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REVIEW

Collaborative and Shared Leadership Dynamics in Healthcare Action Teams: A Systematic Literature Review

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Background: Healthcare Action Teams (HATs) operate under high-pressure, time-sensitive conditions where effective collaboration is critical for patient outcomes. While collaborative leadership is increasingly recognized as beneficial in such contexts, the literature remains fragmented, with inconsistent terminology and limited integration of findings.

Aim: This study systematically reviews how collaborative leadership is conceptualized, operationalized, and evaluated in HATs. It identifies different forms of collaborative leadership, the mechanisms that support or constrain its effectiveness, the organizational factors that influence its implementation, and the outcomes for team performance and patient care.

Methods: A systematic literature review is conducted based on PRISMA guidelines and using a comprehensive and expanded search query in Web of Science and EBSCOhost. More than 250 studies were identified in the initial screening, and 56 peer-reviewed articles, published through September 2025, that addressed collaborative leadership in HATs were ultimately selected and included in further analyses. Analysis was guided by four research questions and integrated based on functional leadership theory and models of social differentiation in teams.

Results: Two main forms of leadership were identified: vertical differentiation (authority shifts across hierarchical roles) and horizontal differentiation (distributed leadership among peers). Collaborative leadership enhances team adaptability, shared mental models, psychological safety, and communication. However, its effectiveness depends on factors such as organizational hierarchy, professional identity salience, task complexity, and team member interpersonal familiarity. A functional definition of collaborative leadership was proposed, emphasizing four leadership functions: activating resources, framing the task environment, mobilizing support, and synthesizing collaboration.

Conclusion: Collaborative leadership in HATs is a dynamic, context-sensitive process that enables adaptive coordination in complex clinical settings. When supported by appropriate organizational structures and team-level conditions, it enhances communication, trust, and patient safety. However, under rigid hierarchies or unclear role structures, its effectiveness may be reduced. This study offers a functional lens for understanding collaborative leadership in HATs and provides future research directions.

Keywords: collaborative leadership, shared leadership, healthcare, healthcare action teams

Introduction

Teamwork is essential in modern healthcare environments for delivering high-quality patient care. In particular, certain areas of healthcare, such as trauma response, emergency care, surgical interventions, and general inpatient care, rely on multidisciplinary teams that operate under significant time pressure and clinical uncertainty, which makes effective collaboration and communication critical for achieving positive patient outcomes.[1] These multidisciplinary teams are often referred to as Healthcare Action Teams (HATs), and current literature identifies leadership within these teams as an important predictor of successful team performance.[2,3] While leadership may take many forms, decentralized leadership, entailing the distribution (or sharing) of leadership functions among different individuals, is particularly well-suited to

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integrating diverse resources within the teams.[4] Such collaborative forms of leadership in HATs foster the integration of diverse expertise and resources, enabling dynamic adaptation to shifting clinical demands while ensuring the swift and coordinated implementation of work protocols and medical procedures.

Despite the recognition of the positive impact of collaborative leadership (CL) in HATs, it remains unclear what this leadership approach entails, which forms of CL exist in HATs, under what conditions these forms are applicable, and how they are effectively realized in practice. The literature currently employs various terms to describe forms of CL, including distributed, shared, and collective leadership, resulting in conceptual fragmentation and limiting the comparison of empirical results. Earlier review and scoping attempts were unable to bring together the full body of research on this topic,[2,5,6] as they either focus only on a particular aspect of CL or incorporate too few studies to allow meaningful integration. Moreover, scholarly interest in this topic has increased over the past decade,[7,8] and substantial but fragmented knowledge has been developed about different CL structures and the conditions under which HATs experience positive team outcomes related to patient care. The lack of appropriate conceptualization, on the one hand, and the fragmentation of results, on the other, hinder not only theoretical advancement but also have far-reaching practical consequences. This limited understanding obstructs the implementation of CL models and associated training for HAT members, and since these teams mostly operate in situations where decisions directly affect patients' lives, this also hinders efforts to further improve the quality of care delivered.

Our paper seeks to critically address the current understanding of CL in medical settings by conducting a systematic literature review of how CL is conceptualized and operationalized in the context of HATs (Rosenman et al, 2014). After an initial assessment of the selected papers, we formulate four key research questions that shape our analysis and synthesis:

RQ1: What forms of collaborative leadership exist in Healthcare Action Teams?

RQ2: Which team-level mechanisms and behavioral patterns predict effective collaborative leadership within Healthcare Action Teams?

RQ3: What organizational factors influence the successful implementation of collaborative leadership in Healthcare Action Teams?

RQ4: What are the reported effects of collaborative leadership on team members and patient care in Healthcare Action Teams?

By systematically analyzing existing empirical and theoretical literature, this review provides an integrated overview of CL in HATs. Our paper contributes to the literature by (1) clarifying the different forms of CL that occur in these teams and their predictive factors, (2) presenting the current state of research and identifying key gaps, and (3), based on the critical analysis of the findings, outlining a future research agenda to guide studies on leadership in HATs. In doing so, it advances the understanding of leadership behaviors in HATs and contributes not only to theoretical development but also to practical applications, as it offers actionable insights for designing leadership training, structuring team protocols, and shaping organizational policies that support adaptive, high-performing teams in time-critical healthcare environments.

Theoretical Framework

HATs can be defined as multidisciplinary groups that collaborate to deliver time-pressured, critical patient care under dynamic conditions.[9] Recent definitions of HATs draw on two key perspectives presented in Edmondson[10] and Klein, Ziegert, Knight and Yan[11] that emphasize: (1) multidisciplinary as HATs are composed of members with various specialized skills, often from different medical professions; (2) task complexity as HATs are asked to perform in unpredictable, uncertain, and often urgent circumstances that create a high degree of interdependence among HAT members, (3) dynamism as task conditions are often changing and the HAT members have to improvise and coordinate effectively in order to respond to novel and expected task demands, and (4) dual action orientation as during brief performance events, HATs have to provide patient care and at the same time create learning and training opportunities for

their less experienced members. These teams function as complex adaptive systems, characterized by emergent behaviors, non-linear interactions, and often diverse communication frameworks in high-uncertain environments.[1,12] According to van Rijswijk, Curşeu and van Oortmerssen[13] and based on Bunderson and Van der Vegt,[14] the effectiveness of such multidisciplinary teams relies on two dimensions that reflect two forms of differentiation that always coexist. On the one hand, horizontal differentiation refers to the distribution of skills and knowledge within the team; on the other hand, vertical differentiation involves hierarchical differences arising from unequal distribution of cognitive resources or information-processing abilities within teams. The interplay between horizontal and vertical differentiation results in task synergetic or relational dissolution processes and, thereby, predicts the process gains and losses that determine team performance. When vertical differentiation is high, team hierarchy arises, hindering cognitive integration processes and limiting the learning opportunities available to the team members, and in line with the subject of this paper, thereby hindering distributed forms of leadership. Instead, more traditional, hierarchy-based forms of leadership take over, and teams do not fully utilize the cognitively diverse resources to promote learning and development of the team members, which is essential for team viability.

In contrast to traditional healthcare teams, HATs often have fluid membership that varies with staffing and expertise needs, and therefore, conventional models of team development grounded in stable team tenure are less applicable. Although HATs are seen as beneficial for patient outcomes, they do not always succeed in addressing the complex challenges of teamwork and leadership associated with these forms, and research has therefore focused on the factors that predict positive team outcomes, such as shared mental models, communication lines, and various leadership structures.[15–17]

Research indicates that various HATs employ different leadership models, from hierarchical management to more distributed approaches.[2,18] While hierarchical leadership offers important advantages, including efficient management and clarity about accountability,[6,19] the complexity of medical challenges and the diversity of specialisms involved often also require cross-disciplinary input for effective decision-making. Therefore, scholars have advocated for the adoption of more collaborative and shared leadership approaches that rely on collective influence and more situation-dependent role allocation.[7,20] CL is the shared responsibility of setting direction, stimulating alignment, and building commitment among all involved to achieve a common purpose.[21,22] Leadership in this form is not the responsibility of one person, but rather a dynamic and interactive process among multiple or all team members, leveraging the benefits of shared mental models and successful coordination to enhance decision quality and team effectiveness. The Complex Adaptive Systems theory (CAS)[23] explains why these leadership models can produce significant patient-outcome benefits in HATs, as they strengthen adaptive capacity by supporting distributed decision-making, flexible coordination, and role negotiation. CAS conceptualizes organizations and groups as evolving networks of interrelated agents that adjust to shifting environmental conditions, focusing on adaptability and emergent outcomes over strict hierarchical control. Building on this, the Complexity Leadership Theory (CLT)[24] views leadership as an entanglement of adaptive functions. In this view, CL fosters self-organization and creates room for multidisciplinary interactions, including sensemaking and sensegiving processes, that are essential for the integration of diverse expertise.[25,26] These processes are particularly important in HATs, where uncertainty, dynamic team composition, and complex medical cases under time pressure require effective shared direction setting.[2]

Method

The literature review was conducted in September 2025, following the PRISMA reporting guidelines for systematic reviews.[27,28] To develop the search strategy, we adapted and expanded the search query used by Janssens, Simon, Beckmann and Marshall[2] in their review of shared leadership literature up to 2017. Our query is composed as follows:

(collaborative leader* OR shared leader* OR cooperative leader*) AND ("healthcare team*" OR "action team*" OR "rapid response team*" OR "emergency team*" OR "cardiac arrest" OR "trauma team*" OR "operating room team*" OR "surgical team*" OR "maternity team*" OR "obstetric team*" OR "anaesthesia team*" OR "anesthesia team*" OR "code team*" OR "intensive care team*" OR "clinical team*").

