Open Access Library Journal
2021, Volume 8, e7554
ISSN Online: 2333-9721
ISSN Print: 2333-9705

Review of Leadership Enhancement Strategies in Healthcare Settings

Yan Seah Yuin, Goh Wern Sze, Hanusha Durganaudu, Naganathan Pillai, Christina Gertrude Yap, Nowrozy Kamar Jahan*

Jeffrey Cheah School of Medicine and Health Sciences, Monash University Malaysia, Selangor Darul Ehsan, Malaysia
Email: *nowrozy.jahan@monash.edu

How to cite this paper: Yuin, Y.S., Sze, G.W., Durganaudu, H., Pillai, N., Yap, C.G. and Jahan, N.K. (2021) Review of Leadership Enhancement Strategies in Healthcare Settings. *Open Access Library Journal*, **8**: e7554.
https://doi.org/10.4236/oalib.1107554

Received: May 20, 2021
Accepted: June 20, 2021
Published: June 23, 2021

Abstract

Leadership, as the act of guiding an organization, is increasingly recognized as an imperative skill in the current society, especially in the healthcare setting. However, its lack of clear conceptualization and widespread cultivation of such skill leads to our review, which aims to identify various factors that can further enhance leadership in healthcare workers hence improving the healthcare system. This review explores the various leadership enhancement strategies implemented in different countries from several perspectives, namely educational strategies, health executive positions, legislation, and reports. Moreover, leadership styles and their association with job satisfaction, therefore patient outcomes, are also discussed. Several strategies are implemented in other countries such as the United Kingdom, Canada, and the Netherlands to engage healthcare personnel in leadership. Educational strategies, health executive positions, frameworks, policies, and reports have been implemented in guiding doctors in adopting leadership and ameliorating the current health system. Both transformational and transactional leadership have distinct effects on job satisfaction, and a significant number of studies found that transformational leadership is positively associated with work satisfaction. Thus, it is more widely accepted and practiced by others.

Subject Areas

Human Resource Management

Keywords

Leadership Enhancement Strategies, Health-Care Settings, Medical Professionals

1. Introduction

Leadership is defined as the act of guiding people and organizations [1] [2]. Despite various sources attempting to define this term precisely, its conceptualization remains inconclusive [3] [4]. It is often used interchangeably with the term "management", but they are slightly different as Peter Drucker once claimed, "management is doing things right; leadership is doing the right things". Hence, a leader is someone who envisions a principle-driven change and subsequently realizes it by influencing others, while a manager focuses more on achieving a specific outcome through a standardized process, demonstrating contrasting approaches in goal achievement [5]-[11]. Concluding its definition from different perspectives, leadership essentially describes one's ability to direct a group of individuals to achieve a shared goal collaboratively by being motivational, inspirational, and influential in initiating a beneficial change in the current systems [7] [12] [13].

Leaders are seen everywhere in all professions, and it is not merely the role played by a designated person but everyone involved in the context, namely a shared leadership [9] [14] [15]. Leadership is also demonstrated in medical students whereby they practice such skill in project-based learning and simulations, guiding others in completing tasks [16] [17] [18] [19]. In healthcare settings, clinical leadership inherently defines a physician who actively engages in a guiding role in improving the healthcare system apart from fulfilling the responsibility of carrying out regular clinical duties [20]. The exact roles played by medical leaders are still indeterminate; therefore, this may hinder the effective teaching of such skills to others. Nevertheless, medical leaders are the primary physicians undertaking managerial roles or informal chief in daily clinical practice [3] [21] [22]. They also need to be specific and confident and updated regarding their own roles as they are required to adapt to the ever-changing advances in technology, financial structuring, and societal standards [1] [23].

Furthermore, they are involved in evaluating programs, decision-making, and establishing networks between colleagues [20] [24] [25] [26]. Traditionally, there is a clear division between professionals and managers; however, the concept of medical leader has been introduced to strike a balance between the forces mentioned above [3] [27] [28] [29]. Studies also demonstrated better hospital performance when being led by physicians [20] [30] [31]. Therefore, the cultivation of leadership skills is effective with an explicit understanding of leadership roles and concepts.

Healthcare systems are evolving to become much more intricate as the current healthcare involves multidisciplinary care in which interaction with multiple professional groups, doctors of different specialties and departments are inevitable [7]. Hence, this emphasizes the importance of involving physicians with leadership skills to maintain the desired high standard of care to patients as well as to further enhance the efficiency and productivity of the health system despite its complexity [5]. Moreover, its significance is also attested by studies demonstrat-

ing that work satisfaction is increased when an empathetic and supportive leader is present, thus creating a conducive working environment and indirectly improving organizational performance [7] [12] [32] [33]. These desirable outcomes are also achieved through the constant drive for improvements and initiatives as encouraged by a leader [20] [34] [35].

