



Adaptive leadership during challenging times: Effective strategies for health professions educators: AMEE Guide No. 148

Judy McKimm, Subha Ramani, Kirsty Forrest, Jo Bishop, Ardi Findyartini, Chloe Mills, Mohammed Hassanien, Abdulmonem Al-Hayani, Paul Jones, Vishna Devi Nadarajah & Greg Radu

To cite this article: Judy McKimm, Subha Ramani, Kirsty Forrest, Jo Bishop, Ardi Findyartini, Chloe Mills, Mohammed Hassanien, Abdulmonem Al-Hayani, Paul Jones, Vishna Devi Nadarajah & Greg Radu (2023) Adaptive leadership during challenging times: Effective strategies for health professions educators: AMEE Guide No. 148, Medical Teacher, 45:2, 128-138, DOI: [10.1080/0142159X.2022.2057288](https://doi.org/10.1080/0142159X.2022.2057288)

To link to this article: <https://doi.org/10.1080/0142159X.2022.2057288>



© 2022 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group.



Published online: 11 May 2022.



Submit your article to this journal [↗](#)



Article views: 29202



View related articles [↗](#)







View Crossmark data [↗](#)



Citing articles: 29 View citing articles [↗](#)

Adaptive leadership during challenging times: Effective strategies for health professions educators: AMEE Guide No. 148

Judy McKimm^{a,b} , Subha Ramani^{c,d,e} , Kirsty Forrest^f, Jo Bishop^f, Ardi Findyartini^g, Chloe Mills^h , Mohammed Hassanien^{i,j}, Abdulmonem Al-Hayani^k, Paul Jones^l, Vishna Devi Nadarajah^m  and Greg Radu^{n,o}

^aSwansea University Medical School, Wales, UK; ^bDepartment of Internal Medicine, King Saud University, Riyadh, Saudi Arabia; ^cHarvard Medical School, Boston, USA; ^dMassachusetts General Hospital Institute for Health Professions Education, Boston, USA; ^eHonorary Professor of Medical Education, University of Manchester, Manchester, UK; ^fFaculty of Health Sciences and Medicine, Bond University, Gold Coast, Queensland, Australia; ^gHead of Medical Education Unit and Head of Cluster, Centre for Medical Education, Indonesia Medical Education and Research Institute, Faculty of Medicine Universitas Indonesia, Jakarta, Indonesia; ^hDepartment of Applied Linguistics, Swansea University, Swansea, UK; ⁱDepartment of Clinical Biochemistry & Medical Education, College of Pharmacy Practice, King Abdulaziz University, Jeddah, Saudi Arabia; ^jCollege of Medicine, Tanta University, Tanta, Egypt; ^kAnatomy, Department of Anatomy, Faculty of Medicine, King Abdulaziz University, Jeddah, Saudi Arabia; ^lFaculty of Medicine & Health Sciences, Swansea University, Swansea, UK; ^mInstitutional Development at the International Medical University, Kuala Lumpur, Malaysia; ⁿDepartment of Psychiatry, Memorial University, St. Clare's Hospital, St. John's, Canada; ^oDepartment of Health and Community Services, Government of Newfoundland and Labrador, St John's, Canada

ABSTRACT

Leadership and management are becoming increasingly recognised as vital for high-performing organisations and teams in health professions education. It is often difficult for those embarking on leadership activities (as well as more experienced leaders) to find their way through the volume of literature and generic information on the topic. This guide aims to provide a framework for developing educators' understanding of leadership, management, and followership in the context of health professions education. It explains many relevant approaches to leadership and suggests various strategies through which educators can develop their practice to become more effective.

KEYWORDS

Health professions education; leadership; management; followership

Introduction

Leadership in health professions education (HPE) is always challenging, as health professions (HP) educators work across multiple systems and organisations to provide training for large numbers of learners and qualified staff. The COVID-19 pandemic has been one of the most challenging situations that leaders in healthcare and health professions education have faced. Leaders have had to make decisions 'on the fly' and adapt to new challenges while also attending to the well-being of themselves, their professional staff, academics, learners, clinical teachers, as well as maintaining the stability of programmes and organisations (Nadarajah et al. 2020; Paixão et al. 2020). Lessons learned about leadership during the pandemic are highly relevant as we move forward because new challenges will continue to arise in the future, which will require flexibility and adaptability on the part of healthcare education leaders.

In this guide, we introduce some contemporary leadership approaches and how a leader might develop skills in these approaches. Throughout the guide, real-life examples are drawn from around the world highlight aspects of leadership in various contexts, with a focus on leadership during uncertain and challenging times.

What is leadership?

Leadership is often described as the driving force, energy or 'power' that establishes and communicates vision and

Practice points

- Multiple leadership theories, concepts and approaches exist, and leaders should be able to draw from a range of relevant approaches in their everyday practice.
- Leadership operates at the interpersonal, intrapersonal, organisational and system, and global ecosystem levels.
- Effective leaders are also good followers and managers, being able to deftly switch from one set of activities to another.
- In the complex uncertain world in which we live, leaders need to be adaptive in approach and compassionate and nurturing of those with whom they work.

direction, helping to influence and motivate people towards making a change (Scouller 2011; Swanwick and McKimm 2017). It is a key factor for organisational success, as effective leaders promote a positive culture and climate—a necessity in uncertain and difficult times. One of the pervasive leadership myths is that leadership is solely vested in positional power in an organisation. This is untrue. Leadership can (and does) occur at many levels

Box 1. Case study: Putting the 'leadership triad' into practice.