We searched for studies in titles, abstracts, and keywords, and the preliminary inclusion criteria were limited to those published in English and subject to peer review. The databases that were searched are Web of Science and EBSCOhost

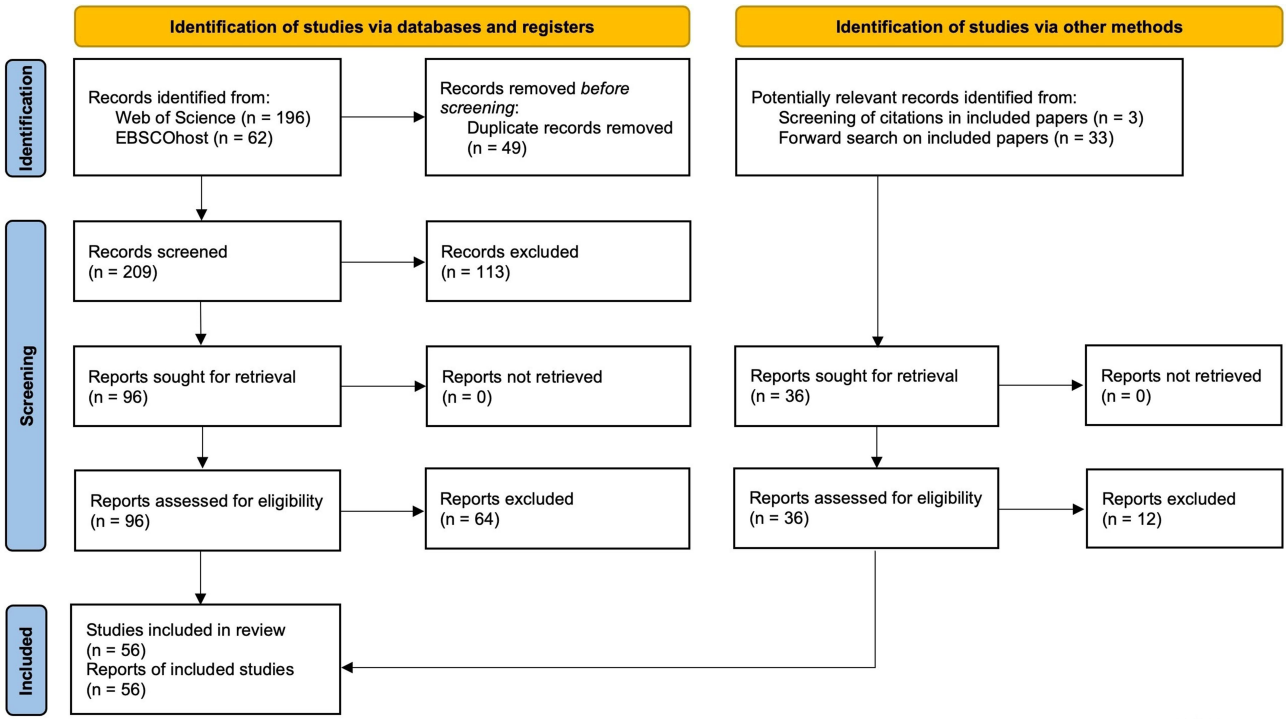

Figure 1 PRISMA diagram of the literature search process.
Note: Based on the PRISMA 2020 Flow Diagram. From "The PRISMA 2020 statement: An updated guideline for reporting systematic reviews," by Page et al.[27]

(all journal databases selected: MEDLINE, PsycArticles, PsycINFO, LISTA, ERIC, GreenFILE, CINAHL, Psychology & Behavioral Sciences Collection, Business Source Complete, and Academic Search Premier). A PRISMA diagram of the search and selection process is visible in Figure 1.

The search query yielded 209 unique records, from which 113 records were excluded in the initial screening step, as it was clear from reading the title and abstract that they did not fall within the scope of this study. As our study focuses on CL related to HATs, we excluded studies that do not meet these two criteria. Therefore, we used the definitions mentioned in the theoretical introduction of this paper, which means, for example, that we only included literature that describes HATs experiencing time-pressured conditions. In the next screening step, the resulting 96 papers were read in depth and re-screened to determine whether they fell within the scope and definitions used in this paper. This process results in 32 papers that are included in our sample. To expand our sample and reduce the risk of inadvertently overlooking relevant literature, we screened the citations of these articles and performed a backward and forward search, resulting in an additional 36 potentially relevant articles, of which 24 were added to the sample after a further selection process. Therefore, our final sample comprises 56 articles.

Results

Description of the Sample

The papers in our sample were published between 2005 and 2025, with the exception of the study by Lomas and Goodall, which was published in 1994. Figure 2 presents the annual distribution of these publications, indicating a growing interest in the topic over the years. Of the 56 papers, 34 were published in the last decade.

Most papers in the sample are published in healthcare-oriented journals. In total, the papers are spread across 46 different journals, suggesting that knowledge on this subject is widely disseminated. Only two journals, *BMJ Leader* and *Journal of Interprofessional Care*, have published three papers each on this topic. Table 1 provides a complete overview of the sample, including a summary of the key findings related to CL in HATs.

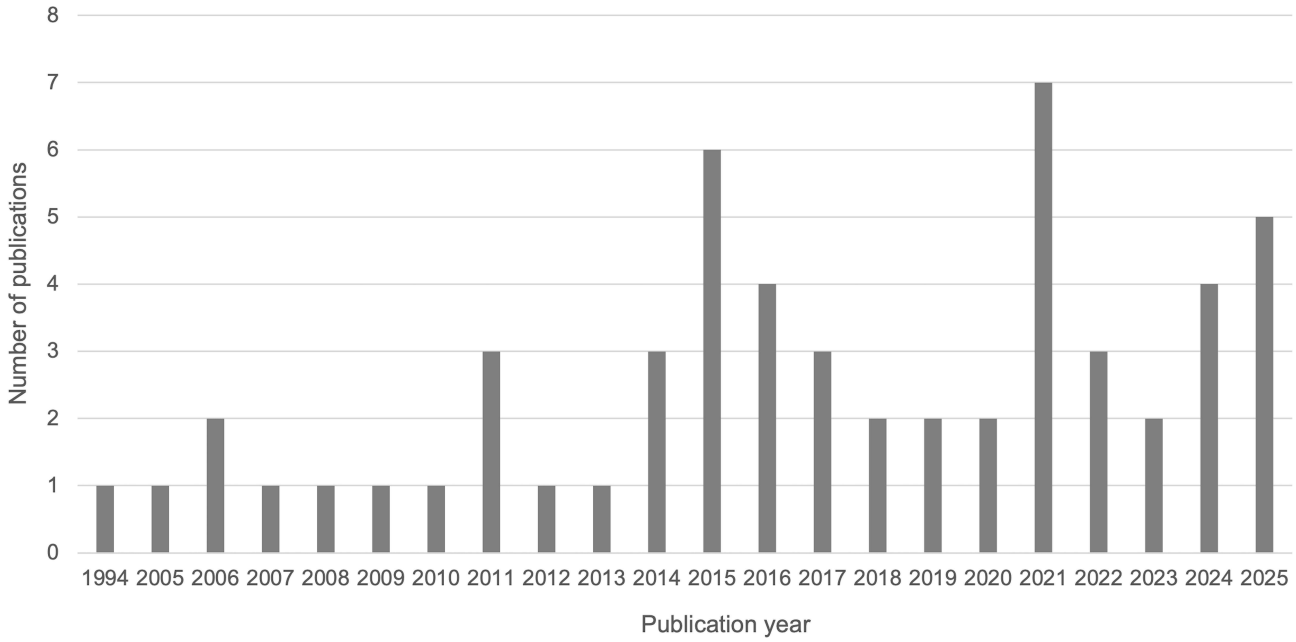

Figure 2 Annual distribution of the publications included in the sample.
Note: Consistent with the timing of our literature review, the number of publications for the year 2025 is reported up to September.

