs, eg, inclusive leadership, leadership for planetary health, skills in utilizing "big data" and integrating decision-making through analytics and abductive reasoning. Because leaders influence and impact others' lives, their work is undergirded by morality and ethics. They have a crucial role in establishing an ethical climate and the centrality of values in their organizations. A renewed emphasis on moral development of leaders and practice of ethical leadership[75] is critical given the current state of divisiveness and polarization in the society (which is bound to reflect at the workplace), ideologically driven promotion and manipulation of narratives to marginalize and normalize issues and language, and power-driven abuse of mis-, dis- and mal-information.[105]

Leadership and Management Distinctions

The content of most leadership programs is either tilted heavily towards management aspects or generic across leadership-management functions. This is evident in the topics usually included eg conflict resolution, running effective meetings, resource stewardship, and financial acumen. Recognizing, a) distinctions and overlap between these two functions[106–108] - with a general understanding that management is about stability and leadership about change,[109] b) shared understanding that the two are intimately intertwined, and c) assertions that perhaps the distinctions should no longer be maintained,[110] there is a need to revisit how these two aspects inform the curriculum. Most formal leadership roles in organizations require the leaders to exercise a variable combination of leadership and management functions, which varies according to their position in the organizational hierarchy. This intertwined nature has become evident in the new iteration of the NHS competency framework, now called Management and Leadership Framework, with nine competencies across three domains and referred to in the public discussion on this framework.[111] Therefore, there is a need to reconcile this overlap related to leadership levels and ensure the content is tailored to individual needs.

Knowledge and capabilities gap in an organization

A leadership knowledge and capabilities gap in an organization is highly likely to inform what needs to be attended to. This can be done by assessing, through a multi-constituent feedback process, tasks and personnel in leadership positions at various hierarchical levels and how they fit with the overall organizational context, goals and strategy.

Deeper Attention to the Context (Near and Far Transfer)

The construct of "context" is complex and includes social, political, and organizational settings and multilateral interactions between variables that have both constraining and enabling effects on actions.[112] Health care and medical education are affected by persistent and evolving contextual variables at the macro- (eg, planetary health, societal polarization, technology advancements, global migration), meso- (health inequities, human health resource crisis, education and healthcare reform, equity, diversity and inclusion considerations) and micro- (unique organizational political, economic, social, technological, human resources, cultural, and legal aspects) levels. The current emphasis on leaders' practice in a volatile, uncertain, complex and ambiguous (VUCA) context – as if these elements were not part of leadership contexts earlier – and the new evolving context (across macro-, meso- and micro-levels, often articulated as polycrises or syndemics) requires combining diverse types of thinking (strategic, critical, systems and expert thinking) to create and add value.[25,113]

In many programs, contextual variables are considered to a variable degree, and learning is aimed at addressing issues in the current or similar contexts (near transfer).[24,114] A deeper and nuanced consideration of context is important for additional reasons. These include, a) learning within the context (embedded and incidental learning) leveraging community-oriented approaches that allow for knowledge exchange between people and is aimed at changing leaders' conception of leadership work),[72] b) developing an ability to tackle leadership substitutes (structures, processes and even people – which interfere with effective leadership practice),[115] c) developing an ability to address issues related to power

and culture in a safe way,[72] and d) acquiring the ability to apply learnings to dissimilar contexts (far transfer)[116] or situations associated with dissipation of previous structures and meanings.

Readiness and Timing

Based on the observation that certain personal factors foster leadership more readily in some compared to others,[117] a theory of leader developmental readiness (LDR) has been proposed. LDR is defined as, "the ability and motivation to attend to, make meaning of, and appropriate new knowledge into ones long-term memory structures."[118] The six categories in the LDR construct - self-awareness, leader complexity meta cognitive ability goal orientation developmental efficacy and motivation to lead – interact with each other to form a readiness level that impacts future development.[95] There are validated instruments to measure each of these components to inform self-reflection and assessments for tailored and targeted developmental efforts. Further, the organizations need to be strategic in their selection of people for leadership development to align with current and future needs and goals tailored to aspirants for leadership positions and current leaders at various stages (early-, mid- or late-career). The use of LDR construct[95] and a "match" with organizational goals and strategy are likely to identify high-potential candidates and possibly exclude those with narcissistic self-serving ambitions and those adept at "playing games," as entrenched mindsets are often underestimated.