An educational leader, inspired by a passion for mentoring, led the formation of a community comprising like-minded mentors from seven countries. The group offered a speed mentoring workshop and participated in a one-on-one mentoring initiative at the 2019 Association for Medical Education in Europe (AMEE) conference (Ramani et al. 2021). The COVID-19 pandemic spurred this group to offer virtual mentoring sessions, each focusing on a specific educational topic or problem, aiming to stimulate global conversations and share challenges and success stories (McKimm et al. 2020; Thampy et al. 2020). The group has since expanded to include educational leaders from more regions of the world; currently, the core group consists of members from 11 countries. Though a leader initiated the formation of the group, active followers advise the leader, participate in brainstorming, and formulate action plans for the group.

Many key leadership principles have been adopted by this 'mentors across borders' community: leadership, management, and followership roles are rotated for different projects; emotional intelligence competencies such as self-management and relationship management are critical to maintaining the group; positive psychology principles motivate the group to stay on task and celebrate wins; inclusive and person-centred leadership has stimulated expansion and inclusion of members from different global regions who can bring in different perspectives; and, most importantly, a climate of psychological safety promotes members to mentor and learn from each other (Mannion et al. 2015; McKimm and Mannion 2015; Amin et al. 2018; McKimm et al. 2020). Finally, the leaders of a specific initiative send explicit messages allowing members to lead, participate in, or even step aside based on their interests and time constraints.

Table 1. Leadership challenges and solutions.

Issues and challenges	Strategies and solutions
Constant changes in education and health services	Change is the only constant – leaders need to be comfortable with managing and leading change
Working at the interface of health and education	Leaders need a basic expertise in health and education systems – funding, structures, cultures
Aligning requirements such as accreditation, professional standards, quality assurance, clinical governance	Learning how to understand and work within internal and external quality systems
Structures, systems and funding often misaligned to curriculum innovation	Designing agile, flexible curricula, in line with educational best practice and society's needs and keep abreast of innovations
Siloed working (professions, specialties, teams, organisations, gender)	Communicating and networking between groups, professions, organisations; translational ('sense making') role
Involves working with stakeholders (professionals, patients, and learners) with different needs and demands	Identifying and working with stakeholders to meet and manage expectations and needs
Top level leaders sometimes out of touch with educational change and innovation	Taking time to keep up to date about potential innovations and change – become the 'expert'
Lack of leadership/management capacity	Devising and implementing a strategy for leadership development

and is undertaken by a range of HP educators daily, e.g. leading a project or initiative, leading on an item at a meeting, or leading a classroom discussion with students. HP educators need to be aware of how they, as both leaders and followers, operate at the intrapersonal, interpersonal/team, organisational, and system levels.

The 'leadership triad'

In HPE, people have opportunities to promote leadership in many ways, including within teams, services, programmes, and organisations (or parts of them, such as assessment, residency, year lead, head of the department, or research activities). HPE leadership activities span many boundaries, from universities or schools to health services in hospitals and communities. 'Leadership' in HPE has many similarities with leadership in other organisations and sectors. It comprises a dynamic combination of leadership, management, and followership activities, known as the 'leadership triad' (McKimm and O'Sullivan 2016), and takes place between and within individuals, groups, and organisations across academia and healthcare services.

As echoed in the traditional literature, leadership involves the most important set of activities within an organisation; however, it needs to be emphasised that management and followership are equally important for leaders to be effective (Barrow et al. 2011). While leadership sets the vision, 'management' is necessary for the set of activities that helps put the vision into practice, involving attention to processes that identify problems and help find solutions (McKimm and

Jones 2018). Management provides stability, for example financial, curricular or workforce, so that changes can be made without destabilising the organisation or programme. Active and effective followers, those who support but also may challenge the leader, are an essential part of ensuring that envisaged change happens smoothly. Leadership is very much about building and maintaining the relationships within the entire triad. An HPE leader will be best placed to provide strong and purposeful leadership if they combine an awareness of, and skills related to, the three interlinked positions in the 'leadership triad', taking their followers with them on what might be a difficult journey, while being aware of their specific context. In [Box 1](#), we provide an example of putting the leadership triad into practice.

Challenges for leaders

The way we conceptualise leadership is primarily about facilitating and enabling meaningful and sustainable change and improvement in the way education is provided in whatever setting (Buchanan et al. 2004). This is one of the most important tasks of the HPE leader. This does not mean making changes simply for the sake of it but is about being aware of the broader shifts in thinking about education, taking a translational or 'sense-making' role in bringing ideas to your own context, being proactive in identifying struggles and challenges for learners and faculty and finding solutions to these. Even in 'normal' times, HPE leaders and educators must deal with a range of issues on a regular and routine basis (see [Table 1](#)).

Table 2. The four-level model of HPE leadership during challenging and uncertain times.