The literature on CL in HATs is heterogeneous; therefore, in what follows, we summarize the key themes emerging from our analysis along the four research questions that guided the review. In the subsequent discussion, we attempt an integration of these results using insights from functional perspectives on CL[71] and social differentiation in teams literature.[13]

Theme 1: Forms and Dynamics of Collaborative Leadership

The first research question focuses on identifying the forms of CL that are described in the literature about HATs. The literature uses different terms to refer to CL structures in HATs, ranging from shared, distributed, collaborative, and co-leadership. Overall, studies refer to CL in HATs as fluid, situational, and rotating work arrangements with the aim of initiating, guiding, and adjusting the goal-directed behavior of HATs. In line with the shared leadership model of van Knippenberg, Pearce and van Ginkel,[72] the deployment of CL practices in HATs unfolds as a process of dynamic leadership transitions, in which leadership functions are dynamically delegated across team members depending on their expertise and the task requirements. In terms of forms of CL, we can distinguish between authority shifts and dynamic leadership role allocation, a distinction that reflects vertical and horizontal differentiation[13] of leadership in HATs. CL as vertical differentiation reflects transitions of authority (vertical differentiation) during task accomplishment, as illustrated by shifting authority depending on the phase of the medical intervention between roles such as the attending surgeon, surgical fellow, and the admitting resident.[11] Sarah Janssens presents a particular illustration of CL as vertical differentiation in her work on co-leadership in interprofessional teams in maternity emergencies, in which a clinician and a midwife share leading roles representing medical and midwifery professions.[2,15,47] Such clinician-midwife dyads shifted leading roles either in a pre-planned manner or guided by the task requirements imposed by the nature of the emergency and the general composition of the emergency response team.[47] CL as horizontal differentiation reflects emergent diffusion of leadership roles among different team members without involving a clear status differentiation between those fulfilling these functions and the rest of the team.[3,52,68] Examples of horizontal CL are nurses that share different leadership functions,[3] the leadership role constellations as described in Chreim and MacNaughton,[17] the emergent distribution of leadership functions across various team members,[20,58] leaders that encourage and empower members to participate in medical decisions[68] and, the sharing of leading roles among nurses and residents in anesthesia teams.[49] CL as vertical differentiation captures how authority migrates across medical personnel positioned at different

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Table 1 Overview of Included Studies

Article	Participants	Research Aim	Key Outcomes Related to Collaborative Leadership
Abdelwahab Ibrahim El-Sayed, Shaheen and Farghaly Abdelaliem[3]	Nurses from university hospitals	To examine the relationship between CL and nurses' productive work performance, as well as the mediating role of their innovative behavior.	• CL explained 83% of the differences in individual work performance and 77% of the differences in nurses' innovative behavior. • Innovative behavior was found to partly mediate the link between CL and nurses' work performance.
Amacher, Schumacher, Legeret, Tschan, Semmer, Marsch and Hunziker[29]	Medical students	To examine differences between male and female rescuers in terms of their performance in cardiopulmonary resuscitation and leadership roles.	• In the teams, all team members could take the lead (no formal leader was assigned). Male participants and male-only teams displayed more decisive leadership behaviors than female participants and female-only teams, such as secure leadership statements, task assignments, and planning ahead. • Teams that demonstrated more leadership behaviors started resuscitation earlier and achieved more continuous hands-on activity.
Armstrong, Peckler, Pilkinton-Ching, McQuade and Rogan[30]	Senior emergency department nurses	To determine whether a simulation training program could improve team performance and nurse leadership skills in a shared leadership model during cardiopulmonary resuscitation	• Simulation is a valuable tool for strengthening teamwork and advancing senior nurses' leadership skills, particularly when nurses and doctors share leadership responsibilities during cardiopulmonary resuscitation. • To successfully integrate shared leadership into cardiac arrest management in emergency medicine, a sustainable training program is needed. This program should give nurses and doctors opportunities to practice these roles and regularly refresh their leadership skills.
Aufegger, Shariq, Bicknell, Ashrafian and Darzi[16]	N.A.	To analyze the behaviors of shared leadership in acute healthcare teams and assess the extent to which shared leadership can improve patient safety and healthcare delivery in acute care settings.	• Core enablers of effective shared leadership are shared mental models, social support, shared situational awareness, and psychological safety. • High-performing teams demonstrate more shared leadership behavior, teams with lower seniority show more traditional leadership styles, and shared leadership is associated with greater team satisfaction.
Aveling, Stone, Sundt, Wright, Gino and Singer[31]	Representatives from all disciplines in cardiac surgery teams	To explore the elements that influence surgical team behaviors to develop more context-specific and effective strategies for improving surgical teamwork.	• Although perceptions of ideal teamwork are largely shared, team behaviors are shaped by context and organizational factors, and team members have different and conflicting views on what interpersonal behaviors constitute optimal teams and leadership. • While every team member should be valued, many participants argued the importance of having a 'director' to step in and lead when necessary (surgeon-directed leadership). Surgeons and nonsurgeons disagree on whether such a role gave surgeons the right to adopt an authoritarian leadership style, with some surgeons feeling their greater responsibility for the patient's life was not fully recognized by others. • Nonsurgeons favor shared leadership that encourages responsibility and open communication, warning that authoritarian approaches create fear, hinder patient care, and reduce willingness to speak up, endangering safety.

Bäckström, Engström, Lundvall, Leijon-Sundqvist and Jonsson[7]	Team members in trauma centers	To explore how trauma team members perceive and enact interdependence, in particular with radiographers, focusing on their roles, integration, and collaboration within trauma care.	• Leadership and responsibilities shift fluidly among team members (dynamic role adaptation), with radiographers taking the lead during imaging while others support. Effective collaboration depends on coordinated expertise, timely information sharing, and proactive support behaviors across professional roles. • Excluding radiographers from communication and planning hindered efficiency. There is a need for inclusive leadership to foster team synergy and align objectives for unified success.
Barry, Teunissen and Varpio[5]	N.A.	To understand the historical developments that have led to the current conceptualizations of followership in interprofessional care teams.	• In current interprofessional healthcare research, followership is a key focus, yet two opposing views exist: one sees followers as active participants within shared leadership models, while the other maintains the traditional view of followers as passive team members. • Effective shared leadership relies on understanding team dynamics and allows individuals to shift between leadership and followership roles as needed. • Shared leadership is, in most studies, linked to improved team performance and patient outcomes, as it encourages active participation and responsibility among all team members.
Bouchez, Cagnon, Hamouche, Majdoub, Charlet and Schuers[32]	N.A.	To outline our current knowledge of the essential components of interprofessional decision-making in healthcare.	• Effective decision-making in healthcare may depend on the healthcare organization's commitment to shared leadership. Regulators and organizations should support this by aligning roles with collaborative abilities rather than clinical expertise, allowing flexibility such as dual or rotating leadership responsibilities.
Brandstorp, Kirkengen, Sterud, Haugland and Halvorsen[33]	General practitioners, nurses, paramedics, and students	To improve training methods for emergency teams by examining how leadership is enacted and understood through interactive practices during simulations, debriefings, and collaborative analysis.	• Leadership practice unfolds as both designated and distributed, with team members adjusting roles based on the situation and available competencies during training sessions. • Participants share leadership responsibilities by offering direction, maintaining control, and contributing to situational awareness, even when a formal leader is present. Calmness, mutual respect, and shared responsibility for patient care and colleagues' well-being emerge as guiding principles that support effective CL.
Brewster, Butt, Gordon, Sarkar, Begley and Rees[34]	Nurses and doctors of intensive care units	To understand how intensive care unit staff perceive leadership, the factors that facilitate or hinder it in a simulated work environment, and the elements that shape leadership perceptions.	• While crisis situations often involve hierarchical, individual leadership, collaborative shared leadership emerges in other situations when decision-making regarding clinical decisions and role allocation is distributed among multiple team members (typically a senior nurse and a doctor) to prevent cognitive overload of an individual.
Cassidy, Jogerst, Coe, Monette, Sell, Eurboonyanum, Hamdi, Sampson, Petrusa, Stearns, Gee, Chyn, Saillant and Takayesu[35]	General surgery residents, emergency medicine residents, and emergency medicine nurses	To examine the role of simulation in interprofessional trauma team training and its impact on the overall culture of trauma care.	• Co-leadership between emergency medicine and general surgery residents often developed during simulations, driven by alignment of professional agendas and shared responsibilities as well as the recognition of the unique expertise each specialty brings. • Leadership was seen as dynamic and situational, rather than fixed to one individual. • Shared leadership improved team identity and mutual respect; however, participants emphasized the need for universal trauma language and clear role definitions to avoid confusion when leadership is shared.

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Table 1 (Continued).

