

Research Article

Dual Role of Clinician Managers in Healthcare - Challenges and **Opportunities**

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Abstract

Background: Clinician managers can play a crucial role in healthcare organizations, including hospitals, by combining their clinical expertise with managerial responsibilities. They bring valuable insights and firsthand experience of patient care to managerial positions, contributing to improved patient outcomes and hospital performance. However, they face unique challenges that require careful attention and solutions.

Aim: This review aims to critically discuss the role of clinicians as managers, the challenges that they face, and how they exercise their influence in hospital settings.

Key findings: The role of clinicians as managers is critical for effective leadership and delivery of high-quality patient care. Described as a two-way window, clinician managers bridge the gap between medicine and management by combining clinical expertise with managerial skills in a hybrid leadership approach. Studies have shown a positive impact on hospital performance, including enhanced quality care, improved patient outcomes, and potentially better financial performance. In addition, they play a vital role in fostering interdisciplinary collaboration and boosting staff engagement. However, challenges such as identity conflicts, and limited formal training, are present, especially for first-time managers.

Conclusion: Adapting to the dual role of clinician and manager demands a mindset shift and the development of new skills, necessitating strategic support. This includes leadership education, organizational support, mentoring, and collaborative models to empower clinician managers. Targeted training programs, formal mentoring, and peer support networks equip them with essential skills, while workload management, well-being initiatives, and a culture of balance foster success and growth.

More Information

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Introduction

Healthcare systems are facing several challenges around the world, including a shortage of healthcare professionals, the healthcare needs of the aging population, and the rising cost of healthcare services. The dire shortage of trained human resources was identified and highlighted in a landmark publication by WHO 'Working together for health to progress towards SDGs' [1]. Although there has been some improvement, the challenges are significant to train and retain health professionals. There are shortages in the numbers and imbalances in skills, geographical distribution, and issues related to inter-professional collaborations. Moreover, with the rise of the New Public Management model in the 1980s, there has been an increasing demand for accountability from teams managing health services [2]. The healthcare teams are required to abide by strict accreditation standards

in terms of efficiency, quality, and patient safety, making their jobs tougher. The pressure on the healthcare system has increased tremendously in recent years. The COVID-19 pandemic has forced rapid change and adjustments at both system and organizational levels [3].

Hospitals are intricate and unique organizations that constitute the core of healthcare providers. They function in a highly regulated environment and operate under constant pressure to adjust to the changing environment [4]. Hospital managers operate in a dynamic healthcare environment, marked by evolving models of care [5] and significant workforce shortages [6]. Tasks performed by hospital managers often require both management and clinical knowledge and skills, for example: delivering healthcare on a fixed budget, performance review, and risk management. Clinicians are now being engaged in management



more frequently to bridge the gap between non-clinical administrators and the medical workforce.

The term 'clinician manager' is often used for hospital managers and administrators who have a clinical background including doctors, nurses and paramedics. This article aims to critically discuss the role of clinicians as managers, the challenges that they face and how they exercise their influence.

What does it take to be a hospital manager?

Hospital managers require a diverse set of skills and qualifications. There is no doubt that they need to have exceptional leadership abilities to guide and inspire their teams. This includes setting a clear vision, communicating goals effectively, and motivating staff to achieve organizational objectives. Moreover, they should be able to make strategic decisions, delegate and guide to ensure the smooth running of the hospital. Moreover, they should possess a broad understanding of healthcare operations, including clinical workflows, patient care processes, and quality improvement initiatives. They must be able to analyze financial reports, develop budgets, control costs, and make informed decisions to optimize resources. Knowledge of healthcare regulations, coding, billing practices, and reimbursement models is also important.

The International Hospital Federation (IHF) has outlined a set of core competencies for hospital managers. These competencies reflect the skills, knowledge, and abilities that are essential for effective hospital management. IHF emphasizes that hospital managers should possess a broad range of competencies to meet the challenges of healthcare leadership [7].