Levels	Leadership approach	Skill development
Intrapersonal	Emotional and social intelligence leadership	Develop self-insight into your leadership approach in various situations, including challenges and pressures Understand your strengths and limitations regarding emotional intelligence, grit, trust drivers Learn to share vulnerability and surface awareness of your biases
Interpersonal	Authentic, inclusive, primal leadership	Work on building credibility Purposefully develop and maintain psychological safety in your teams Develop a collaborative mind-set and be willing to share power to get things done
Complex organisational or system	Adaptive leadership	Step up onto the balcony to horizon scan See the big picture and long term Develop and communicate your vision Invite and gather multiple perspectives Be willing to hold fierce conversations
Global eco-system	Regenerative, eco-ethical, meta leadership	Learn to take a global perspective, be aware of the wider political and external environment Develop your own ways of demonstrating accountability, advocacy for others, and (if needed) activism Find your purpose and passion, your 'why' (Sinek 2009) Embed consideration of sustainability and the environmental impact of activities into day-to-day practice Be a role model for the changes you want to make

Box 2. The impact of the four EI domains.

1. **Self-awareness** allows leaders to recognise their assumptions and biases, and how these affect their worldview.
2. **Self-management** promotes thought before action and the ability to manage own emotions and reactions, essential for reigning in negative emotion.
3. **Social awareness** allows leaders to understand the individuals who make up their team and recognise differences in viewpoints and personalities.
4. **Relationship management** is essential to welcome a variety of perspectives, nurture talent, and maximise the potential and productivity of individuals, teams, and the organisation. Mentoring and coaching skills fall under this domain.

Leadership approaches in challenging times

During the COVID-19 pandemic, change was not stimulated from within but instead imposed from outside. HPE leaders, learners, and staff around the world had no control over these change drivers but instead had to adapt and learn how to manage unprecedented challenges, great uncertainty, and crises (Nadarajah et al. 2020). This required different leadership approaches (Kotter 2007; Kanter 2020). Table 2 lists the four levels in which leadership operates, approaches that are helpful during challenging times, and the skills that leaders can develop to help with these approaches.

We will now discuss some theoretical principles underpinning specific leadership approaches under each of the levels we operate in. The following section addresses the application of these principles to practice with examples of how to build the skills required.

The intrapersonal level (self): developing emotional and social intelligence

Research indicates that the most successful leaders, regardless of profession or location, have a high degree of emotional intelligence (Boyatzis 2008). Emotional intelligence (EI) as a marker of successful leadership was first discussed by Daniel Goleman in the 1990s. He concluded that skills such as toughness, vision, determination, and intelligence were not enough to be a successful leader and that the skills of self-awareness, self-regulation, motivation, empathy, and social skills were equally, if not more, important (Goleman 1998). Together, Boyatzis and Goleman went

on to analyse the core attributes among the most successful leaders. Twelve competencies of emotional and social intelligence were described under four domains (Boyatzis 2009). The four domains are: self-awareness, self-management, social awareness, and relationship management. All four domains of EI competencies are essential for leaders to manage the groups of people they lead (see Box 2).

EI competencies are a useful guide to leaders in leading and managing change. However, the specific behaviours that are most effective depending on the organisational and societal culture within which the leader is situated. Institutions that feature diversity in the composition of their leaders, staff, and learners should recognise that individuals on a team might have different body language and emotional reactions even when working towards a common goal.

The interpersonal level (working with others): authentic, inclusive, and primal leadership

At all times, but especially in changing and uncertain times, what people want from their leaders is an authentic voice. Followers want to feel that their leaders are listening, taking their concerns seriously and that they have the expertise and authority to lead and manage change. Leaders are created and maintained by how their followers see, relate to, and trust them (Uhl-Bien and Carsten 2018). Followers will follow their leaders into highly unsafe situations (such as war) if they feel their leaders can keep them safe and that they are 'in it' together (Sinek 2014).

Primal and authentic leadership have come to the fore as relevant approaches to leadership required for uncertain

times. The term ‘primal leadership’ was coined to indicate that the affect (emotional level) of a leader and resulting behaviours have a powerful effect on engagement, motivation, and behaviours of everyone else within their organisation: ‘the leader’s mood is literally contagious, spreading quickly and inexorably throughout the business; (Goleman et al. 2001, p. 44).

Authentic leadership is very much focused on the leader drawing from their own strengths and being aware of their own weaknesses and biases (Avolio and Gardner 2005; Sosik et al. 2009; Cardiff et al. 2018; Hollander 2012). Authentic leaders proactively seek a range of perspectives on issues and demonstrate that they value and listen to those around them. Leaders also need to demonstrate traits of intellectual humility, admitting mistakes, learning from criticism and different points of view, and acknowledging and seeking contributions from others to overcome limitations. Though this leadership style is closely related to EI competencies, the focus is on how a leader’s outlook impacts their team members’ moods, behaviours, task completion, and consequently their sense of professional fulfilment and well-being. While a positive outlook is a key component of this approach, it is also necessary to be authentic.

The complex organisational or system level: Adaptive leadership

A complex system thinking approach provides a lens that overtly acknowledges the interdependency and interrelationships of all agents within the system, that ‘simple’ rules or changes can lead to large effects, and that a change in one part of the system can have unanticipated consequences throughout the system (Till et al. 2016; Obolensky 2017).