Another consideration is the increasing numbers of younger generations in leadership positions (millennials, gen X and gen Z)[119] and the learning strategies will need to be tailored to their psychological inclinations and work attitudes and dispositions.

Learning Individually vs Jointly (In Dyads or Teams)

Healthcare organizations are increasingly adopting a dyad model of leadership[120] based on the premise that business and professional paradigms coexist and there is a need to integrate administrative and clinical governance. Similarly, in academic settings, there are dyadic structures (eg, co-program directors, postgraduate deans and managers, Dean and Chief Operating Officer) or even a team of executive directors. Further, teams are integral to organizational work and team building is considered an essential leadership function.[121] At least two leadership perspectives – shared[58] and distributed[122] – call for "sharing" of leadership roles and leader-follower switch; and this is consistent with the increasing adoption, over the last decade, of more participatory style of leadership globally.[123] However, there is a general lack of joint (eg, dyad)[124] and team leadership development[125] in leadership development efforts. Given that the foundations of a strong shared leadership model include trust, mutual access, and abilities for joint decision-making,[124] augmenting individually tailored development with joint (collaborative) learning is likely to inform complementary use of skills and create mutually valued relationships.

Implications

These conceptual considerations have implications for practice and research on leadership development.

The practical implications are for both the organizations and individuals. At the organizational level, developing a strategic approach with built-in evaluation guided by the vision and the desired impact (eg, achieve a specific goal or improve team dynamics) informed by the capabilities gap (contextualized tailoring of the competency frameworks) at the individual and collective level is highly likely to inform a holistic approach to people and organizational development and guide a prudent use of limited resources. Utilization of non-dominant discourses (interpretive, dialogic, and critical) in addition to the functionalist discourse and a wider array of leadership perspectives tailored to the unique context distilled into a relevant conceptual framework is likely to better inform more effective pedagogy. The latter could utilize an appropriate combination of informational and transformative learning experiences and multidisciplinary programs in appropriate settings tailored to participants' leadership levels and readiness through the three pathways of education, training and development and by linking learning to current and far (anticipated and unanticipated) contexts. Utilizing facilitators who have experience in both leadership and facilitation/teaching is likely to promote deep learning. Specific attention to collaborative learning for development of teams and required behaviors is likely to be of high yield. Finally,

selection of individuals for leadership development could be informed by assessing their motivations, readiness, inclination for pro-social behaviors and commitment to organizations.

At the individual level taking charge of one's own learning and carving a personal path for leadership development rather than solely relying on organizational initiatives or programs is likely to be more effective. Focused learning, using a personal development plan, to build on strengths and address areas of improvement through proactive utilization of coaching, mentoring or multisource feedback are useful considerations. A specific focus on behaviors required for individual and team effectiveness and opportunities for self-reflection are likely to be more meaningful and sense-making. A holistic approach aimed at cognitive and moral development and changes in identity would inform whole person growth and leadership credibility.

Research implications: This perspective calls for a systematic synthesis of evidence on these conceptual issues. Collaborative inquiry utilizing an interdisciplinary or multidisciplinary approach (empirical studies and systematic and realist reviews) is likely to identify high-quality evidence and realist insights. This is particularly relevant for utilizing non-dominant discourses in leadership development. Basic research into developing a theory of leadership development would be helpful in generating knowledge for translation and mobilization to add to what is currently mostly practitioner driven and informed by leadership theories and perspectives.

Strengths and Limitations

Utilization of a robust methodology for developing conceptual frameworks with extensive utilization of interdisciplinary literature across industries and sectors is a strength. While a narrative review is an appropriate method for the complex and nuanced topic of leadership development to synthesize diverse perspectives,[126] it also has limitations, such as subjectivity, lack of reproducibility, and incomplete literature searches. Further, this single author perspective is likely to reflect personal beliefs and values, any predispositions to advance particular thoughts, and experiences as a senior organizational leader, leadership development facilitator, and researcher on leadership in healthcare and medical education.