Additionally, Liang and colleagues identified six core competencies that are critical for hospital managers; the use of evidence for decision-making, resource management, knowledge of the healthcare environment and organization, communication skills, leadership, and change management [8]. Later, the authors proposed the competency of 'professionalism' should be included in the list of core competencies needed for senior to mid-level hospital managers. Managers must demonstrate high ethical standards, integrity, and professionalism in their work. It's important that they prioritize patient-centered care, advocate for ethical practices, and ensure accountability and transparency in their decision-making processes. More recently, researchers have grouped competencies into 'hard competencies' such as specific skills and technical knowledge that can be acquired through practical training [9], and 'soft competencies' such as adaptability, leadership teamwork, time management, decision making, and creativity are needed for effective hospital management [10]. The focus on soft skills is becoming increasingly important for effective human resource management including employee wellbeing and mental health, team building, and collaboration with different stakeholders [11].

The studies on hospital managers' competencies are related to their main tasks and challenges. Healthcare environments are subject to constant change and hospital managers must be adept at managing change effectively. They should be able to navigate organizational transitions, address resistance, and promote a culture of innovation and adaptability. According to the Future Health Index Report 2022, healthcare leaders are refocusing on several new and existing priorities, the top three priorities for hospital managers for 2023 and beyond are; a) Addressing threats to healthcare data security b) Improving staff experience to address staff shortages c) Bridging the gap between predictive analytics and current usage. These changes require a reassessment of training needs and the acquisition of new competencies for hospital managers. The question is, how well equipped are hospital managers to refocus on the priorities post-pandemic?

Role of clinicians as managers

The role of clinicians as managers in hospitals is considered critical for effective leadership and the delivery of high-quality patient care. Clinicians, such as physicians, nurses, and other healthcare professionals, who take on managerial responsibilities can bring unique perspectives and expertise to their roles. Llewellyn, et al. and colleagues have described the role of clinician managers as a; 'two-way window' which implies greater communication between medicine and management [6]. Clinician managers act as two-way windows to introduce a frame of reference through which viewing can take place. The two domains that were previously opaque become visible to them when they take up their new role as managers. It's often described as 'hybrid leadership' as it combines professional background with managerial skills. Hybrid leadership refers to the combination of clinical expertise and management skills in the role of clinician managers. It recognizes the unique position of clinician managers who possess both clinical knowledge and experience, as well as the ability to effectively lead and manage healthcare organizations. Hybrid leadership is increasingly recognized as a valuable approach to bridge the gap between clinical practice and administrative responsibilities in healthcare [6]. Hybrid leadership can bridge the gap between clinical and administrative functions within healthcare organizations [12].

Several studies have examined the *impact* of *clinician* managers on hospital performance

• Patient outcomes: Research suggests that hospitals led by clinician managers tend to have better patient outcomes. A study published in the Journal of Hospital Medicine found that hospitals with physician leaders had lower mortality rates and shorter lengths of stay



compared to hospitals with non-physician leaders [13]. Clinician managers bring their clinical expertise to managerial decision-making, leading to improved patient safety, reduced medical errors, and better adherence to evidence-based practices [14].

- Quality of care: Research suggests that clinician managers have a positive impact on the quality of care delivered in hospitals. A study published in the American Journal of Quality found that hospitals led by physician executives had better quality and higher patient satisfaction scores compared to those led by non-physician executives [15]. Similarly, another study found that CEOs with clinical backgrounds generate greater quality improvements resulting in better quality ranking for the hospital [16]. However, Schultz and Pal draw different conclusions indicating insignificant differences between medically-educated and managerially-educated senior managers and the ability to make strategic decisions that can maximize the quality of care [17].
- Financial performance: Some studies suggest that clinician managers may have a positive impact on the financial performance of hospitals. Hospitals led by clinician CEOs had higher financial performance, as measured by revenue growth and profitability, compared to those led by non-physician CEOs. Clinician managers' understanding of clinical operations and resource utilization can contribute to more effective financial management and cost control [18]. On the contrary, some scholars claim that clinicians' involvement in the management of financial and operational resources can have a negative impact. A study conducted by Succi and Alexander shows that the effect of clinician involvement in hospital management is in fact related to lower hospital efficiency [19]. Moreover, clinicians performing managerial roles could be less effective than managers without clinical background in the management of financial resources when they lack managerial training.
- Interdisciplinary collaboration: Clinician managers are instrumental in fostering interdisciplinary collaboration within hospitals. Laschinger, et al. found that clinicians in managerial roles play a vital role in bridging the gap between clinical departments and promoting collaboration among healthcare professionals. Their ability to understand the perspectives and needs of different specialties facilitates effective communication, care coordination, and interdisciplinary teamwork [20].
- Staff engagement and retention: Clinician managers have been associated with improved staff engagement and retention. Nurse managers with clinical