We live in a VUCA (Volatile, Uncertain, Complex, Ambiguous; Worley and Jules 2020) and RUPT (Rapid, Uncertain, Paradoxical, Tangled; Till et al. 2016) world; therefore, the HPE leadership needed is one that is flexible and agile enough to adapt to changing and complex circumstances. Adaptive leadership (Heifetz et al. 2009; Randall and Coakley 2007) is specifically focused on leadership in complex systems or situations and is helpful when thinking about how to respond to change, uncertainty, and crisis. This approach emphasises the importance of adaptation to a complex and rapidly changing environment and creates the organisational conditions to achieve agreed goals (Hodges and Gill 2014). Adaptive problems are usually vague, complex, and ‘wicked’. The creators of the adaptive leadership approach, Ronald Heifetz and Marty Linsky, defined four foundational principles of effective adaptive leadership, which are:

1. Organisational justice: Adaptive leaders create an environment in which every member of the organisation can be heard. Organisational input is integral to adaptive leadership.
2. Emotional intelligence: Adaptive leadership values relationships.
3. Development: Adaptive leaders empower their colleagues and employees to learn and grow through the process of organisational change
4. Character: Adaptive leaders demonstrate ethical responsibility and morality. They are transparent in their communication style and hold themselves to the same standards to which they hold their team.

Like authentic leadership, these dimensions have many parallels with EI competencies. One of the most useful concepts in adaptive leadership is the ability to diagnose the ‘precious’ from the ‘expendable’ (Heifetz et al. 2009). The ‘precious’ is what is vitally important to the organisation; in education, this includes the learners themselves, the faculty, the quality of educational provision, and the core values of the organisation; you do not want to lose the focus on these as you respond to crisis and change. Adaptive leaders recognise what is precious and make sure that this is looked after and nurtured.

The global eco-system level: Meta, eco, and regenerative leadership

Meta-leadership

Born out of some of the biggest recent challenges, meta-leadership was described through observation and analysis of leaders in crisis circumstances such as the September 11 attacks in New York and the response to Hurricane Katrina in New Orleans. The recent pandemic is also such a crisis for healthcare and for healthcare education. Meta-leadership draws upon and integrates a wide range of leadership theories including transformational leadership, shared leadership, followership, and complex adaptive leadership (Marcus et al. 2015). Meta-leadership is focused on boundary-spanning leadership that generates connectivity among disparate stakeholders in both intra- and inter-organisational settings. In this way, these ‘meta-leaders’ are concerned with influencing others and activating change beyond the established lines of their own control. Marcus et al. (2008) describe that they are driven by a wider purpose than what has been asked of them and can thus ‘transcend’ organisational barriers. They describe the dimensions of meta-leadership as follows:

The Dimensions of Meta-Leadership

1. The person (self-knowledge, awareness, and regulation): Meta-leaders develop high self-awareness, self-knowledge, and self-regulation.
2. The situation (discerning the context for leadership): With often incomplete information, the meta-leader maps the situation to determine what is happening, who are the stakeholders, what is likely to happen next, and what are the critical choice points and options for action.
3. The connection (fostering positive, productive relationships): The meta-leader charts a course forward, making decisions, operationalising those decisions, and communicating effectively to recruit wide engagement and support.

In healthcare and education, the underpinning values that drive our behaviours and actions are fundamental as we are responsible for the development and care of other, often vulnerable people and communities. Eco-ethical and regenerative leadership approaches help leaders to identify these core values and how to implement them in practice.

Eco-ethical leadership

McKimm and McLean (2020) make the case for an ‘eco-ethical’ leadership approach that focuses leaders’ minds on

the need for sustainable health professions education and practices. Eco-ethical leadership is an integrated approach centred around sustainability, values, collaboration, justice, advocacy and, when required, activism. [Box 3](#) lists key features of 'eco-ethical' leadership.

Regenerative leadership

Another approach relevant to HPE and its response to the pandemic is that of 'regenerative' leadership (Hutchins and Storm 2019). Regenerative leadership places a duty on the leader to help nurture organisations and the people within them, in such a way that acknowledges and reduces the impact of human endeavour on the fragile eco-systems in which we live. A sustainable future is envisaged as one that relies on actively pursuing regeneration, rather than continuing to do things the way we always have. This is achieved through an emphasis on wellbeing, collaboration, co-creativity, and valuing everyone's contribution.

How can I improve my leadership practice?

Strategies for applying theoretical approaches in practice must also be explored by the hopeful leader. Developing personal strategies to deal with what can sometimes feel an overwhelming series of issues and changes is essential for any leader; without these, morale and patience can dip, even leading to stress and burnout. In this section, we present the following areas leaders can focus on: grit, trust,

logic, empathy, vulnerability, awareness of bias, becoming more adaptive, and thinking globally. These are considered in the context of the four levels ([Table 2](#)) together in this section, as interactions at any level will be influenced by the way you behave or respond.