Article	Participants	Research Aim	Key Outcomes Related to Collaborative Leadership
Chreim and MacNaughton[17]	Interprofessional mental health teams	To explore how leadership roles and practices are distributed within healthcare teams and their impact on team effectiveness.	• More leaders do not automatically make teams more effective, because as leadership layers increase, so do coordination and communication challenges. Overlaps or gaps in leadership do not necessarily reflect a lack of capability among leaders. Such situations often occur as leaders adapt and align with one another. • Leadership ranges from "tight" to "loose" team coupling, each effective in different contexts. Tight leadership, with close oversight and proximity, suits teams needing integration or conflict management. Loose leadership, with lighter oversight, works for experienced, goal-aligned teams. Two contextual factors determine the ideal level of leadership for a team: the degree of service integration and the agreement among team members on the goal/service model and task distribution.
Clements, Curtis, Horvat and Shaban[36]	Emergency nursing staff	To explore how having the most experienced nurse lead the team during trauma care affects communication, documentation, and staff perceptions of leadership in an Australian emergency department.	• The introduction of a nursing team leader improves nursing leadership in emergency departments by having the nurse oversee trauma resuscitation alongside the medical team leader. This is also reflected in enhanced team communication and recording of the initial blood pressure using a manual cuff, along with better documentation of patient injuries.
Courtenay, Nancarrow and Dawson[6]	N.A.	To analyze existing research on interprofessional teamwork in trauma care settings in order to understand the scope and focus of the literature.	• Single-leader, intradisciplinary decision-making provides clarity and supports information exchange. However, it also risked unnecessary procedures. • In contrast, cross-disciplinary and CL improve overall team performance, reduce conflict, and foster positive relationships between leaders and team members.
De Brún and McAuliffe[37]	Various clinical workers, program designers, and experts	To develop an initial program theory that will provide insight into the mechanisms underlying the practice of collective leadership.	• Collective leadership is supported by contextual factors such as on-site team training, collaborative or co-design approaches, time allocated for team reflection, backing from organizational and senior management, inclusive communication and decision-making, and strong interpersonal relationships within teams. • Mechanisms such as motivation, empowerment, role clarity, support, and psychological safety contributed to team outcomes such as improved quality and safety, higher staff and patient satisfaction, stronger team collaboration, and increased readiness to share and assume leadership roles.

De Brún and McAuliffe[38]	Surgical team, acute medical team, hospital theatre utilization team, and a discharge planning for older persons team	To examine the effects of a collective leadership intervention by investigating what works for whom, in what ways, and under which conditions.	• The intervention fosters shared mental models, role clarity, and a sense of common purpose. Empowering teams to co-design improvement initiatives enhances motivation and ownership. • Protected time for team reflection is crucial for developing shared mental models and improving multidisciplinary collaboration. • Visible support from senior management is essential for the successful implementation of collective leadership. • Effective and lasting collective leadership relies on ongoing open communication between leaders and team members. Working around and within existing hierarchies is essential to reduce their potency and foster collective leadership.
Doumouras, Hamidi, Lung, Tarola, Tsao, Scott, Smink and Yule[39]	Fourth-year medical students	To examine the differences between male and female rescuers in terms of their cardiopulmonary resuscitation skills and leadership abilities.	• In hemorrhage scenarios, higher leadership and teamwork skills in surgeons were associated with better performance in anesthetists, which shows mutual influence and CL. Collaboration depends on the type of crisis, as shared leadership was present in hemorrhage scenarios but not in difficult airway scenarios. During crises, leadership naturally shifts and is shared between the surgeon and the anesthetist.
Fernandez-Moure, Pascual, Martin, Rodgers and Kaplan[40]	N.A.	To evaluate the structural and functional differences between medical and nonmedical emergency response teams to identify opportunities for improving medical team performance.	• In nonmedical emergency response teams, leadership is skill-based (ie, the person with the most relevant expertise leads, regardless of rank), fostering adaptability and efficiency. In medical emergency response teams, leadership often defaults to hierarchy or arrival time, which can cause confusion, leadership changes mid-crisis, and degraded communication. • Nonmedical teams train together regularly, developing transactive memory that improves coordination, whereas medical teams rarely train as a unit and often form ad hoc groups, limiting shared understanding and teamwork efficiency.
Geyer, Kilgore, Chow, Grant, Gibson and Rice[41]	Emergency nurses	To evaluate the impact of implementing a trauma nurse leader program (ie, a core team of specially trained emergency department nurses) on patient outcomes and process improvements during the initial resuscitation of trauma patients.	• Trauma nurse leaders provide mentorship and clinical expertise to their peers by overseeing trauma patient care, reviewing documentation, answering questions, and offering informal teaching. • As part of the program, trauma nurse leaders receive leadership training and conflict management to address staff concerns and strengthen team relationships. These components enhance their ability to communicate effectively and collaborate within the team. • The trauma nurse leader program shortens patient length of stay and improves trauma documentation.
Gosman, Baldisseri, Stein, Nelson, Pedaline, Waters and Simhan[42]	N.A.	To describe the implementation and experience of introducing an obstetric-specific medical emergency team within an existing rapid response system.	• In the obstetric-specific medical emergency team, team leadership is situational and is exercised by a critical care medicine medical doctor or an in-house obstetrician.
Guerra, Lambe, Manolova, Sadler and Sheehan[43]	Members of acute multidisciplinary healthcare teams	To explore how healthcare professionals from different disciplines view the current and ideal delivery of acute rehabilitation, the factors that help or hinder its implementation, and how these affect patient recovery.	• Team collaboration can be stimulated through supportive management and shared (senior) leadership that promotes a positive culture (ie, working together, seamless handovers among healthcare professionals, learning from colleagues, and openly expressing professional perspectives).

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Table 1 (Continued).

Article	Participants	Research Aim	Key Outcomes Related to Collaborative Leadership
Horne and Smith[44]	N.A.	To review strategies that can be applied in Emergency Departments to minimize errors and enhance decision-making in the management of major trauma.	• Conducting a full-team briefing encourages a more collaborative approach, where everyone is involved in setting objectives and making decisions. In contrast, briefing individuals separately tends to create a fragmented team dynamic, with members concentrating only on their own tasks and deferring excessively to the team leader.
Jacobsson, Hargestam, Hultin and Brulin[45]	Surgeons, emergency room physicians, anesthesiologists, and nurses	To analyze how formal leaders share knowledge, foster agreement within the team, and establish their position relative to other team members.	• Leaders use a combination of coercive, educational, dialogical, and negotiation-based strategies to handle situations. They draw on different approaches to share their expertise with the team and to build a shared understanding of work priorities. • The choice of strategy shifts according to the urgency of the situation and the dynamics among team members. In doing so, leaders position themselves either in an authoritative role or in a more collaborative and equal stance.
James, Subedi, Indrasena and Aylott[46]	Various emergency department stakeholders	To present a new perspective on the hot debrief following cardiac arrest, framing it as a collaborative and shared process involving the entire multidisciplinary team.	• The implementation of a hot debrief tool in the emergency department showed positive engagement from nursing staff and healthcare assistants, who were more willing to embrace a distributed leadership model. • While nurses were more supportive of collaborative approaches, physicians often remained skeptical about the benefits of shared leadership in improving team performance.
Janssens, Clipperton, Simon, Lowe, Beckmann and Marshall[47]	Midwives, obstetricians, and anaesthetists	To address knowledge gaps about clinicians' attitudes toward co-leadership and the potential implementation of such a structure in maternity care.	• Clinicians generally viewed co-leadership in maternity emergencies as beneficial due to improved leadership performance and co-leader backup behavior. • The implementation of co-leadership requires agreed management protocols, a supportive organizational culture, and participation in simulation training. Besides that, co-leadership depends on flexible leadership-sharing practices, strong communication, and a high degree of trust between co-leaders.
Janssens, Simon, Barwick, Beckmann and Marshall[15]	Multidisciplinary teams	To evaluate the extent to which leadership functions are spontaneously shared in maternity emergency teams and how this relates to team performance.	• Although traditional approaches favor a single leader, leadership is notably shared within healthcare teams. • Teams with less leadership sharing reached critical interventions faster, while checklist completion showed no significant difference. Clinically stronger teams had fewer leadership utterances beyond the main leaders compared to weaker teams.
Janssens, Simon, Barwick, Clipperton, Beckmann and Marshall[8]	Interdisciplinary teams	To examine how midwives contribute to leadership during maternity emergencies.	• Leadership was shared across professions rather than held by a single leader. Both midwives and doctors contributed a similar overall number of leadership statements, indicating balanced participation in guiding the team. • Midwives provided fewer clinically focused leadership statements than doctors, but contributed a comparable amount of non-clinical leadership.