backgrounds can have a positive influence on nurse satisfaction, empowerment, and retention. Clinician managers' understanding of the challenges faced by frontline staff, their ability to provide support, and their commitment to patient-centered care contribute to a positive work environment and staff well-being [21].

While most studies indicate the potential benefits of clinician managers on hospital performance, it's important to note that the impact may vary depending on organizational culture, contextual factors, and the specific competencies and leadership styles of the clinician managers themselves.

The downside of having clinician managers in hospitals

While clinician managers bring unique perspectives and clinical expertise to their managerial roles, there are some potential drawbacks that can arise. It is important to consider these challenges to ensure effective management and leadership within hospitals. Clinician managers usually have limited formal training in management and leadership as compared to individuals with dedicated managerial backgrounds. Though they have clinical expertise, they may require additional development in areas such as financial management, strategic planning, human resources, and change management. The lack of specific managerial training can potentially impact their effectiveness in resource allocation, staff management and decision-making.

Moreover, they often face challenges in balancing their clinical responsibilities with managerial duties. Juggling patient care responsibilities while managing administrative tasks often leads to increased workload and potential time constraints. This can affect their ability to effectively carry out managerial functions, and allocate sufficient time for strategic planning, and staff development. Moving from a primarily clinical role to a managerial position can create identity conflicts for clinician managers. They may find it challenging to transition from being a peer and direct care provider to a leader responsible for making decisions that affect their former colleagues. Striking the right balance between their clinical expertise and managerial authority while maintaining strong professional relationships can be complex.

Challenges and opportunities

Transition from a clinician to a manager: The transition from clinician to manager occurs when professionals move from patient care roles to managerial positions within healthcare organizations. This transition is influenced by different factors and is often driven by the combination of personal motivation and organizational needs.

Clinicians may take up the managerial role to have a broader impact on patient care and service delivery. They may seek opportunities to influence policies and procedures



to improve patient outcomes and better-functioning hospitals. Transitioning also offers an opportunity for career advancement and professional growth. Clinician managers can take up the managerial role for exploring new challenges, a change in work-life balance or perhaps looking for different ways to contribute to healthcare. Some clinicians take up management roles as a deliberate career choice driven by their interest in leadership. For others, the transition is based on organizational needs, expertise, and demonstration of leadership potential. Spher, et al. in a study concluded that most clinicians are thrown into the position, without being prepared. They have to learn management 'on the fly' [22]. Authors have found instances where clinicians 'accidently' enter the field management [23]. The experiences of clinician managers can vary across different settings. Moreover, the decision to take up a management role may be influenced by individual preferences, career opportunities, organizational culture, etc in the hospital setting.

Therefore, the decision to become a manager is not always a linear path, it varies among individuals depending on several factors such as career opportunities, organizational dynamics, personal aspirations, and professional development opportunities.

First-time clinician manager – challenges: First-time clinician managers often face *unique challenges* as they transition into their managerial roles. While they may have extensive clinical expertise, stepping into a managerial position requires the development of new skills and the navigation of unfamiliar responsibilities. Moving from a clinical position to a managerial role requires a shift in mindset. First-time clinician managers often struggle with the transition from their patient-focused role to a broader strategic and organizational focus.