Grit

While leaders may often feel out of their depth, they must draw upon their resilience and 'grit' (Duckworth and Duckworth 2016), step up and provide effective leadership to the people they are responsible for. Grit is defined as the combination of two key qualities: passion and persistence. Passion allows individuals to prioritise goals, and persistence promotes the tenacious pursuit of goals in the face of challenges (Duckworth et al. 2007; Duckworth and Gross 2014). Leaders who demonstrate grit during challenging circumstances and setbacks serve as inspiring role models, motivate their team members, and in turn enhance their grit even further. Leadership strategies to drive internal motivation and enhance grit can include implicit role modelling, explicit sharing of stories of successes and their struggles, and transparency in communicating their passion and vision (Ribeiro et al. 2020).

The example in [Box 4](#) illustrates how leadership credibility is often built over many years and requires grit. It starts with the leader's vision, moves on to implementing the vision, (in the meantime, learning how to navigate

Box 3. Key features of an 'eco-ethical' leadership approach for health professions education.

Eco-ethical leaders hold, display (through day-to-day behaviours and actions), and articulate the following values and beliefs:

- A moral duty to act in terms of taking responsibility for stewardship of the planet and its resources.
- Being accountable for their actions, recognising when advocacy or activism is needed.
- Role modelling environmentally sustainable practice, both personally and professionally.
- Demonstrating commitment to environmental, organisational, and community sustainability and regeneration.
- Practising cognitive complexity and seeing the world from a dynamic systems perspective.
- Believing that collective intelligence is the most powerful way to engender meaningful change through listening, trust, networking, sharing information and power, communicating, and working collaboratively across and within disciplines and professions.
- Demonstrating socio-cultural and ecological values that embody inclusivity and social and ecological justice.
- Taking an authentic, person-centred, empathic, and compassionate approach to change, recognising that making changes is difficult, and that people need to support one another and celebrate what might seem to be small changes.

Box 4. Case study: From vision to changing practice.

'Assessment drives learning', the classic statement of George E. Miller, has inspired many medical schools and medical educators to improve the quality of assessment at their institution (Wood 2009). It also inspired the writer of this case study to embark on a successful journey in assessment for more than ten years. The journey started in the year 2009 by submitting a curricular project to the regional FAIMER institute in Christian Medical College in Ludhiana in India (CMCL-FAIMER). The project aimed at standardising and improving the quality of the process of student assessment in the Faculty of Medicine at King Abdulaziz University (KAU), in Saudi Arabia. After successful implementation of the project, the achievement was written up and disseminated widely to maximize and share the benefits. These scholarly works took different forms which included: developing an exam worksheet to document the whole process of assessment, conducting tens of training courses on assessment in KAU, creating educational YouTube videos on assessment (Hassanien and Abou-Kamer 2018) presenting the project in national and international meetings and conferences, and publishing six steps for standardising student assessment (Hassanien 2018).

The most important step to sustain the change was done by institutionalising the process through developing the KAU examination and student assessment policy and establishing assessment units in faculties. In 2019, The Faculty of Pharmacy took the initiative to establish its assessment unit to oversee the entire assessment process and to ensure the internal and external verification of student assessment. Change and improvement may take years to give results, but communicating the vision, persistence, and utilising all possible opportunities will make efforts sustainable and effective. The most important and crucial step for change sustainability is to ensure it is embedded in the culture of the institution, so it becomes the accepted way of doing things and not merely a time-limited 'project'.

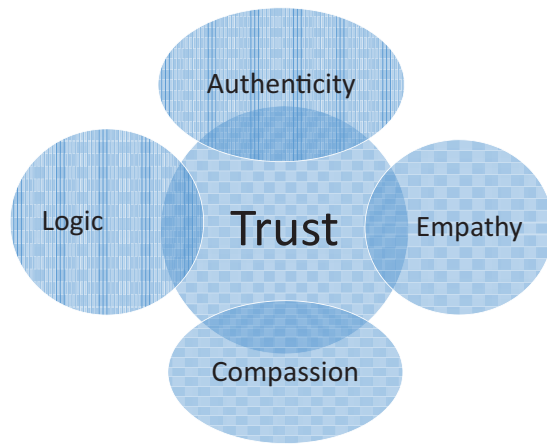


Figure 1. Compassion and the triangle of trust.

organisational policies and procedures), and results in practice change.

Trust

Frei and Morriss (2020) describe trust as having three drivers: logic, empathy, and authenticity, which together make up a triangle of trust. All leaders will have at least one driver (one point of the triangle) they falter on, especially in a crisis, and when one of these is too weak, trust falls (Figure 1).

Logic

Leaders need to show their expertise, but not be egotistical, and know their industry. This is all about being credible to other members of the team. Workplace examples include leaders asking good questions, offering insightful suggestions and decisions reflecting their core values. Consistency and clarity around communication are also expected.

Empathy

People tend to trust leaders who are perceived as caring and who show and share compassion and connection; this can be as simple as not looking at your phone or watching in meetings when others are speaking. The concept of 'emotional capital' emerged from Bourdieu's theory of social practice (Bourdieu 1986). Studies have shown that institutions, where emotional capital is high, have an increase in work performance. This capital is not built on grandiose displays of inspiring talks but by positive micro-behaviors: being acknowledged, smiled at, engaging in small talk, or being thanked. Research shows that building emotional capital can also buffer the negative effects of setbacks at work. Frei's work describes this point as the one with the biggest 'wobbles', i.e. the one that leaders get wrong the most.