Conclusions

The research objective to identify conceptual issues related to leadership development in healthcare and medical education that are likely contributing to the intent-action and impact gap was achieved by distillation of multiple data sources on leadership development and guided by the first six steps of a robust methodology to build a conceptual framework. Eleven concepts grouped in three categories – philosophic, theoretical foundational, and pragmatic/pedagogical - were identified. Leader and leadership development for physicians is nuanced and complex. Articulation of these conceptual considerations has raised several questions that have not been explicitly raised in their nuanced form in the literature on leadership development in healthcare and medical education. This perspective contributes to the theoretical considerations for effectiveness and relevance with practical and research implications. There is a need for enhancements for a sustainable and strategic approach to leadership development for physicians that has a conceptual basis, links individual and organizational development, and evaluates individual developmental and organizational-level outcomes. Individual (readiness and commitment) and organizational (context, readiness and strategy) factors would influence pedagogic decisions (what and how), logistical approaches (when and where and in what sequence) and the nature and details of a programmatic approach to leadership development in an organization. For example, organizations should begin by conducting gap analyses and developing conceptual frameworks tailored to their context before designing specific programs. Further, using a collaborative inter- or multidisciplinary approach is likely to systematically synthesize high-quality evidence to enhance leadership development work.

Acknowledgments

The author acknowledges Dr. Keith Walker, Dr. Patricia McDougall, Dr. Paul Newton, and Dr. Keith Willoughby for discussions and feedback in enhancing this manuscript.

Disclosure

The author reports no conflicts of interest in this work.