National Health Service (NHS) competency framework is well-known, and it consists of several domains that healthcare leaders should develop, for example, exhibiting the ability to manage themselves and communicate with others effectively, strategizing a plan for constant improvements of the organization as well as setting the vision and direction for change [14]. To date, numerous leadership styles exist, and different individuals adopt distinct styles which deem most suitable to them, but each style is associated with different outcomes in different settings. Hence, it is imperative to identify the most appropriate style to achieve optimal outcomes [36] [37] [38].

The most discussed styles in literature are transformational and transactional leadership (TRL). Transformational leadership (TFL) describes a leader who inspires the followers through values whereby they will adapt to the leader's way and achieve mutual goals consistent with their personal growth. There are four characteristics delineated in TFL described by Bernard Bass and colleagues, idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration [39] [40] [41] [42] [43]. On the other hand, TRL focuses more on self-interest, whereby followers are motivated through rewards, while laissez-fair leadership is passive in which the leader is not involved in decision-making [36] [40] [42].

Leadership is increasingly being recognized as a significant requirement in today's society, as attested in the residents' requirement in the Accreditation Council for Graduate Medical Education from the United States [12] [44] [45]. Not only are practicing doctors having an increasing desire for higher leadership roles, but more junior doctors are demonstrating interest in such development as they believe in making a difference in their working environment apart from improving their patient's care [32]. The research studies investigating leadership development activities are still variable in quality and lack exploration of subsequent learners' feedback and subjective outcomes [6] [46] [47] [48] [49]. As aforementioned, the distinction between the concept of medical leadership and specific roles taken by medical leaders remains unclear [3] [4].

Hence, we aim to carry out this review to further clarify the concept of leadership and collate studies that included leadership development strategies to provide insights into improving current leadership status as this has not been widely implemented. Furthermore, we intend to identify the impact of leadership styles on factors such as patient health outcomes and employee job satisfaction so that the appropriate leadership style that yields the most desirable outcomes to the system can be chosen and practiced. In this review, we analyzed various strategies in engaging medical practitioners in developing leadership and

the effect of leadership styles on different factors, for instance, job satisfaction, hospital performance, and quality of patient care.

2. Educational Strategies in Medical Leadership

Educational strategies include enhancing the development of leadership via educational interventions such as adaptation into curricula, the introduction of programs and workshops [50] [51]. A review paper written by Chadi reinforced this by stating that the existing medical curricula must incorporate leadership training to provide adequate cultivation of such skill. Besides, most Canadian medical programs are beginning to encourage students in taking up management classes as elective credits. Apart from focusing on undergraduates, continuous medical leadership training must also be offered to practicing doctors. In addition, McGill University developed a joint Doctor of Medicine and Masters of Business Administration (MD-MBA) program in Canada since 1996 to prepare physicians as managers in the healthcare settings [52] [53]. Another article by Sonsale also discussed the need for leadership skills to be incorporated in the undergraduate medical curricula to standardize the essential skills needed in medical students in the United Kingdom (UK) [33] [54].

Moreover, leadership and management were suggested to be included as a combined intercalated degree which is attested in Birmingham Medical School whereby an intercalated Bachelor of Science (BSc) in Health Management and Leadership is offered. This educational program allows more medical schools to be aware of such integration hence follow suit in implementing strategies to promote leadership [54]. The effectiveness of having doctors graduated with managerial training was also demonstrated in Clay-Williams *et al.*'s systematic review in an analysis done byXirasagar et al. whereby leaders are graduating with degrees, for instance, Masters of Business Administration (MBA), Masters of Health Administration and Masters of Public Health, are more effective leaders [55] [56] [57].

The study conducted by Denis and Gestel also reported implementing an improvement program as an initiative to engage physicians in leadership, namely, the Accelerating Excellence program in Canada, which drives initiatives for health system improvement. According to the Champions for Quality Improvement, medical associations and colleges collaborated with the government to improve doctors' adherence to the program [20] [58]. Chadi also stated the importance of hospitals in arranging workshops to allow physicians to adapt to the leadership structure. Furthermore, the Canadian Medical Association began offering programs and workshops through its Physician Manager Institute to provide intensive training regarding leadership [52] [59].