Authenticity

People tend to trust leaders when they believe they are interacting with the real you. Knowing whether someone is being authentic is often a gut feeling, but there are characteristics such as being consistent, acting according to one's

own values, taking responsibility, and not giving in to needless peer pressure. However, the most powerful characteristic is showing the messy parts of yourself, i.e. showing and embracing vulnerability.

Vulnerability

Daniel Coyle describes three skills a successful team or organisation needs to emphasise: a safe environment for all, sharing vulnerability, and the requirement to establish common goals (Coyle 2018). The skill of vulnerability, i.e. to share with others when you FAIL, or your 'First Attempt In Learning', will build trust over time. These concepts align closely with Brené Brown's research on leadership, where she highlights courageous conversations and leaning into vulnerability and that this sharing of vulnerability must start with the leader (Brown 2012). Vulnerability can only be encouraged when people feel psychologically safe (Edmondson 2018), which hinges on creating an environment where everyone believes they can freely speak up with ideas, questions, concerns, or acknowledge mistakes without fear of negative consequences or embarrassment. This is increasingly important when teams are diverse so that the benefits of diversity, as well as inclusivity, can be maximised (Barrow et al. 2015).

Awareness of biases

Unconscious (implicit) biases are part of everyone's unconscious minds that unknowingly influence decisions or judgements. They are shaped or develop naturally during exposure to 'life': experiences, upbringing, culture, and surrounding environments. They are unintentional and not necessarily bad but need to be addressed when they contribute to discrimination in modern society. These biases can affect our behaviours and the interactions we have with colleagues (Marcelin et al. 2019; Teal et al. 2012). Addressing unconscious biases requires that one must recognise and understand them (Liao and Thomas 2020; Velarde et al. 2022). There are surveys and recognised instruments such as the Implicit Association Test that can be of help. Discussion of one's test results amongst those in dissimilar social groups is particularly powerful in a safe environment that allows alternative viewpoints to be shared. Utilising facilitated discussions to promote bias literacy can be effective in minimising bias in the workplace. Biases are shown by learners as well as leaders, an example of which is detailed in Box 5.

Becoming more adaptive

Adaptive leaders are those who can take a perspective from outside or above the situation or organization. Adaptive leaders '*get off the dance floor and go to the balcony*' (Heifetz and Linsky 2002), can facilitate sustainable change through their understanding of how people and systems work, and interact with one another to co-create change (Obolensky 2017). Such leaders are able to create safe spaces for both themselves and their teams to work with uncertainty and ambiguity and have 'fierce conversations' in order to generate emergent change. In Box 6 we outline an example of leadership enacted across an organisation and system which

Box 5. Learner biases.

In a recent publication (Khasan et al. 2020), 136 students in an undergraduate online course on natural resource ecology were 'assigned' either a male or female teaching assistant (TA), dependent on their surnames. However, a female Ph.D. student Khazan was really the TA for everyone. The TA's 'gender' was based on fake names, photographs and a short biography made available to students. On completion of the course, students gave the TA five times as many negative evaluations when they believed that she was a woman compared to when they thought she was a man. A 2013 report by Hanover research (2013) outlines opportunities to reduce and potentially eliminate the problem of student bias when evaluating faculty. Their review highlighted that internalised bias penalise female faculty by up to 0.4 and Black faculty by up to 0.6 on a 5-point scale, with evaluations also becoming abusive and bullying. The review recommends that faculty ask concrete questions, administer evaluations on paper during class and include information about implicit bias within evaluations forms (Finelter-Rosenbluh 2020).

Box 6. Organisation and system challenge in crisis: Adaptive leadership in action.

HPE leaders work in organisations and systems that are highly regulated and operate as either public or private entities in settings that reflect the interdependence of both the higher education and healthcare industry. HPE leaders increasingly have corporate responsibilities and are expected to have financial and resource management acumen due to reduced public funding for universities. As leaders of organisations that serve public interests, HPE leaders have high social standing. They are also under intense scrutiny for good governance, accountability and operating systems that promote diversity, inclusivity, and equity (McKimm and McLean, 2020). The organisations and systems in which HPE leaders work is a highly complex environments. The current pandemic and other crises force the organisations to adapt and take necessary measures to keep functioning as well to set new norms for the future (Ashokka et al. 2020).

In an Asian setting, a dedicated response team was set up to provide key central decisions during the COVID-19 pandemic. This team was able to consolidate coordinated actions in delivering technology-adapted medical education and assessment while still attempting to allocate clinical assignments where possible with high safety standards for students in clinical years, residents, and all staff members. The response team employed the overall response system during the pandemic from the local government meticulously. Such an adaptive approach allowed for timely and well-informed decisions which reflected institutional collectivism, the appropriate use of the hierarchical system and attempts to reduce the uncertainty during a chaotic situation (Ashokka et al. 2020; Lazarus et al. 2020). Despite some resource limitations, the adaptive approach was also taken to create a fast response Massive Open Online Course to support newly graduated medical doctors working at the frontlines during the pandemic (Findyartini et al. 2021).

Box 7. Improving the quality of higher education: Organisational and system change.