A clinician becoming a manager for the first time often *lacks* formal management training in leadership and management. They may have limited knowledge of financial, human resource management, and strategic planning. As discussed in the essay earlier, these are some of the core competencies required for hospital managers. Imran, et al. and colleagues compiled the experiences of hospital managers, the authors indicated the lack of training makes managers feel underprepared, they juggle administrative tasks, and it's difficult to maintain respect from the team [24].

Healthcare settings, including hospitals, often undergo various changes such as restructuring processes, responding to regulatory requirements, implementing new technologies, and adopting evidence-based practices. Effective change management is crucial for successful implementation and improvement initiatives. First-time clinician managers often encounter organizational politics and must navigate through complex decision-making processes. They face *resistance to change* initiatives such as the introduction of new practices or policies [25].

Effective leadership is critical for clinician managers but developing leadership skills takes time and experience. It's often difficult for first-time managers to effectively lead and motivate teams. Learning to inspire and engage staff while managing different personalities within the team can be a significant challenge [22]. They often encounter difficulties in establishing their authority, effectively communicating expectations to their teams, and managing conflicts. Building effective team relationships and navigating interpersonal dynamics can pose challenges. In addition, first-time clinician managers may face challenges in managing resistance, overcoming challenges and effectively communicating the need for change. Gaining support for change can be a significant challenge.

Many clinician managers *juggle multiple responsibilities*, handling administrative tasks, attending meetings, and meeting deadlines. They often experience increased workloads and time constraints. They struggle with delegation, as they are accustomed to being directly involved in patient care. They may find it difficult to trust others, leading them to take on additional tasks themselves. Overall, the transition to managerial roles can be *psychologically and emotionally challenging* for first-time clinician managers. They may experience feelings of self-doubt and increased stress as they take up new responsibilities and expectations. Therefore, coping with the psychological and emotional impact of their new role could be a significant challenge.

In summary, first-time clinician managers face a wide range of challenges as they step into their managerial roles. The notable problems include a lack of formal leadership and management training, challenges in effective time management, the demanding task of balancing clinical and managerial responsibilities, encountering resistance to change, and facing limited support and mentorship. Each of these challenges requires careful consideration and strategic support to ensure the successful transition and effectiveness of first-time clinician managers in healthcare settings.

First-time clinician manager - opportunities: Clinician managers have several opportunities to thrive in their managerial roles. They can leverage their clinical expertise to bring unique perspectives to their new managerial roles. Their firsthand knowledge of healthcare protocols, patient care processes, and clinical decision-making can be valuable for ensuring patient-centric care and quality improvement initiatives. Moreover, they can bridge the gap between administrative teams and clinical staff. They can act as liaisons, understand the perspectives of both sides and implement solutions that address the concerns of clinicians while aligning organizational goals. They can also engage in research and innovation initiatives in the hospital and contribute to evidence-based practices. Their clinical background gives them an edge in participating in research projects and implementation of innovative approaches to operational efficiency and patient outcomes.



Whys to support clinician managers to overcome challenges: Clinicians as managers play a critical role in healthcare organizations including hospitals. They face several challenges, especially when they become managers for the first time. Supporting them through training, mentorship, collaboration, and creating a positive work environment can empower them to fulfill their managerial responsibilities and contribute to the success of healthcare organizations.

Leadership and management education is an important gap in the undergraduate medical and nursing curriculum [26]. Leadership training programs in Graduate Medical Education (GME) have been gaining a lot of importance in recent years. Traditional medical and nursing education focuses on clinical knowledge and technical skills, with little room for leadership and management training. Such programs in GME could prepare them for leadership roles in healthcare organizations. Moreover, provides a foundation in healthcare management, leadership principles, and complexities of the healthcare system. However, Kumar, et al. and co-authors conducted a systematic review to examine studies on leadership programs in GMC. The authors concluded that there is a lack of methodologically rigorous studies to evaluate the effectiveness. The authors emphasized the importance of conducting future research to determine if such programs in graduate medical education have long-lasting effects on leadership skills [27]. However, job rotation or cross-functional assignments could allow clinician managers to gain exposure to different departments and roles within the hospital. This may broaden their understanding of the overall healthcare system and promote interdisciplinary collaboration, Job rotation could also provide opportunities for skill diversification and career advancement [28].