2.1. Implementation of Guidelines and Frameworks

Several studies identified that guidelines and frameworks paved a structured path for healthcare workers to meet the current complex demands of the health-

care system. In Chadi's paper, it was stated that the Royal College of Physicians and Surgeons of Canada officially published the Canadian Medical Education Directives for Specialists (CanMEDS) standards in 2005, whereby essential domains that a doctor should have competence in were listed. Apart from guiding physicians regarding leadership, especially through the CanMEDS Manager Role in which active participation in decision making optimizes the function of the healthcare system, it also serves to guide the adaptation into medical curricula [52] [60]. It was also briefly discussed in Sonsale's article whereby CanMEDS outlined the requirements of a physician possessing the ability to lead while practicing evidence-based medicine with the aim to attain cost-efficient care and how these values influenced the UK, leading to the formation of Medical Leadership Competency Framework (MLCF), thereby supporting the implementation of General Medical Council Outcomes in Leadership and Management [14] [61].

Moreover, the General Medical Council guidelines on "Leadership and Management" devised in 2012 emphasized the roles of doctors beyond clinical work, specifically in leadership, thus further directing current medical personnel into adopting leadership skills. Subsequently, in 2013, the existing framework in the UK was augmented with the introduction of the "Healthcare Leadership Model", which focused on the concept of shared leadership hence enhancing the intra-professional network in the organization [54] [61]. Chadi's review also mentioned the NHS competency framework among the initiatives to integrate leadership into daily practice as it delineated five domains that are essential for physicians to develop [52]. The five essential domains prescribed in the medical leadership competency framework include demonstrating personal qualities, working with others, managing services, improving services, and setting direction, and all these factors are leading to the effective delivery of health services [62].

Furthermore, Denis and Gestel illustrated that the "Integrated Medical Specialist Organization" model was created to build a joint responsibility between medical specialists and executive boards of hospitals. To further support this movement, Care-Wide Governance Code was established by the joint Health Care Sector Organizations. Organizations in the Netherlands widely applied this model, and it ensured adequate supervision on healthcare personnel as well as upholding great management standards. Similarly, the "Quality Framework" was published in 2010 by the "Order of Medical Specialists", which investigated the link between medical specialists and boards strengthening its importance and the system's awareness in improving this aspect [20].

2.2. Involvement of Health Executives

The involvement of one with a medical background in healthcare executive positions not only bridges the communication gaps between medical professionals and management team, but it also acts as a role model for others to follow suit in

becoming leaders [32] [63] [64]. Chadi confirmed this as the role of Chief Medical Officers (CMO) had been empowered in Canada due to the impossibility of hiring a Chief Executive Officers (CEO) who is ideal in management and simultaneously possessing a medical degree. Moreover, the Canadian ministries must actively seek opportunities in increasing CMO positions [52]. Clay-Williams et al. also reported in the systematic review that the first survey of Accountable Care Organizations (ACOs) in the USA demonstrated that most doctors were leaders as attested in 51% of the healthcare settings. In addition, having doctors on boards improved the quality of care as if a doctor substitutes one member from a standard 10 person boards, it increases the uncompensated care by 19%. With CMO or Vice President of Medical Affairs on the committee, it significantly raises the process of care scores (85.3% vs 81.0%, $p < 0.05$) and lower risk-adjusted mortality rates (5.6% vs 7.3%, $p < 0.05$) as compared to those hospitals with the absence of such roles. Another analysis in the article also showed that in higher performing hospitals, doctors either took up a bigger portion of the boards or acted as CEOs [55].

Apart from executive positions, committees should also be created, as evidenced in Chadi's paper. The physician advisory committee was established to link managers and professionals, thus creating a conducive environment for leadership development. Furthermore, Denis and Gestel stated the establishment of the Shared Care Committee in 2006 in Canada, whereby the main purpose is to support initiatives among healthcare professionals in improving the health system. This committee was governmentally funded, and it incorporated medical leadership into the improvement agenda. It was also noted that structural arrangements involving creating governmental and regional medical advisory or planning bodies as well as executive positions could be made [20].

2.3. Implementation of Policy, Acts and Reports

Policies can be developed considering the change to be implemented in the health system whereby clinical leadership is integrated [64] [65]. This is evidenced in Denis and Gestel's article, whereby in British Columbia, Canada, both policymakers and professionals have established a pact to involve physicians beyond their clinical duties. Ontario also proclaimed the "Excellent Care for All Act" in 2010, in which a scheme involving incentives and specific roles of doctors to improve the quality of healthcare had been devised. Another leadership enhancement strategy would be the production of reports that reflect and document the current issue faced by the system. Once awareness is heightened in this aspect, initiatives can be devised and later on implemented in ameliorating the condition. For instance, the Council for Public Health and Care expressed their opinion on the significance of involving responsible physicians in governance via the report "Governance and Quality of Care" (2009), which is further supported by an advisory letter "Relationship between the medical specialist and the hospital in the light of the quality of care". Similarly, the policymakers and pro-

fessionals' opinions are expressed in the reports on "Evaluation of the Quality-of-Care Institutions" (2009) and "Beyond permissiveness. Control and monitoring of quality and safety" (2009) reflected on the inadequacy of the current monitoring of standards and safety of patient care which subsequently had been adapted into the improved regulatory framework [20].