Over the last decade, stimulated by market forces, stakeholder demands and developments to improve the quality of learning, teaching and the student experience, several professional standards frameworks have been implemented for university staff, primarily in the West (e.g. the UK, Australia, New Zealand, and Ireland). In Saudi Arabia, King Abdulaziz University (KAU) identified that developing a professional standards framework for academics working in universities would help standardise and improve the quality of learning and teaching across the university sector.

Leaders at KAU took the initiative to develop a professional standard framework suitable for the local and the wider Saudi national context. This framework is unique to KAU yet reflects key international exemplars grounded in best practice and evidence (Al-Youbi et al. 2021). As part of addressing the technical challenges posed by the project, a set of policies and procedures help leaders and teachers to use the professional standard framework for recruitment, faculty development and training, appraisal and performance evaluation and promotion.

highlights how adaptive leadership operated in action during the COVID-19 pandemic.

In **Box 7** we lay out another example of leadership enacted across an organisation and system. This one describes the way in which an organisation developed and enacted a vision to introduce a professional standards framework for educators in response to external shifts and changing stakeholder demands. This was during a stable time, not during a pandemic, and draws on an approach of quality improvement.

Thinking globally

When trying to enact leadership across global ecosystems, it is impossible for individuals to attempt to do this on their own, therefore collaboration and forming global communities of practice are essential. An example of inclusive and global leadership in the development of a programme for HPEs, detailed below, highlights how collaboration helps strengthen and expand a community of practice.

For many of the skills required for eco-ethical and regenerative leadership, an understanding of accountability,

advocacy, and activism is required. Not everyone will (or should?) become an activist, but when we feel very strongly, sometimes we must step up and work actively with power and politics in complex systems. All the skills of accountability, advocacy and activism involve putting core values into action and incorporating these into everyday behaviours. **Table 3** shows the core values and how these might be displayed in action, the training and education required, with examples.

A highly topical and urgent example of how leaders (at all levels) have incorporated their values into leadership is that of student and doctor climate change activism (**Box 9**). The current climate crisis is a health crisis (<https://www.who.int/news-room/photo-story/photo-story-detail/urgent-health-challenges-for-the-next-decade>). Since, for example, the UK's General Medical Council (2018) Duties of a Doctor requires that doctors take prompt action if they think that patient safety, dignity, or comfort may be compromised, it is not surprising that many doctors are resorting to 'activism' while also striving to minimising their personal and professional ecological footprints.

Table 3. Core leadership values in action.

	Accountability	Advocacy	Activism
Examples in practice	SBAR training	Smoking cessation	Climate change activism
Core values in action	<ul style="list-style-type: none"> • For care of individual patients • Requires clinical expertise, care, compassion • For own professional conduct/clinical practice • For patient safety at individual level • Responsibility for self-care • Mitigating ecological footprint personally and professionally 	<ul style="list-style-type: none"> • Patient advocacy • Health advocacy • Community advocacy • Challenging decisions • Quality/service improvements • Social accountability • Interprofessional/Multidisciplinary team working • Preventive care, public health perspective • Care of others (patients, colleagues, learners) 	<ul style="list-style-type: none"> • Service and organisational systems, structures, functions and funding • Public health, preventive care • Integrated service approaches • Conflict resolution • Negotiation, persuasion and influencing skills • Leadership and followership
Requiring education/training in	<ul style="list-style-type: none"> • Clinical knowledge and expertise • Communication skills • Professionalism, role boundaries • Self-development, self-insight • Time and stress management • Teamworking • Patient safety 	<ul style="list-style-type: none"> • Increased politicisation • Willingness to become involved • Challenging 'authority' • Whistleblowing 	<ul style="list-style-type: none"> • Diversity, inclusivity and unconscious bias • Power dynamics • Political awareness and astuteness • Strategic management • Systems thinking and complexity science • Value-based healthcare

Box 8. The AMEE Specialist Certificate in Medical Education.

For many years AMEE has provided opportunities to participate in courses held during or prior to the annual conference. These allow participants to obtain one of the various ESME Certificates, many of which are recognised at the school and institutional level as a credible certificates of achievement. Over the last few years, additional online and subject-specific courses have been delivered in various countries around the world. There is increasing pressure upon faculty to have a basic qualification in medical education, which allows them to continue teaching their students and/or trainees, however, these are not available for many educators, particularly those with additional clinical and academic responsibilities and those in low resource settings.

In 2018, it was proposed and agreed to combine some of the ESME courses into an AMEE Specialist Certificate in Medical Education aimed at addressing the needs of educators globally and helping them to move into the global community of practice. The AMEE Specialist Certificate aims to give individuals (who may not have the time, funding for or access to award bearing programmes in medical education) opportunities to gain an internationally recognised Certificate in Medical Education, through the provision of a flexible programme, which can be individually tailored to suit circumstances and career aspirations. The Certificate comprises four courses recognised by AMEE, which together demonstrate that an individual has achieved the specified learning outcomes. Such courses are run online, around the world at various conferences (including the AMEE annual conference) and in other locations. To date, hundreds of educators have obtained or are working towards their Certificate and reporting that this is having a positive impact on their confidence, competence, and careers.

Box 9. Student and doctor climate change activism.