Creating a *supportive organizational culture and values* can support clinician managers. This includes providing dedicated time, resources, and support for their learning and development. Providing access to professional development resources such as webinars and online management courses enables them to stay updated on the latest leadership and management trends. Fostering a culture that encourages collaboration, innovation, and continued support can contribute to the overall capacity development of clinician managers.

Another way to enhance the leadership and management skills of clinician managers who lack any formal training or experience is *targeted leadership and management training programs*. Multiple, et al. and colleagues interviewed managers who attended vs those who did not attend the leadership management course for healthcare managers in Zimbabwe [29]. The authors concluded that there was a significant increase in the proportion of participants who felt that they were adequately trained to undertake management positions.

Mentoring can provide guidance and support from experienced professionals who have navigated similar career paths. They can share their insights, knowledge, and expertise, helping clinician managers navigate challenges and make informed decisions. They could also provide guidance on professional development opportunities and advice on educational programs and certifications. Moreover, mentoring contributes to knowledge transfer and succession planning in hospitals. They often pass on institutional knowledge and help groom the next generation of clinician leaders. This process ensures the continuity of leadership and promotes the development of clinician managers. Mentors also provide mentees with positive role models, observing behaviors, decision-making, and leadership styles that can inspire [30] not specifically for managers but generally for healthcare professionals.

A dyad leadership model also known as the clinician administrator model is a collaborative approach that pairs a clinician manager with a non-clinical manager or administrator. The model aims to leverage the expertise of both individuals to improve hospital performance and patient outcomes. Few studies suggest that it's not an optimal long-term solution and It can create inefficiencies, delays in decision-making, and duplication of resources. The model can cause confusion about roles and responsibilities, and power struggles between leaders with different priorities [31]. However, research in this area remains nascent, and most articles focus on implementation rather than evaluation. Rigorous studies are needed to understand the impact of dyadic leadership models on quality and patient outcomes [32].

Another way to develop the capacity of clinician managers is through peer learning and networking. Organizing forums, workshops, or conferences where clinician managers can connect with their peers from different healthcare organizations allows them to share best practices, discuss common challenges, and learn from each other's experiences. Peer networking promotes collaboration and creates a supportive community of clinician managers.

Conclusion

In recent years, a noticeable trend has emerged wherein clinicians have increasingly assumed managerial roles within healthcare settings, particularly in hospitals. This transition is prompted by various factors, with clinician managers leveraging their firsthand clinical experience to make well-informed decisions aligned with patient needs. Studies indicate that many clinician managers feel inadequately prepared for their roles due to a lack of formal leadership and management training. Juggling clinical and managerial responsibilities, facing time constraints and grappling with the emotional impact of their dual roles pose significant challenges. Recognizing the importance of supporting first-



time clinician managers, the assignment emphasizes the need for training, resources, and a conducive work culture to enhance their effectiveness. Core competencies for hospital managers encompass not only leadership and management knowledge but also emphasize the growing significance of soft skills. Studies indicate a positive impact of clinician managers on various aspects, including quality of care, patient outcomes, financial performance, and staff retention. Despite their unique perspectives, it highlights the necessity for additional development.