References

1. Van Aerde J, Dickson G. Accepting our responsibility: a blueprint for physician leadership in transforming Canada's healthcare system. 2017;1–25.
2. Stoner CR, Stoner JS. Today: the case for physician leadership. Available from: https://www.physicianleaders.org/articles/today-case-physician-leadership. Accessed January 14, 2026.
3. Angood PA. We need more physicians engaged with leadership — now! *Physi Leadership J*. 2023;10(1):6–7. doi:10.55834/plj.8084817334
4. Till A, McKimm J, Swanwick T. The Importance of leadership development in medical curricula: a UK perspective (Stars are aligning). *J Healthc Leadersh*. 2020;12:19–25. doi:10.2147/jhl.S210326
5. Goodall A, Stoller JK. The future of clinical leadership: evidence for physician leadership and the educational pathway for new leaders. *BMJ Leader*. 2017;1(2):8. doi:10.1136/leader-2017-000010
6. Goodall AH. Physician-leaders and hospital performance: is there an association? *Soc Sci Med*. 2011;73(4):535–539. doi:10.1016/j.socscimed.2011.06.025
7. James TA. Medical educator as leaders in health care transformation. Harvard Medical School. https://postgraduateeducation.hms.harvard.edu/trends-medicine/medical-educators-leaders-health-care-transformation. Accessed September 07, 2024
8. Sklar DP, Hemmer PA, Durning SJ. Medical education and health care delivery: a call to better align goals and purposes. *Acad Med*. 2018;93(3). doi:10.1097/ACM.0000000000001921
9. Denis J-L, van Gestel N. Medical doctors in healthcare leadership: theoretical and practical challenges. *BMC Health Serv Res*. 2016;16(2):158. doi:10.1186/s12913-016-1392-8
10. Gibeau E. Co-leadership in healthcare organizations: expanding and constricting new senior management roles for physicians. *J Health Organiz Manage*. 1–17 doi:10.1108/JHOM-12-2024-0510
11. Didehban R, Caine NA, Glenn SW, Hasse CH. Role of the administrative partner and the physician-administrator partnership. *Mayo Clin Proc Mayo Clin*. 2020;95(9s):S38–s40. doi:10.1016/j.mayocp.2020.06.043
12. Comstock NH. Better together: most healthcare leaders report using a dyad leadership model 2019. Available from: https://www.mgma.com/mgma-stats/better-together-most-healthcare-leaders-report-using-a-dyad-leadership-model. Accessed January 14, 2026.
13. Mountford J, Webb C. When clinicians lead: the mckinsey quarterly. *Healthcare Leadership Rev*. 2009;28:1–8.
14. AFMC: The Association of Faculties of Medicine in Canada. A collective vision for postgraduate medical education in Canada. 2012.
15. West M, Armit K, Loewenthal L, Eckert R, West T, Lee A. *Leadership and Leadership Development in Healthcare: The Evidence Base*. *London*: *The Kings Fund*; 2015.
16. Phillipson J, Pinto AC, Kingsley-Smith H, Krachler N, McGivern G, Lyons O. Leadership training in healthcare: a systematic umbrella review. *BMJ Leader*. 2025;leader–2025–001269. doi:10.1136/leader-2025-001269
17. Sadowski B, Cantrell S, Barelski A, O Malley PG, Hartzell JD. Leadership training in graduate medical education: a systematic review. *J Grad Med Educ*. 2018;10(2):134–148. doi:10.4300/jgme-d-17-00194.1
18. Yemiscigil A, Born D, Ling H. What makes leadership development programs succeed? *Harvard Business Rev*. 2023;2023.
19. Kaiser RB, Curphy G. Leadership development: the failure of an industry and the opportunity for consulting psychologists. *Consulting Psychol J*. 2013;65(4):294–302. doi:10.1037/a0035460
20. Geerts JM, Goodall AH, Agius S. Evidence-based leadership development for physicians: a systematic literature review. *Soc Sci Med*. 2020;246:112709. doi:10.1016/j.socscimed.2019.112709
21. Steinert Y, Naismith L, Mann K. Faculty development initiatives designed to promote leadership in medical education. A BEME systematic review: BEME guide no. 19. *Med Teach*. 2012;34(6):483–503. doi:10.3109/0142159X.2012.680937
22. Kumar B, Swee ML, Suneja M. Leadership training programs in graduate medical education: a systematic review. *BMC med educ*. 2020;20(1):175. doi:10.1186/s12909-020-02089-2
23. Matsas B, Goralnick E, Bass M, Barnett E, Nagle B, Sullivan EE. Leadership development in U.S. Undergraduate Medical Education: a scoping review of curricular content and competency frameworks. *Acad Med*. 2022;97(6):899–908. doi:10.1097/acm.0000000000004632
24. Swensen S, Gorringe G, Caviness J, Peters D. Leadership by design: intentional organization development of physician leaders. *J Manag Dev*. 2016;35(4):549–570. doi:10.1108/JMD-08-2014-0080
25. Stoll L, Swanwick T, Foster-Turner J, Moss F. Leadership development for junior doctors. *Int J Leadership Public Serv*. 2011;7(4):273–286. doi:10.1108/17479881111194161
26. Saxena A. Evaluation and impact of leadership development program for physicians in healthcare and medical education: conceptual and pragmatic considerations. *Leadersh Health Serv*. 2025;38(4):613–627. doi:10.1108/lhs-02-2025-0028
27. Braithwaite J, Glasziou P, Westbrook J. The three numbers you need to know about healthcare: the 60-30-10 Challenge. *Bmc Med*. 2020;18(1):102. doi:10.1186/s12916-020-01563-4
28. Rad J. Health inequities: a persistent global challenge from past to future. *Int J Equity Health*. 2025;24(1):148. doi:10.1186/s12939-025-02526-y
29. Nwankwo ONO, Auer C, Oyo-Ita A, et al. Human resources for health: a framework synthesis to put health workers at the centre of healthcare. *BMJ Global Health*. 2024;9(9):e014556. doi:10.1136/bmjgh-2023-014556
30. Stanford FC. The importance of diversity and inclusion in the healthcare workforce. *J Nat Med Assoc*. 2020;112(3):247–249. doi:10.1016/j.jnma.2020.03.014
31. Castleden H, White I, Otaodese J. What we heard: perspectives on climate change and public health in Canada. 2023:1–70. Available from: https://www.canada.ca/content/dam/phac-aspc/documents/corporate/publications/chief-public-health-officer-reports-state-public-health-canada/state-public-health-canada-2022/report-rapport/wwh-report.pdf. Accessed December 10, 2025
32. Leroy H, Anisman-Razin M, Detert J. Leadership development is failing us. Here's how to fix it. *Mit Sloan Manage Rev*. 2024;65(2):48–53.
33. Beer M, Finnström M, Schrader D. Why leadership training fails—and what to do about it. article. *Harvard Business Review*. 2016;94(10):50–57.
34. Day DV, Fleenor JW, Atwater LE, Sturm RE, McKee RA. Advances in leader and leadership development: a review of 25 years of research and theory. *Leadersh Q*. 2014;25(1):63–82. doi:10.1016/j.leaqua.2013.11.004
35. Moldoveanu M, Narayandas D. The future of leadership development. *Harvard Business Review*. 2019;97(2):40–48.