3. Leadership Styles

Choosing the appropriate leadership style allows inspiration and innovation, which further translates into improved quality of healthcare delivered timely [42] [66]. Durowade *et al.* discussed the link between leadership styles and job satisfaction in which productivity will increase with the satisfaction of the healthcare workers' needs, thereby ultimately boosting patient's care. Several studies from various countries and different settings were quoted in the article in supporting the positive association between transformational leadership (TFL) and job satisfaction, for instance, in Malaysia, Jordan and Libya. Idealized influence, which is one of the components in TFL led to higher job satisfaction as evidenced by the higher mean score of 10.99 [+ or −] 0.97 among hospital leaders as assessed via Multifactor Leadership Questionnaire (MLQ), which can be interpreted as leaders are usually visualized as respectable role models.

However, laissez-faire leadership style reported a negative association with job satisfaction in healthcare workers ($r = -0.084$; $P = 0.094$), which is supported by an Iranian and Malaysian study. Inspirational motivation, intellectual stimulation, individual consideration which are components of TFL while contingent reward which is utilized in TRL were shown to be positively correlated with job satisfaction in healthcare workers [40]. Furthermore, Sonsale also briefly stated the significance of utilizing TFL, replacing the conventional TRL to meet the current demands of the healthcare system [54]. Besides, Jodar *et al.* also discussed about various aspects of leadership styles whereby the study showed both aforementioned leadership styles correlated highly with efficiency and job satisfaction ($r = 0.724$ and $r = 0.710$ respectively) [67]. The major study findings of the selected important articles are displayed in **Table 1**.

Table 1. List of selected articles with the main findings and conclusion.

Article; Study country; Year of publication [Ref no]	Type of study	Sample size	Main findings	Conclusion
N.C, Canada, 2009 [Ref no: 52]	Case study	N/A	• Conceptualization of medical leadership • Challenges with engaging doctors in leadership roles • Leadership enhancement strategies in medical students and physicians for instance, educational interventions, MD-MBA degree, introduction of CMO, frameworks and workshops	Canadian health system has shown numerous promising initiatives related to the implementation of medical leadership.

Continued

Clay-Williams R *et al.*, Australia, 2017 [Ref no: 56]	Systematic narrative review	N/A	• Having more doctors on the boards was associated with higher quality rating of service providers and uncompensated care • The presence of a CMO or Vice President of Medical Affairs on the committee resulted in significantly higher process of care scores (85.3% vs 81.0%, $p < 0.05$) and lower risk-adjusted mortality rates (5.6% vs 7.3%, $p < 0.05$) • Higher-performing hospitals were associated with physician CEOs • High staff-to-patient ratios for both nurses and doctors are associated with better hospital performance	There is a modest body of evidence supporting the importance of including doctors on organizational governing boards.
Denis J, Gestel NV, Canada, 2016 [Ref no: 20]	Exploratory study	N/A	• Challenges of engaging physicians in leadership whereby structural and economic integration of medical doctors within organizations are not sufficient • Canada's approaches in enhancing leadership include introduction of acts, improvement programs and medical advisory bodies • Initiatives taken by Netherlands involve implementation of policies, establishment of committee, publication of reports and governmental reform	Both Canadian and Dutch system implemented similar strategies and faced common constraints in enhancing leadership for health system improvement.
Durowade K *et al.*, Nigeria, 2020 [Ref no: 40]	Cross-sectional study	396	• More than half, 205 (51.8%), of the employees were found to be within the third decade of life with a mean of 33.2 [+ or −] 7.2 years. • Among the employees, only 6 (1.5%) had high job satisfaction; • Laissez faire style had negative relationship with job satisfaction ($r = −0.084$; $P = 0.094$). • Age of the leader ($r = −0.095$), duration of tenure by the heads of units ($r = −0.003$) exhibited negative correlation with job satisfaction. • Age of employees and contingent reward were found to be significantly predictive of job satisfaction ($P < 0.05$)	Leadership styles affect health workers' job satisfaction differently and transformational style were more related to health workers' job satisfaction than the transactional style while laissez-faire exhibited a negative relationship with job satisfaction.
Jodar IS *et al.*, Spain, 2016 [Ref no: 68]	Cross sectional study	258	• Managers assessed themselves as equally transactional and transformational leaders (average: 3.30 points) • Nurses (28.57 % of participants) showed a higher transactional leadership style, over transformational leadership style, compared to physicians (3.38 points, $p < 0.003$) • Lowest results in transactional style ($p < 0.015$) seen in men • Both transactional and transformational styles correlate with efficiency and job satisfaction ($r = 0.724$ and $r = 0.710$, respectively)	Primary health care managers perceive themselves to adopt transactional leadership style and focused on the maintenance of the status quo, although some scores show a trend towards the transformational style, mainly among nurse managers, however both styles correlate with satisfaction and willingness to strive to work better.
Sonsale A, Bharamgoudar R, United Kingdom, 2017 [Ref no: 54]	Case study	N/A	• Importance of leadership: The NHS is constantly evolving, and this skill will undoubtedly be vital in empowering young students and doctors to successfully shape their future. For students, it is crucial that they are able to make astute executive decisions when the time comes. • Initiatives need to be under taken to improve leadership skills among young doctors.	Management and leadership are invaluable skills. Implementing it for today's students will enable them as tomorrow's doctors to tackle the growing challenges of modern healthcare.