References

- The World Health Report 2006 working together for health. Geneva: World Health Organization; 2006. https://www.who.int/whr/2006/en/.
- Clay-Williams R, Ludlow K, Testa L, Li Z, Braithwaite J. Medical leadership, a systematic narrative review: do hospitals and healthcare organisations perform better when led by doctors? BMJ Open. 2017 Sep 24;7(9):e014474. doi: 10.1136/bmjopen-2016-014474. PMID: 28947438; PMCID: PMC5623455.
- Sagan A, Webb E, McKee M, Greer SL, Karanikolos M, Williams GA, Cylus J, Richardson E, Waitzberg R, Lessof S, Figueras J, Falkenbach M, Hernandez-Quevedo C, Klasa K, Mauer N, Panteli D, Permanand G, Quentin W, Rechel B, Rozenblum SD, Thomas S, Willoughby EL, Winkelmann J, Wismar M. Health systems resilience during COVID-19: Lessons for building back better [Internet]. Azzopardi-Muscat N, de la Mata I, editors. Copenhagen (Denmark): European Observatory on Health Systems and Policies; 2021. PMID: 37023237.
- Ndayishimiye C, Sowada C, Dyjach P, Stasiak A, Middleton J, Lopes H, Dubas-Jakóbczyk K. Associations between the COVID-19 Pandemic and Hospital Infrastructure Adaptation and Planning-A Scoping Review. Int J Environ Res Public Health. 2022 Jul 4;19(13):8195. doi: 10.3390/ijerph19138195. PMID: 35805855; PMCID: PMC9266736.
- World Health O. Continuity and coordination of care: a practice brief to support implementation of the WHO Framework on integrated peoplecentred health services. Geneva: World Health Organization; 2018. 2018
- Llewellyn S. `Two-Way Windows': Clinicians as Medical Managers. Organization Studies. 2001; 22(4):593-623.
- International Hospital Federation. Communication to the IHF Governing Council. Bernex: International Hospital Federation (2013).
- Liang Z, Leggat SG, Howard PF, Koh L. What makes a hospital manager competent at the middle and senior levels? Aust Health Rev. 2013 Nov;37(5):566-73. doi: 10.1071/AH12004. PMID: 23601561.
- Abdi Z, Lega F, Ebeid N, Ravaghi H. Role of hospital leadership in combating the COVID-19 pandemic. Health Serv Manage Res. 2022 Feb;35(1):2-6. doi: 10.1177/09514848211035620. Epub 2021 Aug 4. PMID: 34347544.
- Martins JM, Isouard G, Freshman B. Human dimension of health service management. Aust Health Rev. 2019 Feb;43(1):103-110. doi: 10.1071/AH17063. PMID: 29127954.
- Calhoun JG, Dollett L, Sinioris ME, Wainio JA, Butler PW, Griffith JR, Warden GL. Development of an interprofessional competency model for healthcare leadership. J Healthc Manag. 2008 Nov-Dec;53(6):375-89; discussion 390-1. PMID: 19070333.
- Savage J, Scott C. The modern matron: a hybrid management role with implications for continuous quality improvement. J Nurs Manag. 2004 Nov;12(6):419-26. doi: 10.1111/j.1365-2834.2004.00511.x. PMID: 15509271.
- Sarto F, Veronesi G. Clinical leadership and hospital performance: assessing the evidence base. BMC Health Serv Res. 2016 May