36. Murphy M. Leadership development is broken, because we're asking the wrong people if it's working. *Forbes*. Available from: https://www.forbes.com/sites/markmurphy/2025/06/13/leadership-development-is-broken-because-were-asking-the-wrong-people-if-its-working/. Accessed January 14, 2025.
37. Gurjian P, Halbeisen T, Lane K. Why leadership development programs fail. *McKinsey Quarterly*. 2014;1:1–6.
38. Grunberg NE, Barry ES, Callahan CW, Kleber HG, McManigle JE, Schoomaker EB. A conceptual framework for leader and leadership education and development. *Int J Leadership Educ*. 2019;22(5):644–650. doi:10.1080/13603124.2018.1492026
39. Winters RC, Chen R, Lal S, Chan TM. Six principles for developing leadership training ecosystems in health care. *Acad Med*. 2022;97(6):793–796. doi:10.1097/acm.0000000000004640
40. Geerts JM. Maximizing the impact and ROI of leadership development: a theory- and evidence-informed framework. *Behav Sci*.;1410: doi:10.3390/bs14100955
41. Jabareen Y. Building a conceptual framework: philosophy, definitions, and procedure. *Int J Qual Methods*. 2009;8(4):49–62. doi:10.1177/160940690900800406
42. Myburgh S, Tammaro AM. Constructing a theoretical framework. In: *Exploring Education for Digital Librarians*. Myburgh S, Tammaro AMeditors. Chandos Publishing;Vol. 2013:133–172.
43. Day D, Dragoni L. Leadership development: an outcome-oriented review based on time and levels of analyses. *Annual Rev Org Psychol Org Behav*. 2015;2:133–156. doi:10.1146/annurev-orgpsych-032414-111328
44. Day DV, Riggio RE, Tan SJ, Conger JA. Advancing the science of 21st-century leadership development: theory, research, and practice. *Leadersh Q*. 2021;32(5):101557. doi:10.1016/j.leaqua.2021.101557
45. Virtanen P, Tammeaid M. Leadership Development Fundamentals. In: Virtanen P, Tammeaid M, editors. *Developing Public Sector Leadership: New Rationale, Best Practices and Tools*. Springer International Publishing; 2020:17–34.
46. Dickson G, Tholl B, eds.. *Bringing Leadership to Life in Health: LEADS in a Caring Environment*. Second ed. Springer; 2020.
47. NHS Leadership Academy. *NHS Leadership Academy Leadership Framework*. 2011:1–67
48. HWA: Health Workforce Australia. Health LEADS Australia: the Australian health leadership framework. Health Workforce Australia. Available from: https://www.aims.org.au/documents/item/352. Accessed December 29, 2017.
49. Frank JR, Snell LS, Sherbino J, eds.. *CanMEDS 2015 Physician Competency Framework*. Royal College of Physicians and Surgeons of Canada; 2015.
50. Saxena A. *Leadership in Medical Education: Competencies, Challenges and Strategies for Effectiveness*. University of Saskatchewan; 2010.
51. Citaku F, Violato C, Beran T, Donnon T, Hecker K, Cawthorpe D. Leadership competencies for medical education and healthcare professions: population-based study. *BMJ Open*. 2012;2(2):e000812. doi:10.1136/bmjopen-2012-000812
52. McKimm J, Lieff S. Medical education leadership. In: Dent J, Harden RM, editors. *A Practical Guide for Medical Teachers*. 4th ed. Churchill Livingstone / Elsevier; 2013:343–352.
53. Malby R, Mervyn K, Boyle TJ. Darzi clinical leadership fellows: an activity theory perspective. *J Health Organiz Manage*. 2018;32(6):793–808. doi:10.1108/JHOM-05-2018-0133
54. Davis PJ. Best practice principles in leadership development interventions: an Australian perspective. *J Manag Policy Pract*. 2014;15(5).