4. Conclusions

Leadership skills can be cultivated in many ways through different roles played by society, for instance, governmental authorities, healthcare institutions, and medical schools. Taking other countries like Canada, the UK, and Netherlands as examples, integrating leadership training and managerial course into the medical curricula should be implemented.

Workshops and programs must also be organized to engage healthcare personnel in leadership consistently. Opportunities for practicing physicians to continue their medical education should also be offered, especially in management, to produce more medical leaders bridging the communication gap between managerial and professional members. Introducing health executive positions and encouraging policies, frameworks and reports must also be devised so that an up-to-date and systematic guide is available for doctors to follow in meeting the current fluctuating demands of the healthcare system.

There are currently numerous leadership styles existing and transformational leadership has shown a positive association with job satisfaction, thereby indirectly improving the healthcare system. Nonetheless, more studies should be analyzed to find the most appropriate and effective strategy to be implemented in enhancing leadership.

Acknowledgements

The authors would like to acknowledge Monash University for providing us access to the extensive sources of full-text articles required in completing this review paper via Monash University Malaysia's library. Furthermore, Monash University also permitted us in utilizing Endnote software in removing duplicated articles.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

References

[1] Kumar, B., Swee, M.L. and Suneja, M. (2020) Leadership Training Programs in Graduate Medical Education: A Systematic Review. *BMC Medical Education*, **20**, 175. https://doi.org/10.1186/s12909-020-02089-2

[2] Rosenman, E.D., Branzetti, J.B. and Fernandez, R. (2016) Assessing Team Leadership in Emergency Medicine: The Milestones and Beyond. *Journal of Graduate Medical Education*, **8**, 332-340. https://doi.org/10.4300/JGME-D-15-00400.1

[3] Berghout, M.A., Fabbricotti, I.N., Buljac-Samardzic, M. and Hilders, C. (2017) Medical Leaders or Masters? A Systematic Review of Medical Leadership in Hospital Settings. *PLoS ONE*, **12**, e0184522. https://doi.org/10.1371/journal.pone.0184522

[4] Spurgeon, P., Long, P., Clark, J. and Daly, F. (2015) Do We Need Medical Leadership or Medical Engagement? *Leadership in Health Services* (*Bradford*, *England*), **28**, 173-184. https://doi.org/10.1108/LHS-03-2014-0029

[5] Kumar, R.D.C. and Khiljee, N. (2016) Leadership in Healthcare. *Anaesthesia & Intensive Care Medicine*, **17**, 63-65. https://doi.org/10.1016/j.mpaic.2015.10.012

[6] Frich, J.C., Brewster, A.L., Cherlin, E.J. and Bradley, E.H. (2015) Leadership Development Programs for Physicians: A Systematic Review. *Journal of General Internal Medicine*, **30**, 656-674. https://doi.org/10.1007/s11606-014-3141-1

[7] Al-Sawai, A. (2013) Leadership of Healthcare Professionals: Where Do We Stand? *Oman Medical Journal*, **28**, 285-287. https://doi.org/10.5001/omj.2013.79

[8] Azad, N.A.H., Brooks, A., Garza, O., O'Neil, C., Stutz, M.M. and Sobotka, J.L. (2017) Leadership and Management Are One and the Same. *American Journal of Pharmaceutical Education*, **81**, 102. https://doi.org/10.5688/ajpe816102

[9] Kotter, J.P. (2001) What Leaders Really Do? Harvard Business Review, USA.