Janssens, Simon, Beckmann and Marshall[2]	N.A.	To synthesize existing literature on shared leadership in HATs and examine reported outcomes of leadership sharing during healthcare emergencies.	• There are three forms of shared leadership identified in HATs: spontaneous collaboration (ie, emergent sharing during crises), intuitive working relations (ie, mentoring-based delegation), and institutionalized practices (ie, planned role-sharing such as physician-nurse dyads). • Reasons for shared leadership include strengthening leadership when the designated leader is ineffective, reducing the leader's workload in complex situations, and developing future leaders through mentoring. • Some studies link shared leadership to improved clinical performance in healthcare emergency teams, but these results are inconsistent and often confounded by other factors. The success of shared leadership depends on clear communication and organizational support.
Kida, Fujitani and Matsushita[20]	Employees of acute care hospitals	To understand how CL relates to patient safety climate, and whether workplace social capital or interprofessional collaboration mediates this relationship.	• CL strengthens mutual relationships and interprofessional practices within healthcare teams, and these interactions contribute to creating a climate in which patient safety is paramount.
Klein, Ziegert, Knight and Yan[11]	Surgeons, anesthesiologists, residents, nurses, and fellows in emergency teams	To examine how leadership operates in extreme action teams through dynamic delegation to ensure reliability and develop novice members in urgent, unpredictable settings.	• Leadership is based on formal roles rather than specific people. Consequently, smooth transitions are possible despite frequent turnover within the team. • Although leadership is shared overall, only one person actively directs the team at a time. Senior leaders repeatedly delegate and reclaim the active leadership role based on situational demands to ensure patient safety. A strict hierarchy determines who can take charge or relinquish leadership. • This dynamic delegation system enhances the ability of extreme action teams to perform reliably while developing the skills of their novice team members.
Kress, Tasota, Broge-Connor and Jackson[48]	Nurses	To describe the implementation and outcomes of a nursing crisis training course designed to improve teamwork during in-hospital medical emergencies.	• The training establishes a consistent leadership structure that is based on CL between a lead nurse and a medical emergency team leader.
Künzle, Zala-Mezö, Wacker, Kolbe, Spahn and Grote[49]	Anesthesia teams composed of a resident and a nurse	To investigate shared leadership patterns during anesthesia induction and their impact on team performance.	• In high-performing teams, leadership was shared between residents and nurses, whereas in low-performing teams, residents displayed much higher levels of leadership behavior than nurses. • In these lower-performing teams, residents took on both types of leadership behavior, while in higher-performing teams, leadership roles were more distinct: nurses primarily engaged in content-focused leadership (ie, understanding tasks and challenges, supporting sense-making by promoting information search and exchange), and residents mostly demonstrated structuring leadership (ie, directing and organizing team processes by overseeing activities such as role allocation and resource management).

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Table 1 (Continued).

Article	Participants	Research Aim	Key Outcomes Related to Collaborative Leadership
Leary[50]	N.A.	To evaluate and improve in-hospital cardiac arrest response by implementing structured leadership, role clarity, and training strategies to enhance team performance and patient outcomes.	• The study introduces a shared leadership model where a physician and a nurse co-lead the resuscitation effort. The nurse co-leader assigns roles to 13 essential team members using labeled stickers, reducing overcrowding and ensuring that each provider has a clear, defined task. In addition, the nurse leader monitors CPR quality and rotates providers when fatigue is observed, while the physician focuses on diagnosis and treatment. • The dyad leadership model fosters better communication between nurses and physicians.
Lomas and Goodall[51]	Trauma teams and patients	To evaluate the impact of structured trauma teams on patient outcomes in accident and emergency departments.	• Clinical performance is better when a trauma team with a nurse leader and doctor leader is present, in contrast to a partial team or no team at all, as that results in unstructured care, duplicated tasks, and delays in critical interventions. • Effective trauma care requires joint decision-making and coordination rather than dominance by a single role. Predefined roles for nursing and medical staff are important, as ad-hoc distribution of tasks leads to gaps in care and inefficiency.
Mitchell and Boyle[52]	Multidisciplinary healthcare teams	To examine whether shared leadership in multidisciplinary healthcare teams has a curvilinear (inverted U-shaped) effect on team innovation and how this relationship is moderated by the salience of professional identity.	• The hypothesized inverted U-shaped relationship between shared leadership and team innovation was not supported. • At high levels of professional salience, shared leadership had a positive curvilinear effect on innovation (a shallow U-shape). • At low levels of professional salience, the relationship followed an inverted U-shape: moderate shared leadership improved innovation, but high levels reduced it.
Muller-Juge, Cullati, Blondon, Hudelson, Maître, Vu, Savoldelli and Nendaz[53]	Resident physicians and nurses	To explore the actions of resident physicians and nurses that influence teamwork quality within a simulated internal medicine ward environment.	• Most resident-nurse dyads follow a traditional pattern whereby residents take the lead. Some dyads, however, engage in more collaborative interactions that involve shared responsibilities, joint decision-making, constructive suggestions, active communication, attentive listening, and behaviors that promote positive team dynamics. Teamwork quality improves when either a clear leader emerges or leadership is shared, but only if both members have sufficient autonomy.
Okpala[54]	N.A.	To examine what factors shape power dynamics in interprofessional healthcare teams and the strategies teams can use to manage them.	• Using a merit-based system to assign leadership roles within interprofessional healthcare teams fosters trust and encourages a positive team culture.
Pasarakonda, Grote, Schmutz, Bogdanovic, Guggenheim and Manser[55]	Surgical teams	To examine whether surgical teams adapt more effectively to changing task demands when their formal leader plays a central role in team coordination.	• Shared leadership is less effective during surgical difficulties in critical phases, where coordination should be centralized around the formal leader. However, in contrast, in the case of unexpected events, coordination under one leader does not support goal achievement.
Reyes, Bisbey, Day and Salas[56]	N.A.	To synthesize evidence-based insights from the crisis leadership literature, investigating their importance and frequency to offer recommendations relevant to medical team leaders in general.	• Leaders should identify the experts in each area and practice shared leadership by prioritizing expertise over hierarchical rank. • A leader can adapt team roles, the chain of command, and personnel assignments to effectively address unexpected challenges.

Rosen, DiazGranados, Dietz, Benishek, Thompson, Pronovost and Weaver[57]	N.A.	To synthesize existing evidence on teamwork in healthcare delivery settings to assess the current state of research and identify gaps for future investigation.	• Current research is unclear about how leadership is most effectively shared among clinical teams.
Rosenman, Shandro, Ilgen, Harper and Fernandez[9]	N.A.	To the design, execution, and demonstrated effectiveness of leadership training programs for HATs.	• Only two studies regarding leadership training in HATs cited a team leadership model, of which one is based on shared leadership.
Sadideen, Weldon, Saadeddin, Loon and Kneebone[58]	(trainee) surgeons and (trainee) nurses	To conduct an in-depth analysis of leadership behaviors as observed in video recordings within the concept of the Burns Suite.	• Leadership is distributed across the team, whereby roles shift dynamically based on the situation, and both senior and junior members contribute through behaviors such as decision-making, communication, and support. • Team members show flexibility by stepping up or stepping down as needed, which helps coordination and patient safety. Behaviors like speaking up, asking for help, and sharing critical information spread across the team.
Sarcevic, Marsic, Waterhouse, Stockwell and Burd[18]	Team members in trauma centers	To identify leadership structures in trauma teams and how this influences teamwork.	• There are three forms of cross-disciplinary leadership (shared decision-making) in trauma teams: the intervening model (one leader makes decisions while the other provides guidance or corrections), the parallel model (both leaders act independently and issue separate orders), and the collaborative model (leaders actively coordinate and make joint decisions). • Cross-disciplinary shared leadership can enhance decision-making through complementary expertise, but it also can create role ambiguity and conflict, especially in the parallel model. • The collaborative model (surgeon and emergency department physician) showed the highest teamwork quality and care appropriateness, while the parallel model had the most negative impact.
Sims, Hewitt and Harris[19]	N.A.	To identify the mechanisms described in the literature that explain how interprofessional teamwork is carried out effectively.	• The literature shows different models of leadership, as some teams adopt a shared leadership approach over relying on a single leader, while others suggest that teams may function without a designated leader.
Streiff, Tschan, Hunziker, Buehlmann, Semmer, Hunziker and Marsch[59]	Medical students	To identify factors that influence effective leadership during medical emergencies.	• Shared leadership arises in medical students who participate in simulation cases. However, individuals who are male or extroverted tend to step into leadership positions more frequently.
Tai and Russell[60]	N.A.	To describe the process of right turn resuscitation and its role within damage control resuscitation and surgery, team roles, and advantages and disadvantages.	• Leadership transitions dynamically between the emergency consultant, anaesthesia consultant, and surgical consultant as the patient progresses through resuscitation and surgery.
Taylor, Ferri, Yavorska, Everett and Parshuram[61]	Clinical staff and patient parents	To investigate communication patterns during real-life resuscitation events in a pediatric intensive care unit.	• Team leaders dominate communication and use directive orders. The 'outer loop' (non-leader speaking to non-leaders) runs parallel and sometimes distracts the leader, who then asks for silence.
Taylor, Parshuram, Ferri and Mema[62]	Healthcare staff	To define the phenomenon of 'outer-loop communication' during resuscitations, and to explore the new role of the event manager in supporting team coordination and leadership.	• Outer-loop communication plays a supportive role in resuscitation by introducing the new role of an event manager to guide the team, coordinate tasks, and assist the team leader.
Tschan, Semmer, Gautschi, Hunziker, Spychiger and Marsch[63]	Nurses, residents, and physicians	To examine how directive leadership and structuring inquiry by appropriate role holders influence group performance during simulated medical emergencies involving ad hoc teams treating cardiac arrest.	• Although the first nurse is initially in charge and the resident takes over leadership upon arrival, the senior physician does not fully take over leadership in Phase 3, leaving leadership distributed. Shared leadership improves coordination and performance, particularly when roles are complementary.