55. Anonymous. *What Is Purpose? Greater Good Magazine*. Berkeley: The Greater Good Science Center at the University of California; 2025.
56. Yukl G. *Leadership in Organizations*. 6th ed. Pearson / Prentice Hall; 2006:542.
57. Bhattacharyya SS, Jha S. Literature Review of Leadership Theories. In: Bhattacharyya SS, Jha S editors. *Strategic Leadership Models and Theories: Indian Perspectives*. Emerald Publishing Limited;2018;7–18. doi:10.1108/978-1-78756-259-220181003
58. Pearce CL, Conger JA, eds.. *Shared Leadership: Reframing the Hows and Whys of Leadership*. SAGE Publications; 2003.
59. Ghate D, Lewis J, Welbourn D. Systems leadership: exceptional leadership for exceptional times – synthesis report. 2013. Available from: https://www.leadershipcentre.org.uk/systemsleadership/wp-content/uploads/2017/01/VSC_Synthesis_exec_complete.pdf. Accessed January 14, 2026.
60. Uhl-Bien M, Marion R, McKelvey B. Complexity leadership theory: shifting leadership from the industrial age to the knowledge era. *Leadersh Q*. 2007;18(4):298–318. doi:10.1016/j.leaqua.2007.04.002
61. Schmidt GB. Virtual leadership: an important leadership context. *Industr Orga Psychol*. 2014;7(2):182–187. doi:10.1111/iops.12129
62. Petrie N. *Future trends in leadership development*. 2011. Available from: https://cclinnovation.org/wp-content/uploads/2020/03/future-trends-in-leadership-development.pdf. Accessed December 15, 2025.
63. Day DV. Leadership development: a review in context. *Leadership Quarterly*. 2000;11:581–613. doi:10.1016/S1048-9843(00)00061-8
64. Crawford JA, Kelder J-A. Do we measure leadership effectively? Articulating and evaluating scale development psychometrics for best practice. *Leadersh Q*. 2019;30(1):133–144. doi:10.1016/j.leaqua.2018.07.001
65. Kingsley-Smith H, Farrier CE, Foran D, et al. Leadership development programmes in healthcare research: a systematic review, meta-analysis and meta-aggregation. *BMJ Lead*. 2024;8(4):283–292. doi:10.1136/leader-2024-000976
66. Debets M, Jansen I, Lombarts K, et al. Linking leadership development programs for physicians with organization-level outcomes: a realist review. *BMC Health Serv Res*.;23(1):783. doi:10.1186/s12913-023-09811-y.
67. McCauley CD, Palus CJ. Developing the theory and practice of leadership development: a relational view. *Leadersh Q*. 2021;32(5):101456. doi:10.1016/j.leaqua.2020.101456
68. Mostovicz EI, Kakabadse NK, Kakabadse AP. A dynamic theory of leadership development. *Leadership Org Dev J*. 2009;30(6):563–576. doi:10.1108/01437730910981935
69. Jones AM, Fan J, Thomas-Olson L, Zhang W, McLeod CB. Continuation of telework in the post-pandemic era: healthcare employees' preference and determinants. *Healthcare Management Forum*. 2023;36(4):256–262. doi:10.1177/08404704231170733
70. Oleksa-Marewska K, Tokar J. Facing the post-pandemic challenges: the role of leadership effectiveness in shaping the affective well-being of healthcare providers working in a hybrid work mode. *Int J Environ Res Public Health*. 2022;19(21):14388. doi:10.3390/ijerph192114388
71. Watson T. Rhetoric, discourse and argument in organizational sense-making: a reflexive tale. *Org Stud*. 1995;16(5):805–821. doi:10.1177/017084069501600503
72. Mabey C. Leadership development in organizations: multiple discourses and diverse practice. *Int J Manage Rev*. 2013;15(4):359–380. doi:10.1111/j.1468-2370.2012.00344.x