[10] Shi, L., Zhang, L. and Lu, Y. (2020) Evaluating Social Network-Based Weight Loss Interventions in Chinese Population: An Agent-Based Simulation. *PLoS ONE*, **15**, e0236716. https://doi.org/10.1371/journal.pone.0236716

[11] Aggarwal, R. and Swanwick, T. (2015) Clinical Leadership Development in Postgraduate Medical Education and Training: Policy, Strategy, and Delivery in the UK National Health Service. *Journal of Healthcare Leadership*, **7**, 109-122. https://doi.org/10.2147/JHL.S69330

[12] Chen, T.Y. (2018) Medical Leadership: An Important and Required Competency for Medical Students. *Tzu-Chi Medical Journal*, **30**, 66-70. https://doi.org/10.4103/tcmj.tcmj_26_18

[13] Yukl, G.A. (2010) Leadership in Organizations. Prentice Hall, Michigan, USA.

[14] Academy, N.L. (2011) Leadership Framework a Summary. 20. NHS Institute for Innovation and Improvement, Coventry House, University of Warwick Campus, UK.

[15] Kouzes, J. (2013) The Five Practices of Exemplary Leadership: How Ordinary People Make Extraordinary Things Happen. Encyclopedia of Management Theory.

[16] Webb, A.M., Tsipis, N.E., McClellan, T.R., McNeil, M.J., Xu, M., Doty, J.P., *et al.* (2014) A First Step toward Understanding Best Practices in Leadership Training in Undergraduate Medical Education: A Systematic Review. *Academic Medicine*, **89**, 1563-1570. https://doi.org/10.1097/ACM.0000000000000502

[17] Dannels, S.A., Yamagata, H., McDade, S.A., Chuang, Y.-C., Gleason, K.A., McLaughlin, J.M., *et al.* (2008) Evaluating a Leadership Program: A Comparative, Longitudinal Study to Assess the Impact of the Executive Leadership in Academic Medicine (ELAM) Program for Women. *Academic Medicine*, **83**, 488-495. https://doi.org/10.1097/ACM.0b013e31816be551

[18] Green, P.L. and Plsek, P.E. (2002) Coaching and Leadership for the Diffusion of Innovation in Health Care: A Different Type of Multi-Organization Improvement Collaborative. *Joint Commission Journal on Quality Improvement*, **28**, 55-71. https://doi.org/10.1016/S1070-3241(02)28006-2

[19] Korschun, H.W., Redding, D., Teal, G.L. and Johns, M.M.E. (2007) Realizing the Vision of Leadership Development in an Academic Health Center: The Woodruff Leadership Academy. *Academic Medicine*, **82**, 261-271. https://doi.org/10.1097/ACM.0b013e31803078b5

[20] Denis, J.L. and van Gestel, N. (2016) Medical Doctors in Healthcare Leadership: Theoretical and Practical Challenges. *BMC Health Services Research*, **16**, 158. https://doi.org/10.1186/s12913-016-1392-8

[21] Bohmer, R.M.J. (2011) The Four Habits of High-Value Health Care Organizations.

The New England Journal of Medicine, **365**, 2045-2047. https://doi.org/10.1056/NEJMp1111087

[22] Baker, G.R. and Denis, J.-L. (2011) Medical Leadership in Health Care Systems: From Professional Authority to Organizational Leadership. *Public Money & Management*, **31**, 355-362. https://doi.org/10.1080/09540962.2011.598349

[23] Mafe, C., Menyah, E. and Nkere, M. (2016) A Proposal for Health Care Management and Leadership Education within the UK Undergraduate Medical Curriculum. *Advances in Medical Education and Practice*, **7**, 87-89. https://doi.org/10.2147/AMEP.S96781

[24] van de Riet, M.C.P., Berghout, M.A., Buljac-Samardzic, M., van Exel, J. and Hilders, C. (2019) What Makes an Ideal Hospital-Based Medical Leader? Three Views of Healthcare Professionals and Managers: A Case Study. *PLoS ONE*, **14**, e0218095. https://doi.org/10.1371/journal.pone.0218095

[25] Denis, J. (2015) Leadership and Innovation in Healthcare Governance. In: *The Palgrave International Handbook of Healthcare Policy and Governance*, Palgrave Macmillan, London, 425-440. https://doi.org/10.1057/9781137384935_26

[26] Spurgeon, P., Mazelan, P., *et al.* (2008) Developing a Medical Engagement Scale (MES). *The International Journal of Clinical Leadership*, **16**, 213-223.