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Table 1 (Continued).

Article	Participants	Research Aim	Key Outcomes Related to Collaborative Leadership
Uman, Steigenberger, Nichitelea, Berndtzon and Schmidt[64]	Physicians, (assistant) nurses, and midwives	To determine the combinations of factors that allow ethnically diverse healthcare teams to enhance their clinical performance.	• Laissez-faire leadership does not stimulate high performance in any team. • Ethnically diverse teams perform best under shared leadership, particularly when they are large or less experienced, while small, experienced teams succeed with shared leadership regardless of diversity.
Varpio and Teunissen[65]	N.A.	To explore the ways in which healthcare professionals can play a role in improving the effectiveness of integrated healthcare teams.	• The traditional expectation of a single, predetermined leader in interprofessional healthcare teams is outdated. For collaborative knotworking, leadership should shift dynamically among team members based on expertise and situational needs rather than hierarchical position. • Leadership and followership are co-produced: both roles influence each other. Effective collaboration requires all team members to act as both leaders and followers, adapting roles as the situation evolves. Followership is thereby not passive; it involves active engagement, influence, and support of team goals.
Wallin, Meurling, Hedman, Hedegård and Felländer-Tsai[66]	Medical students (5th semester)	To evaluate a target-focused simulation-based training method for medical emergency teams.	• The simulation-based training stimulates participants to alternate between leader and follower roles and improves a culture of shared responsibility and situational leadership, as well as key teamwork skills (communication, role assumption, and recognizing when to call for help). • While participants' collaborative behaviors improve through practice, their attitude toward safe teamwork remains unchanged.
Wurster, Coffey, Haley and Covert[67]	N.A.	To explore the impact of the trauma nurse leader role in a pediatric trauma center.	• The trauma nurse leader role is created through cooperation by trauma surgeons, hospital administrators, emergency department leaders, and trauma program leaders. This role coordinates and oversees all aspects of trauma care in the emergency setting, ensuring clear communication and effective collaboration.
Yun, Faraj and Sims Jr[68]	Surgeons, anesthesiologists, residents, CRNAs, nurses, and TRU technicians	To examine how leadership influences the effectiveness of trauma resuscitation teams operating in high-velocity environments.	• Empowering leadership tends to be more effective when the severity of trauma is low and the team has substantial experience. In contrast, directive leadership is more beneficial in situations involving severe trauma or when the team lacks experience. Empowering leaders creates greater opportunities for learning compared to directive leaders.
Zhang, Stalmeijer, Maulina, Smeenk and Sehlbach[69]	N.A.	To examine how leadership and followership are defined in interprofessional primary care for chronic illness and to identify related training approaches.	• While shared leadership dynamics were observed, only two articles explicitly defined leadership, and none defined followership. • Trust in other healthcare team members, formal collaborative agreements, and physicians' prior experience with interprofessional collaboration were key enablers of leadership shifts. Conversely, traditional hierarchies, perceived lack of competence among other healthcare team members, and physicians' limited training in collaborative practice were significant barriers to adopting shared leadership models.
Zhuravsky[70]	Intensive care unit staff	To provide a comprehensive overview of crisis leadership in an acute clinical setting during the management of the Christchurch earthquake disaster.	• Two shared-leadership patterns are identified: shared leadership between formal and informal leaders in the intensive care unit, and shared leadership within formal medical and nursing leadership groups.

Note: Names marked in bold are the studies that revealed negative consequences of CL; those marked in italics reveal mixed or unclear effects; the remaining papers reveal a predominantly positive role of CL in HATs.

hierarchical levels while maintaining formal rank awareness,[11,18,63] while CL as horizontal differentiation describes how various leadership functions are enacted across peers or team members of comparable standing or hierarchical position.[49,58]

Theme 2: Team-Level Mechanisms

The second research question focuses on identifying the team-level mechanisms and behavioral patterns that predict effective CL within HATs. Several studies explored the mechanisms that explain the effects of CL on outcomes (team performance, patient safety, and well-being), and the results can be clustered in enablers of team performance (enhanced adaptability, shared mental models, increased cohesion, and psychological safety) and constraining mechanisms (diffused responsibility, role conflict, communication saturation) that reduce performance and patient safety. On the one hand, studies show that CL fosters the emergence of shared mental models, as team members are better able to develop a common understanding of goals roles and responsibilities, leading to improved coordination,[16] the emergence of trust and psychological safety,[19,37] the emergence of effective communication loops to share expertise and effectively use skills,[33,45] as well as the emergence of cognitive integration and learning.[7,25,30,46] On the other hand, some of the studies show that CL can blur accountability and generate role ambiguity and coordination overload,[17,52] lead to conflicting mental models and goal misalignment among members or subgroups,[18,31] activate professional identities that generate power imbalance and resistance.[46,52,69] Overall, these two types of mechanisms activated by CL also align with the horizontal and vertical differentiation within HATs, as cognitive integration, psychological safety, and process gains are typical consequences of horizontal differentiation, while role ambiguity, process losses (social loafing, communication saturation), and conflict are typical consequences of vertical differentiation in teams.[13]

Theme 3: Organizational and Contextual Influences

The third research question focuses on what organizational factors influence the successful implementation of CL in HATs. Studies extensively show that successful CL implementation needs management endorsement and organizational support in the form of training and protected reflection time.[37,38] In addition, professional identities often activate interpersonal boundaries and maintain hierarchical cultures that constrain the implementation of CL in HATs.[31,69] Contextual influences are also dualistic in that some organizational features, such as institutionalized dyads[47] and clearly defined rotating leadership protocols,[7] act as structural enablers of CL, while some organizational features, such as formal authority and hierarchical cultural norms,[31,54,69] training deficits,[9] and macro systemic pressures, are factors that constrain the successful implementation of CL in HATs. CL often falters in HATs not because of individual or team-level constraints, but due to organizational and contextual misalignment that is generated by rigid hierarchies, risk-averse medical cultures, or disciplinary silos. Under such circumstances, CL reverts to positional and hierarchical control, and the potential benefits of collaboration remain unrealized.

Theme 4: Outcomes and Performance Effects of CL

The last research question focuses on the effects of CL on team members and patient care in HATs, and in Table 1, we cluster the studies in three categories depending on the general influence of CL on team outcomes. The vast majority of the studies included in our systematic literature review (N=36) reveal positive outcomes associated with CL on team processes as well as patient safety. CL arrangements enhance communication, situational awareness, and psychological safety, which in turn improve HATs' effectiveness. The beneficial effects of CL are supported by clear role structures, the emergence of accurate shared mental models, and the emergence of mutual trust among different medical professionals. A second category of studies (N=6) emphasizes the detrimental effects of CL as a consequence of role ambiguity and overload. Especially under high task complexity, the ambiguous authority boundaries associated with CL lead to slower decision-making, while rigid professional hierarchies spur resistance and foster coordination failures leading to sub-optimal team outcomes. A third category of studies reveals a context-dependent pattern for the effects of CL on team outcomes. This last category is particularly important, as it points out contingencies that shape the effectiveness of CL implementation in HATs. Taken together, these findings suggest that while CL can enhance the operational capacity of HATs, its effectiveness is contingent on organizational, contextual, and task-related variables as well as on the quality of interpersonal relations, the professional identities and boundaries, and the organizational climate. Table 2 presents an integrative overview of the most important moderating factors that qualify the outcomes associated with CL.