73. Joseph-Richard P, McCray J. Evaluating leadership development in a changing world? Alternative models and approaches for healthcare organisations. *Human Res Dev Int*. 2023;26(2):114–150. doi:10.1080/13678868.2022.2043085
74. Cox JF, Pearce CL, Sims HP. Toward a broader leadership development agenda: extending the traditional transactional-transformational duality by developing directive, empowering and shared leadership skills. In: Murphy SE, Riggio RE, editors. *The Future of Leadership Development*. Routledge; 2011:161–180:chap9.
75. Brown M, Trevino L. Ethical leadership: a review and future directions. *Leadersh Q*. 2006;17(6):595–616. doi:10.1016/j.leaqua.2006.10.004
76. Sweileh W. Research trends and patterns on international migration of health workers (1950–2022). *Sage Open*. 2024;14(4):21582440241293190. doi:10.1177/21582440241293190
77. Wu A, Choi E, Diderich M, et al. Internationalization of medical education — motivations and formats of current practices. *Med Sci Educator*. 2022;32(3):733–745. doi:10.1007/s40670-022-01553-6
78. Abeyta J, Gachupin R, Gulibert F, Lovato R, Andriamanana R, Merchant B. Indigenous perspectives on leadership: a communal reflection. *J Cases Educ Leadership*. 2020;23(1):67–92. doi:10.1177/1555458920902261
79. Kriger M, Seng Y. Leadership with inner meaning: a contingency theory of leadership based on the worldviews of five religions. *Leadersh Q*. 2005;16(5):771–806. doi:10.1016/j.leaqua.2005.07.007
80. Velsor EV, McCauley CD, Ruderman ML. *Center for Creative Leadership Handbook of Leadership Developme*nt. Jossey-Bass. 2010.
81. Akin G. Varieties of managerial learning. *Organ Dyn*. 1987;16(1):36–48. doi:10.1016/0090-2616(87)90031-3
82. Lyons O, George R, Galante JR, et al. Evidence-based medical leadership development: a systematic review. *BMJ Leader*. 2021;5:206–213. doi:10.1136/leader-2020-000360
83. McManus RM, Perruci G. *Understanding Leadership: An Arts and Humanities Perspective*. Routledge; 2015.
84. Kellerman B. Future. In: Kellerman B, editor. *Professionalizing Leadership*. Oxford University Press; 2018:59–78.
85. Souba WW. The being of leadership. *Philos Ethics Humanit Med*. 2011;6(5):1–11. doi:10.1186/1747-5341-6-5
86. Gardner JW. *On Leadership*. Free Press; 1990.
87. Petrie N. Vertical leadership development—part 1 developing leaders for a complex world. 2014: 1–13. Available from: https://www.ccl.org/wp-content/uploads/2016/10/VerticalLeadersPart1.pdf. Accessed January 14, 2026.
88. Bosse T, Duell R, Memon Z, Treur J, van der Wal N. Computational model-based design of leadership support based on situational leadership theory. *Simulation*. 2017;93:003754971769332. doi:10.1177/0037549717693324
89. Haber-Curran P, Tillapaugh D, Orono M. Leadership learning through student-centered and inquiry-focused approaches to teaching adaptive leadership. *JOLE*. 2013;12(1):92–116. doi:10.12806/V12/I1/R6
90. Brown PC, Roediger HL III, McDaniel MA. *Make It Stick: The Science of Successful Learning*. Harvard University Press; 2014.
91. Frich JC, Spehar I. Physician leadership development: towards multidisciplinary programs? *BMJ leader*. 2018;2(3):91–94. doi:10.1136/leader-2018-000070
92. Dewey J. *Experience and Education*. Collier Books; 1938.
93. Petriglieri G. Who can teach leadership? Available from: https://hbr.org/2012/08/who-can-teach-leadership. Accessed January 14, 2026.
94. Park YS, Hamstra SJ, Yamazaki K, Holmboe E. Longitudinal reliability of milestones-based learning trajectories in family medicine residents. *JAMA Network Open*. 2021;4(12):e2137179–e2137179. doi:10.1001/jamanetworkopen.2021.37179
95. Hannah ST, Avolio BJ. Ready or not: how do we accelerate the developmental readiness of leaders? *J Organ Behav*. 2010;31(8):1181–1187. doi:10.1002/job.675
96. Mintzberg H. *The Structuring of Organizations: A Synthesis of the Research*. Prentice-Hall; 1979.
97. Katz RL. Skills of an effective administrator. *Harvard Business Review*. 1955;33(1):33–42.
98. Gehlbach H. A new perspective on perspective taking: a multidimensional approach to conceptualizing an aptitude. *Educ Psychol Rev*. 2004;16(3):207–234. doi:10.1023/B:EDPR.0000034021.12899.11
99. Hoffman ML. *Empathy and Moral Development: Implications for Caring and Justice*. Cambridge University Press; 2000.
100. Saxena A, Walker K, Kraines G. Towards reconciliation of several dualities in physician leadership. *Healthcare Policy*. 2015;10(3):23–31.
101. Desveaux L. Rethinking healthcare: why paradox science is core to the future of health and health leadership. *J Healthc Leadersh*. 2025;17:45–48. doi:10.2147/jhl.S512053
102. Conger JA. Developing leadership capability: what's inside the black box? *Acad Manag Perspectives*. 2004;18(3):136–139. doi:10.5465/AME.2004.14776188
103. Kaehne A, Feather J, Chambers N, et al. Rapid review of system leadership in healthcare. System leadership: what do we know and what do we need to find out? 2022:1–42.
104. Plsek PE, Greenhalgh T. Complexity science: the challenge of complexity in health care. *BMJ*. 2001;323(7313):625. doi:10.1136/bmj.323.7313.625
105. Seidman D. Why moral leadership is important. 2024. Available from: https://thehowinstitute.org/latest-thoughts/why-is-moral-leadership-important-the-how-institute-for-society/. Accessed January 14, 2026.
106. Kotter JP. *A Force for Change: How Leadership Differs From Management*. Free Press; 1990.
107. Bennis W, Nanus N. *Leaders: The Strategies for Taking Charge*. Harper & Row; 1985.
108. Rost JC. Leadership for the twenty-first century. *Praeger*. 1991;1991:244.
109. Kotter JP. What leaders really do. *Harvard Business Review*. 1990;68(3):103–111.
110. Mintzberg H. Managing to lead. 10, September, 2015. https://mintzberg.org/blog/to-lead.
111. Lenaghan J, May C. Management and leadership development. *Board Meeting*. 2025. Accessed from: https://www.england.nhs.uk/long-read/management-and-leadership-development/. Accessed January 14, 2026.
112. Craig P, Di Ruggiero E, Frohlich KL, Mykhalovskiy E, White M. Conceptual issues: what do we mean by "context and how dowe identify its relevant features? In: Group. obotCnoHRCNIfHRNCGA, editor. *Taking Account of Context in Population Health Intervention Research: Guidance for Producers, Users and Funders of Research*. National Institue for Health research (NIHR) Evaluation. Trials and Studies Coordinating Centre;2018; 5–8:chap2
113. Grant H, McCann S. The 4 Types of Thinking Leaders Need to Practice—and Teach. In: *Harvard Business Review*. Harvard Business School Publishing;2025: 1–10. https://hbr.org/2025/02/the-4-types-of-thinking-leaders-need-to-practice-and-teach. 24 February 2025.