[27] Meier, N. (2015) Configurations of Leadership Practices in Hospital Units. *Journal of Health Organization and Management*, **29**, 1115-1130. https://doi.org/10.1108/JHOM-01-2014-0009

[28] Thorne, M.L. (2002) Colonizing the New World of NHS Management: The Shifting Power of Professionals. *Health Services Management Research*, **15**, 14-26. https://doi.org/10.1258/0951484021912798

[29] Thorne, M.L. (1997) Being a Clinical Director: First among Equals or Just a Go-Between? *Health Services Management Research*, **10**, 205-215. https://doi.org/10.1177/095148489701000401

[30] Pronovost, P.J., Miller, M.R., Wachter, R.M. and Meyer, G.S. (2009) Perspective: Physician Leadership in Quality. *Academic Medicine*, **84**, 1651-1656. https://doi.org/10.1097/ACM.0b013e3181bce0ee

[31] Botje, D., Plochg, T., Klazinga, N. and Wagner, C. (2014) Clinical Governance in Dutch Hospitals. *Clinical Governance*: *An International Journal*, **19**, 322-331. https://doi.org/10.1108/CGIJ-08-2014-0028

[32] Warren, O.J. and Carnall, R. (2011) Medical Leadership: Why It's Important, What Is Required, and How We Develop It. *Postgraduate Medical Journal*, **87**, 27-32. https://doi.org/10.1136/pgmj.2009.093807

[33] Quince, T., Abbas, M., Murugesu, S., Crawley, F., Hyde, S., Wood, D., *et al.* (2014) Leadership and Management in the Undergraduate Medical Curriculum: A Qualitative Study of Students' Attitudes and Opinions at One UK Medical School. *BMJ Open*, **4**, e005353. https://doi.org/10.1136/bmjopen-2014-005353

[34] Baker, G. (2015) Creating a High Performing Healthcare System for Ontario: Evidence Supporting Strategic Changes in Ontario. Institute of Health Policy, Management and Evaluation University of Toronto, Toronto.

[35] Daly, J., Jackson, D., Mannix, J., Davidson, P. and Hutchinson, M. (2014) The Importance of Clinical Leadership in the Hospital Setting. *Journal of Healthcare Leadership*, **6**, 75-83. https://doi.org/10.2147/JHL.S46161

[36] Samarakoon, K.B. (2019) Leadership Styles for Healthcare. *International Journal of Scientific and Research Publications* (*IJSRP*), **9**, 49. https://doi.org/10.29322/IJSRP.9.09.2019.p9308

[37] Appelbaum, S., Degbe, M., Macdonald, O. and Nguyen-Quang, T.-S. (2015) Organizational Outcomes of Leadership Style and Resistance to Change (Part One). *Industrial and Commercial Training*, **47**, 73-80. https://doi.org/10.1108/ICT-07-2013-0044

[38] Bass, B.M., Bass, R. and Bass, B.M. (2008) The Bass Handbook of Leadership: Theory, Research, and Managerial Applications. Free Press, New York.

[39] Gabel, S. (2012) Power, Leadership and Transformation: The Doctor's Potential for Influence. *Medical Education*, **46**, 1152-1160. https://doi.org/10.1111/medu.12036

[40] Durowade, K., Durowade, S., Sanni, T., Ojuolape, M. and Omokanye, L. (2020) Leadership Styles versus Health Workers' Job Satisfaction: Relationships, Correlates and Predictors in Tertiary Hospitals in Ekiti State, Southwest Nigeria. *Nigerian Journal of Clinical Practice*, **23**, 1702-1710. https://doi.org/10.4103/njcp.njcp_525_18

[41] Burns, J.M. (1978) Leadership. Harper & Row, New York.

[42] Nanjundeswaraswamy, D. and Swamy, D.R. (2014) Leadership Styles. *Advances in Management*, **7**, 57.

[43] Bass, B. and Avolio, B.J. (1990) Developing Transformational Leadership: 1992 and Beyond. *Journal of European Industrial Training*, **14**, 21-27. https://doi.org/10.1108/03090599010135122

[44] Clyne, B., Rapoza, B. and George, P. (2015) Leadership in Undergraduate Medical Education: Training Future Physician Leaders. *Rhode Island Medical Journal*, **98**, 36-40.

[45] ACGME (2020) Common Program Requirements (Residency).

[46] Lyons, O., George, R., Galante, J.R., Mafi, A., Fordwoh, T., Frich, J., *et al.* (2020) Evidence-Based Medical Leadership Development: A Systematic Review. *BMJ Leader*. https://doi.org/10.1136/leader-2020-000360

[47] Husebø, S.E. and Akerjordet, K. (2016) Quantitative Systematic Review of Multi-Professional Teamwork and Leadership Training to Optimize Patient Outcomes in Acute Hospital Settings. *Journal of Advanced Nursing*, **72**, 2980-3000. https://doi.org/10.1111/jan.13035