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Table 2 An Overview of the Moderating Factors That Influence CL Effectiveness

Category	Moderating Factor	Mechanism	Illustrative Studies
Contextual factors	Organizational hierarchy	CL enacted under rigid hierarchical norms generates role ambiguity and conflict, while CL enacted under flat hierarchies and participative climates foster psychological safety and coordination	Aveling, Stone, Sundt, Wright, Gino and Singer;[31] Okpala;[54] Zhang, Stalmeijer, Maulina, Smeenk and Sehlbach[69]
	Professional identity salience	CL enacted under strong professional identity weakens interdisciplinary collaboration	Mitchell and Boyle[52]
	Organizational support and management endorsement of CL	Supportive management, clear CL protocols, and role boundaries enhance the effectiveness of CL, while a lack of management endorsement leads to centralization of leadership, especially in complex tasks or under pressure	De Brún and McAuliffe;[38] Janssens, Clipperton, Simon, Lowe, Beckmann and Marshall[47]
Task-related factors	Task complexity and degree of interdependence	CL enacted in highly complex tasks, tasks that require a high level of interdependence (tightly coupled tasks) or tasks with clear goal hierarchies, is less effective than centralized leadership	Pasarakonda, Grote, Schmutz, Bogdanovic, Guggenheim and Manser;[55] Klein, Ziegert, Knight and Yan;[11] Yun, Faraj and Sims Jr;[68] Doumouras, Hamidi, Lung, Tarola, Tsao, Scott, Smink and Yule;[39] Tschan, Semmer, Gautschi, Hunziker, Spychiger and Marsch;[63] Chreim and MacNaughton[17]
	Time pressure	CL enacted under high time pressure increases decision time, activates leadership function gaps, and reduces overall effectiveness	Sarcevic, Marsic, Waterhouse, Stockwell and Burd;[18] Fernandez-Moure, Pascual, Martin, Rodgers and Kaplan[40]
Team and relational factors	Previous CL experience or CL training	Training or previous experience with CL enhances the effectiveness of CL, while a lack of previous CL experience generates role ambiguity and communication breakdowns	Rosenman, Shandro, Ilgen, Harper and Fernandez;[9] Armstrong, Peckler, Pilkinton-Ching, McQuade and Rogan[30]
	Team member interpersonal familiarity	CL enacted in teams with previous relational and collaboration history is beneficial, while CL in ad-hoc or inexperienced medical teams leads to coordination losses	Rosenman, Shandro, Ilgen, Harper and Fernandez;[9] Fernandez-Moure, Pascual, Martin, Rodgers and Kaplan;[40] Janssens, Simon, Barwick, Beckmann and Marshall[15]
	Trust and psychological safety	CL enacted in climates of trust and psychological safety is effective, while unsafe team climates characterized by suspicion and distrust make CL ineffective	De Brún and McAuliffe;[37] Barry, Teunissen and Varpio[5]
	Clarity of communication structures	Clear communication supports horizontal leadership diffusion, while unstructured multi-loop communication generates role ambiguity and coordination losses	Horne and Smith;[44] Taylor, Ferri, Yavorska, Everett and Parshuram;[61] Taylor, Parshuram, Ferri and Mema[62]
	Power asymmetry within teams	CL enacted under high power asymmetry in teams is ineffective	Uman, Steigenberger, Nichitelea, Berndtzon and Schmidt;[64] Aveling, Stone, Sundt, Wright, Gino and Singer[31]

Discussion and Integration

Our analyses reveal three key problematic areas related to the literature on CL in HATs. First, although the terms collaborative and shared leadership are extensively used and broadly accepted, the idiosyncratic approaches make it difficult to draw generic conclusions on the theoretical grounding of CL in HATs. Second, although the formal definition of HATs include key elements of multidisciplinarity, task complexity, dynamism, and a dual task focus, our literature search not only revealed an inconsistent use of the term HAT, yet, more importantly, some strands of research on action teams that do fit the four definitional criteria, were not included, such as research on ambulance crews,[73] basically because either the term "team" or "leadership" were not identified in our initial systematic search. Third, although most of the studies we included in the review discuss a variety of team outcomes, it is unclear how team effectiveness criteria were selected and used, as in some of the studies, emergent states, such as trust and psychological safety, or processes, such as coordination effectiveness, were (implicitly) used as indicators of team effectiveness. We build on established conceptualizations of team effectiveness as a multifaceted construct[74] to argue that for HATs, effectiveness should include assessments of: (1) patient outcomes (symptom burden, relapse, patient well-being), (2) team members' attitudes (satisfaction, commitment), and (3) team viability (team members' capacity to perform effectively in the future, including the training of less experienced members). In what follows, we address these three critical points by building on theoretical models from team research and collaborative leadership to provide integrative insights aimed at opening future research venues.

In order to bring more theoretical clarity to CL research, we argue that, besides focusing on formal roles only, CL in HATs should be conceptualized as fluid transitions of leadership functions among professionals composing the HAT, either among members with the same status or involving different (professional) hierarchies. As illustrated in the integrative presentation of results, the conceptual fragmentation of the CL in HATs literature can be unified around the functional perspective on CL as presented in Curşeu and Schruijer.[71] Integrating previous analyses of CL in interorganizational relations, Curşeu and Schruijer[71] distinguish four key functions of CL, namely: activating resource assistance, framing the collaborative task environment, mobilizing stakeholder support, and synthesizing the collaborative process. These key CL functions are important for addressing the complexity and dynamism of tasks performed by HATs. Based on this functional approach, we adapted the definition of CL in HATs as *a dynamic, situational, and functionally distributed process of shared influence through which members activate relevant task resources, frame collaborative processes, mobilize support, and collectively guide, coordinate, and align their actions towards patient care goals*. As we argued in the previous section, CL in HATs has a dual conceptualization as authority shifts subsequent to varying task demands and situational characteristics and as a horizontal diffusion of leadership functions leading to an emergent transition of enacted leadership roles among peers. Both conceptualizations of CL can be formulated and assessed in the functional approach of CL.[71]

We also call for a more inclusive use of the term HATs to broaden its scope and include other settings that satisfy the definitional criteria presented here, yet where the term " team" may not be deployed. Think of those groups consisting of members that work across organizational boundaries and where members may not be co-located or even working simultaneously (think of all parties that are involved in ambulance work, that may include healthcare organizations and the police). HATs are multidisciplinary; they perform complex tasks in dynamic environments and have a dual action focus on providing patient care and training opportunities for their members. In addition, HATs also have highly specialized role prescriptions and action protocols to guide the (inter)actions of their members.[75] When also focusing on boundary-crossing interorganizational work in health care, one can widen the scope and thus learn more about CL.

As mentioned, a functional perspective on CL provides a clearer conceptual lens for analyzing how HATs perform under such complex circumstances. Shifting decision authority based on task demands can activate relevant resources that are required to make accurate diagnostic or medical intervention decisions, such as shifting decision discretion in various stages from emergency, anesthesia, to surgical staff.[60] Similarly, radiographers can temporarily assume leadership authority during trauma imaging sequences, bringing relevant knowledge for accurate diagnosis, with physicians and nurses adopting supportive roles.[7] CL transitions can therefore activate expertise and latent resources embedded in different professional groups at similar hierarchical levels as the dynamic task delegation during surgery or resuscitation.[11,63] Moreover, in terms

of framing the collaborative task environment, authority transfer in vertically differentiated teams can clarify the diagnostic and procedural requirements specific to each medical phase and accurately frame the evolving medical task environments. In terms of stakeholder support, vertical CL shifts can signal role boundaries and, based on shared recognition of competence, professional norms, and medical protocols, can mobilize trust and compliance that is necessary for coordinated action in HATs.[5,37] When managed effectively, vertical leadership transitions can integrate expertise situated at higher hierarchical levels and promote systemic cohesion and functional integrity[30,69] in line with the medical protocols and evolving task demands.

Horizontal CL, seen as a lateral diffusion and rotation of leadership functions among peers of comparable hierarchical standing, can activate diverse types of skills distributed across professional boundaries and enhance the pool of knowledge and expertise available to the team.[3] Horizontal transitions also create an environment in which shared sensemaking can emerge, and where HAT members can engage in a collective negotiation of roles and objectives that are required when working on a collaborative task.[33] Horizontal leadership transitions create valuable learning opportunities, therefore helping HATs to achieve their second focus, namely, to provide training and learning opportunities for their members. In light of these observations, we call for a more integrative approach to assess the effectiveness of HATs as a multifaceted construct that includes (1) patient outcomes, (2) team member attitudes, and (3) team viability as reflected by the opportunities to train the less experienced team members. Horizontal CL can boost member satisfaction and foster the learning and professional development of team members.

As illustrated in the studies that reported detrimental effects of CL or those that revealed mixed or ambiguous effects, a variety of organizational, task, and team contextual variables nuance the effects of CL for HAT outcomes. Drawing on prior work on the interplay of horizontal and vertical differentiation in teams,[13,14] we argue that when both forms of differentiation co-exist in HATs, the positive effects of CL on member satisfaction and learning opportunities are attenuated. We propose to integrate the contingencies reported in the studies included in our review by differentiating those that are likely to enhance the vertical differentiation from those that are expected to reduce the vertical differentiation. Situations that enhance the vertical differentiation in HATs are expected to reduce the beneficial effects of CL on team effectiveness as a multidimensional construct (patient outcomes, team member attitudes, and team viability). Such situations include rigid organizational hierarchies and culture,[31,54,69] high levels of professional identity salience and rigid professional boundaries,[52] goal hierarchy associated with highly complex tasks,[11,55,68] as well as a pre-existing power asymmetry within the team.[31,64] Situations that are expected to reduce the vertical differentiation in HATs include: leadership training and exposure to CL best practices,[9,30] organizational support and a strong management endorsement of CL,[38,47] interpersonal familiarity of the members composing the HAT,[15,57] clarity of communication structures,[31,61,62,64] awareness of task interdependence and previous collaborative experience.[39,63] All in all, it is our contention that CL in HATs is beneficial, especially for member satisfaction and team viability when the degree of vertical differentiation in HATs is low rather than high.