114. Burke V, Collins D. Optimising the effects of leadership development programmes: a framework for analysing the learning and transfer of leadership skills. *Manage Decis*. 2005;43(7–8):975–987. doi:10.1108/00251740510609974
115. Nientied P, Toska M. Leadership substitute theory in present-day organisations. *Open J Leader*. 2022;11(04):445–461. doi:10.4236/ojl.2022.114023
116. Hempenstall K. Near and far transfer in cognitive training. National Institute for Direct Instruction. Available from: https://www.nifdi.org/resources/hempenstall-blog/758-near-and-far-transfer-in-cognitive-training.html#:~:text=Far%20transfer%20occurs%20when%20there,context%20to%20another%20dissimilar%20context. Accessed November 27, 2023.
117. Popper M, Mayseless O. The building blocks of leader development: a psychological conceptual framework. *Peer Reviewed Leadership & Organization Development Journal*. 2007;28(7):664–684. doi:10.1108/01437730710823905
118. Avolio BJ, Hannah ST. Developmental readiness: accelerating leader development. Peer Reviewed. *Consulting Psychol J*. 2008;60(4):33–347. doi:10.1037/1065-9293.60.4.331
119. Rudolph CW, Rauvola RS, Zacher H. Leadership and generations at work: a critical review. *Leadersh Q*. 2018;29(1):44–57. doi:10.1016/j.leaqua.2017.09.004
120. Saxena A, Davies M, Philippon D. Structure of healthcare dyad leadership; an organization's experience. *Leadersh Health Serv*. 2018;31(2):238–253. doi:10.1108/LHS-12-2017-0076
121. Leroy H, Buengeler C, Veestraeten M, Shemla M, Hoever IJ. Fostering team creativity through team-focused inclusion: the role of leader harvesting the benefits of diversity and cultivating value-in-diversity beliefs. *Group Organ Manage*. 2021;47(4):798–839. doi:10.1177/10596011211009683
122. Hargreaves A, Fink D. Distributed leadership: democracy or delivery? *J Educ Administration*. 2008;46(2):229–240. doi:10.1108/09578230810863280
123. Hollon J. *Leadership Development: 7 Key Trends for the 21st Century*. TLNT: Talent Management and HR. Available from: http://www.eremedia.com/tlnt/leadership-development-7-key-trends-for-the-21st-century/. Accessed December 15, 2025.
124. Saxena A. Challenges and success strategies for dyad leadership model in healthcare. *Healthcare Management Forum*. 2021;34(3):137–148. doi:10.1177/0840470420961522
125. Kellerman B. *Cut off at the pass: the limits of leadership in the 21st century*. Available from: https://www.brookings.edu/articles/cut-off-at-the-pass-the-limits-of-leadership-in-the-21st-century/. Accessed December 14, 2025
126. Sukhera J. Narrative reviews: flexible, rigorous, and practical. *J Grad Med Educ*. 2022;14(4):414–417. doi:10.4300/jgme-d-22-00480.1