[48] Rosenman, E.D., Shandro, J.R., Ilgen, J.S., Harper, A.L. and Fernandez, R. (2014) Leadership Training in Health Care Action Teams: A Systematic Review. *Academic Medicine*, **89**, 1295-1306. https://doi.org/10.1097/ACM.0000000000000413

[49] Geerts, J.M., Goodall, A.H. and Agius, S. (2020) Evidence-Based Leadership Development for Physicians: A Systematic Literature Review. *Social Science & Medicine*, **246**, Article ID: 112709. https://doi.org/10.1016/j.socscimed.2019.112709

[50] Lieff, S. and Albert, M. (2012) What Do We Do? Practices and Learning Strategies of Medical Education Leaders. *Medical Teacher*, **34**, 312-319. https://doi.org/10.3109/0142159X.2012.643835

[51] Nyquist, J.G. (2011) Educating Physicians: A Call for Reform of Medical School and Residency. *The Journal of Chiropractic Education*, **25**, 193-195.

[52] Chadi, N. (2009) Medical Leadership: Doctors at the Helm of Change. *MJM*, **12**, 52-57.

[53] Chen, S.H. (2006) The Merging of Medicine and Management—McGill University's MD-MBA Degree. *McGill Journal of Medicine*, **9**, 3-4. https://doi.org/10.26443/mjm.v9i1.496

[54] Sonsale, A. and Bharamgoudar, R. (2017) Equipping Future Doctors: Incorporating Management and Leadership into Medical Curriculums in the United Kingdom.

Perspectives on Medical Education, **6**, 71-75. https://doi.org/10.1007/s40037-017-0327-3

[55] Clay-Williams, R., Ludlow, K., Testa, L., Li, Z. and Braithwaite, J. (2017) Medical Leadership, a Systematic Narrative Review: Do Hospitals and Healthcare Organisations Perform Better When Led by Doctors? *BMJ Open*, **7**, e014474. https://doi.org/10.1136/bmjopen-2016-014474

[56] Xirasagar, S., Samuels, M.E. and Curtin, T.F. (2006) Management Training of Physician Executives, Their Leadership Style, and Care Management Performance: An Empirical Study. *The American Journal of Managed Care*, **12**, 101-108.

[57] Xirasagar, S., Samuels, M.E. and Stoskopf, C.H. (2005) Physician Leadership Styles and Effectiveness: An Empirical Study. *Medical Care Research and Review*, **62**, 720-740. https://doi.org/10.1177/1077558705281063

[58] Marlene, S. (2010) Transforming Saskatchewan's Health Care System. Health Quality Council, Canada.

[59] Frank, J. (2007) Medical Leadership and Effective Interprofessional Health Care Teams: A Competency-Based Approach.

[60] Frank, J.R., Snell, L. and Sherbino, J. (2015) CanMEDS 2015 Physician Competency Framework. Royal College of Physicians and Surgeons of Canada, Ottawa.

[61] GMC (2012) Leadership and Management for All Doctors. General Medical Council, UK.

[62] Colleges NIfIaIaAoMR (2010) Medical Leadership Competency Framework: Enhancing Engagement in Medical Leadership. NHS Institute for Innovation and Improvement and Academy of Medical Royal Colleges, UK.

[63] Mastura, I. (2008) Leadership in the Ministry of Health. *Malaysian Family Physician*, **3**, 52-54.

[64] Dwyer, J., Vriesendorp, S., Johnson, S., *et al.* (2006) An Urgent Call to Professionalize Leadership and Management in Health Care Worldwide. MSH Occasional Paper.

[65] Schalk-Zaitsev, S. (2011) Engaging Stakeholders in Health Systems Assessments: A Guide for HSA Teams. WHO.

[66] Głód, W. (2018) Transformational Leadership Style in the Relationship between Innovation and Efficiency of Healthcare Units in Poland. *Oeconomia Copernicana*, **9**, 731-746. https://doi.org/10.24136/oc.2018.036

[67] Jodar, I.S.G., Gene, I.J., Hito, P.D., Osaba, M.A. and Del Val Garcia, J.L. (2016) Self-Perception of Leadership Styles and Behaviour in Primary Health Care. *BMC Health Services Research*, **16**, 572. https://doi.org/10.1186/s12913-016-1819-2

List of Abbreviations

ACOs: Accountable Care Organizations;
BSc: Bachelor of Science;
CanMEDS: Canadian Medical Education Directives for Specialists;
CEO: Chief Executive Officers;
CMO: Chief Medical Officers;
MBA: Masters of Business Administration;
MD-MBA: Doctor of Medicine and Masters of Business Administration;
MLCF: Medical Leadership Competency Framework;
NHS: National Health Service;
TRL: Transactional leadership;
TFL: Transformational leadership;
UK: United Kingdom.