Theoretical Implications and Future Research Directions

Our review aimed to reconcile the conceptual fragmentation in the literature. It positions CL in HATs as a functionally distributed and dynamically co-evolving system that harmonizes procedural prescriptions and formal protocols with social influence processes in changing task environments to support team effectiveness. The latter is reflected by three key indicators, namely patient outcomes, team member satisfaction, and team viability. We subsequently propose to build on a structural, functional, and dynamic perspective on leadership in teams to make four important contributions to the literature.

We frame CL in HATs not as structural and static, but as a functional and dynamic system of social influence that adapts and changes in function of task demands and the needs of the HAT. In this perspective, CL reflects how the four key leadership functions (activating resources, framing the task environment, mobilizing support, and synthesizing the collaborative processes) are dynamically allocated across members depending on their expertise and professional background in relation to the task requirements. Such a functional and dynamic approach to leadership allows for a better understanding of leadership supportive behaviors required during transition processes (leadership behaviors that support planning and task organization) as well as during action processes (leadership behaviors that enable coordination and

monitoring the progress towards goal accomplishment).[9] In this perspective, CL is a core integration mechanism in HATs that allows them to adapt effectively to changing task demands. Future studies could adopt longitudinal and event-based designs to capture how these four key functions of CL shift over time, following different task completion stages in HATs. We also call for research that explores the functions of CL in different HAT setups, such as inter- versus intra-organizational, co-located versus virtual, or emergency versus non-emergency medical settings. Drawing on the call from van Knippenberg, Pearce and van Ginkel[72] for temporal co-evolution models of leadership in teams, researchers could use experience-sampling methods or behavioral coding of medical teams interacting in real time to trace how vertical and horizontal CL patterns alternate in response to evolving clinical challenges. Moreover, building on the functional framework of CL and the scale validated in Curşeu and Schruijer,[71] future research could adapt the instrument for the context of HATs and develop new observational measures for the key functions of CL in medical teams.

Second, based on the co-evolution of vertical and horizontal leadership in teams[72] and the distinction between horizontal and vertical social differentiation in teams,[13] we explain how vertical authority shifts and horizontal leadership role diffusion jointly impact team processes, emergent states, and ultimately performance. We argue that vertical CL transitions serve to activate resources needed to perform different phases of the medical tasks and frame the collaboration process by redistributing decision-making authority according to phase-specific demands. Horizontal CL serves to mobilize support and synthesize collaborative process functions by promoting trust, interprofessional learning, and reflexive communication practices that allow HATs to adapt dynamically to the varying task demands. Future research could explore in multilevel designs the contingencies (hierarchical norms, interpersonal familiarity, task complexity, time pressure, previous CL training, and experience) that impact the effectiveness of vertical and horizontal CL and test the non-linear and phase-contingent effects of CL on team outcomes.

Third, building on van Knippenberg, Pearce and van Ginkel,[72] we position CL as a coevolutionary process unfolding in HATs. Our review suggests a context-dependent effect of CL, such that vertical authority shifts and horizontal diffusion of CL functions can alternate as a function of contextual and task influences. Synergic co-evolution is reflected by a functional alignment of vertical and horizontal CL in line with the task and contextual demands, while functional misalignment (unclear roles, unclear collaborative task framing) can reduce the effectiveness of vertical-horizontal integration, produce process losses, and ultimately reduce the effectiveness of HATs. Future experimental studies using simulations could further explore the interplay of vertical–horizontal forms of CL as they shape team dynamics and outcomes in various types of tasks, bringing causal tractability to the claims relating CL to medical team dynamics and outcomes.

Finally, our review integrates social differentiation with functional leadership approaches within a multilevel framework of CL effectiveness. We identify individual-level enablers (leadership competence and readiness), team-level mechanisms (communication structures, interpersonal familiarity, shared cognition), as well as organizational and contextual variables (hierarchical flexibility, managerial endorsement) that impact the effectiveness of CL in HATs. Future studies could use multilevel modeling to explore the cross-level interactions between these moderating factors and further clarify the relative importance of various contingencies that impact the effectiveness of CL.

Limitations

Besides its contributions, our systematic literature review also has limitations. First, in order to ensure a focus on high-quality empirical evidence, we have selected and analyzed peer-reviewed publications indexed in major databases, and we did not include studies published in languages other than English. This may have inadvertently excluded relevant literature. Second, although we have used a comprehensive and expanded search query, it remains possible that relevant studies addressing collaborative leadership aspects in HATs were not captured in the initial search because they used alternative terminology (such as crews, supervision, crisis management) or because they did not label leadership as a key investigated concept. Third, the literature summarized in our review is highly heterogeneous in terms of study designs, analytical approaches, and operationalizations of both CL and team effectiveness. Such methodological and conceptual heterogeneity limits the comparability of findings across studies and constrains the strength of cumulative inferences that can be drawn. Finally, a considerable proportion of the empirical evidence synthesized in our review is derived from simulation-based studies, retrospective analyses, or self-reports rather than systematic observations of collaborative

leadership dynamics in naturalistic healthcare settings. In an attempt to provide actionable insights to practitioners, we used a functional approach to collaborative leadership to integrate these findings, yet the ecological validity and generalizability of our findings to clinical practice may be limited.

Practical Implications

Our functional lens on CL offers guidance for healthcare organizations to improve the effectiveness of HATs. We call for an integrative, multifaceted assessment of the effectiveness of HATs, including indicators related to patient outcomes (symptom burden, relapse, patient well-being), team members' attitudes (satisfaction, commitment), as well as viability (capacity of performing effectively in the future, as also captured by training and learning opportunities offered to the team members). First, we propose to (re)design leadership training programs so as to reflect the dynamic and situational nature of CL. For example, simulation-based training that alternates leadership roles between nurses, residents, and attending physicians[11,30,47] can foster adaptive delegation and prepare team members for vertical and horizontal leadership transitions. We suggest that such training explicitly targets the four leadership functions that we discussed in this review. Second, we advise that organizational protocols that are applicable to HATs, incorporate such dynamic CL structures. Maternity HATs that institutionalize clinician–midwife co-leadership[47] illustrate how predefined dyads can reduce ambiguity and enhance coordination. Such dyad structures could also be applied in trauma or resuscitation teams, ensuring that leadership transitions are guided by task demands rather than rigid formal hierarchies. Third, management endorsement and structural support are essential. Time for team reflection, as for instance implemented in the Co-Lead intervention,[38] enables teams to develop shared mental models and clarify role boundaries. This is particularly relevant in ad hoc HATs, where interpersonal familiarity is low and therefore coordination losses are more likely to occur. Fourth, communication protocols are to be adapted to support CL. Studies show that multi-loop communication without a clear structure[61,62] undermines horizontal CL. Implementing structured briefing formats and assigning event managers to coordinate communication can mitigate these risks and enhance clarity during critical interventions. Finally, an effective CL adoption depends on reducing task-inappropriate vertical differentiation. This can be achieved by flattening hierarchical norms, promoting interprofessional respect, and aligning leadership roles with expertise rather than rank. In sum, HATs should move beyond static and traditional leadership models in order to adopt flexible, functionally distributed leadership structures tailored to the dynamic realities of HATs.

Conclusions

This review integrates fragmented empirical evidence on CL in HATs and conceptualizes it as a dynamic, functionally distributed system of social influence that supports adaptive coordination in high-pressure clinical settings. We build on the functional approach to CL[71] to argue that CL fulfills four interrelated functions: activating resources, framing the task environment, mobilizing support, and synthesizing collaboration. We also use insights on horizontal–vertical differentiation[13,72] to distinguish between vertical CL (authority shifts across hierarchies and professional boundaries) and horizontal CL (leadership diffusion among peers), whose balance shapes medical team adaptability. CL enhances the quality of intrateam communication, trust, and psychological safety when hierarchies are flexible, professional boundaries are permeable, and a shared understanding is present, yet it can be detrimental to team performance under rigid hierarchical structures, role ambiguity, and high task complexity. Overall, CL emerges as a context-sensitive integrative capability in HATs with the potential to impact adaptation as well as learning and effectiveness, with important consequences for the quality of medical outcomes.

Disclosure

The authors report no conflicts of interest in this work.

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