- 24;16 Suppl 2(Suppl 2):169. doi: 10.1186/s12913-016-1395-5. PMID: 27230873; PMCID: PMC4896259.
- Gunderman R, Kanter SL. Perspective: Educating physicians to lead hospitals. Acad Med. 2009 Oct;84(10):1348-51. doi: 10.1097/ ACM.0b013e3181b6eb42. PMID: 19881420.
- Prybil LD. Size, composition, and culture of high-performing hospital boards. Am J Med Qual. 2006 Jul-Aug;21(4):224-9. doi: 10.1177/1062860606289628. PMID: 16849778.
- Goodall AH. Physician-leaders and hospital performance: is there an association? Soc Sci Med. 2011 Aug;73(4):535-539. doi: 10.1016/j. socscimed.2011.06.025. Epub 2011 Jul 6. PMID: 21802184.
- Schultz FC, Pal S. Who should lead a healthcare organization: MDs or MBAs? J Healthc Manag. 2004 Mar-Apr;49(2):103-16; discussion 116-7. PMID: 15074119.
- Molinari C, Morlock L, Alexander J, Lyles CA. Hospital board effectiveness: relationships between governing board composition and hospital financial viability. Health Serv Res. 1993 Aug;28(3):358-77. PMID: 8344824; PMCID: PMC1069940.
- Succi MJ, Alexander JA. Physician involvement in management and governance: the moderating effects of staff structure and composition. Health Care Manage Rev. 1999 Winter;24(1):33-44. doi: 10.1097/00004010-199901000-00004. PMID: 10047977.
- 20. Laschinger HK, Wong CA, Cummings GG, Grau AL. Resonant leadership and workplace empowerment: the value of positive organizational cultures in reducing workplace incivility. Nurs Econ. 2014 Jan-Feb;32(1):5-15, 44; quiz 16. PMID: 24689153.
- Cummings GG, MacGregor T, Davey M, Lee H, Wong CA, Lo E, Muise M, Stafford E. Leadership styles and outcome patterns for the nursing workforce and work environment: a systematic review. Int J Nurs Stud. 2010 Mar;47(3):363-85. doi: 10.1016/j.ijnurstu.2009.08.006. Epub 2009 Sep 24. PMID: 19781702.
- Spehar I, Frich JC, Kjekshus LE. Clinicians' experiences of becoming a clinical manager: a qualitative study. BMC Health Serv Res. 2012 Nov 22;12:421. doi: 10.1186/1472-6963-12-421. PMID: 23173953; PMCID: PMC3562219.
- 23. Forbes T, Hallier J, Kelly L. Doctors as managers: investors and reluctants in a dual role. Health Serv Manage Res. 2004 Aug;17(3):167-76. doi: 10.1258/0951484041485638. PMID: 15285825.
- Imran D, Rog K, Gallichio J, Alston L. The challenges of becoming and being a clinician manager: a qualitative exploration of the perception of medical doctors in senior leadership roles at a large Australian health service. BMC Health Serv Res. 2021 Apr 15;21(1):351. doi: 10.1186/ s12913-021-06356-w. PMID: 33858407; PMCID: PMC8051065.
- 25. McConnell CR. Umiker's management skills for the new health care supervisor: Jones & Bartlett Learning; 2016.
- Mafe C, Menyah E, Nkere M. A proposal for health care management and leadership education within the UK undergraduate medical curriculum. Adv Med Educ Pract. 2016 Feb 12;7:87-9. doi: 10.2147/ AMEP.S96781. PMID: 26929680; PMCID: PMC4758789.
- Kumar B, Swee ML, Suneja M. Leadership training programs in graduate medical education: a systematic review. BMC Med Educ. 2020 Jun 2;20(1):175. doi: 10.1186/s12909-020-02089-2. PMID: 32487056; PMCID: PMC7268469.
- 28. Basten D, Haamann TJSO. Approaches for organizational learning: A literature review. 2018;8(3):2158244018794224.
- Mutale W, Vardoy-Mutale AT, Kachemba A, Mukendi R, Clarke K, Mulenga D. Leadership and management training as a catalyst to health system strengthening in low-income settings: Evidence from implementation of the Zambia Management and Leadership course for district health managers in Zambia. PLoS One. 2017 Jul 25;12(7):e0174536. doi: 10.1371/journal.pone.0174536. PMID: 28742853; PMCID: PMC5526553.



- 30. Burgess A, van Diggele C, Mellis C. Mentorship in the health professions: a review. Clin Teach. 2018 Jun;15(3):197-202. doi: 10.1111/tct.12756. Epub 2018 Jan 10. PMID: 29318730.
- 31. Baldwin KS, Dimunation N, Alexander J. Health care leadership and the dyad model. Physician Exec. 2011 Jul-Aug;37(4):66-70. PMID: 21827104.
- 32. Clouser JM, Vundi NL, Cowley AM, Cook C, Williams MV, McIntosh M, Li J. Evaluating the clinical dyad leadership model: a narrative review. J Health Organ Manag. 2020 Sep 8;ahead-of-print(ahead-ofprint). doi: 10.1108/JHOM-06-2020-0212. PMID: 32888264