School students, health professional students and health professionals have become 'activists', lobbying governments to take urgent action. Examples include:

- #FridaysforFuture: A global climate strike movement that began in August 2018 when 15-year-old Greta Thunberg began a school strike for climate.
- The International Federation of Medical Students' Association: Active in terms of publishing policy documents on health issues and attending national international meetings. Recent policy documents include Health Equity, Health Emergencies (Aug 2020) and Health, Environment and Climate Change (March 2020).
- Doctors for Extinction Rebellion: On their website, they write the following: "... Appreciating that Climate Change is an impending public health catastrophe, have decided to undertake Civil Disobedience with Extinction Rebellion"

Being and becoming a leader

The sheer volume of theories and management models, plus the constantly changing environment in which HPE leaders have to work can make 'being and becoming a leader' (Souba, 2011) as well as 'doing leadership activities' very difficult. 'Being' a leader involves incorporating many of the leadership approaches and techniques discussed here into everyday practice, whereas 'becoming' a leader involves a process (conscious and unconscious) of developing an identity as a leader (Maile et al. 2019).

Petrie's work helps put this into context. He describes two types of leadership development: horizontal and vertical (Petrie 2014). Horizontal leadership development is about increasing your knowledge of the theory of leadership including the concepts, models, and tools available. This includes postgraduate qualifications of which there are increasing numbers on offer. As leaders begin to gain experience and possibly undertake some formal learning, they should aim to utilise the principles of vertical leadership

Table 4. Benefits to stakeholders of mentoring.

Mentees	Mentors	Organisations
Increased job satisfaction	Personal fulfilment ('giving back')	Increased work performance
Feeling of empowerment	Assistance on projects	Enhanced strategic planning
Increased research grant opportunities	Development of leadership and coaching skills	Improved communication and organisational culture
Enhance productivity	Increased recognition	Professional development of employees
Increased protected time for scholarly activities e.g. publications	Renewed interest in personal career	Retention and distribution of organisational knowledge
Improved academic 'self-efficacy'	Potential financial reward	Reduced turnover
Greater networking opportunities	Career advancement	Accelerated training

Box 10. Horizontal and vertical leadership development in Canada.

"RCPS and the Association of Faculties of Medicine of Canada (AFMC) have recommended that leadership training be considered a focus in both UGME (MD training) and PGME (residency training). The recommendation was to focus on "professional responsibilities, self-awareness, providing and receiving feedback, conflict resolution, change management, and working as part of a team as a leader, facilitator, or team member." The majority of programs facilitate access to optional activities as part of their leadership offer which include activities such as these provided by the Canadian Medical Association (CMA): <https://www.cma.ca/physician-wellness-hub/resources/leadership-professional-development/leadership-development-courses-for-medical-students-and-residents>. . . . Training in leadership for residents and physicians is usually facilitated through fee-paying courses (<https://joulecma.ca/learn>. . . .).

Leadership development is also included in the curricula in undergraduate medical education (UGME) in Canada. This is an example from the University of Ottawa: <https://med.uottawa.ca/undergraduate/education/social-accountability/associated-programs/leadership>. . . .

Box 11. Cultural perspectives on leadership.*South-East Asian perspectives on leadership*

Cultural values are strongly held and influence all aspects of life in South-East Asian countries. With diverse ethnicities, geographical distribution, governmental policies, education and healthcare systems in the countries within this region, discussing the impact of cultural values on leadership in health professions' education requires comprehensive understanding and a dynamic approach. Based on Hofstede's cultural values, this region is characterised by high power-distance or hierarchy; collectivism; uncertainty avoidance; long-term orientation, and a balance of masculinity and femininity, which are best aware and managed with by the adaptive leaders hence necessary changes can take place.

Middle Eastern perspectives on leadership

Middle Eastern Arab countries have a unique cultural heritage that is rooted in trust. Individuals are generally guided by the Quran's principles: they value their heritage and preserve their religious beliefs and relationships of importance. This culture has a profound effect on the common leadership styles in the Middle East and on the factors regulating the relationships between leaders and their followers. From this perspective, the following are unique characteristics for the middle eastern leadership style: high power-distance; trust is built based on excellence; every person has a mission and a role to play; an open-door culture, and balance consultation with individual decision-making.

development. This involves learning about yourself in the context of leadership and the challenges you face.

In vertical leadership, leaders use the challenges they meet ('heat experiences'), to analyse how they might improve or do things differently through 'sense-making' of the experience (through reflection and conversation) and being open to 'colliding perspectives' about what is going on. Purposeful reflection and conversations can help us alleviate imposter feelings and become more confident and competent at leadership, developing our 'practical wisdom', and ultimately feeling able to live out our values. An example of colliding perspectives is highlighted by the different leadership values and styles displayed in different regions of the world, illustrated by the example below.

Seeking coaching and mentoring are rich examples of being open to colliding perspectives that can facilitate accurate and honest self-reflection and develop a growth mindset (Dweck 2016). This is another example of vertical leadership development. Mentoring relationships are important for both mentee and mentor. HPE leaders mostly take on the role of a mentor, however, in leadership development, they need to be willing to take on a mentee role. Ultimately, these mentoring initiatives benefit the organisation. Based on the review by Burgess et al. (2018), the

benefits for all stakeholders of mentoring relationships are considered and summarised in Table 4 below.

Conclusion

In this guide, we have explored many theoretical aspects of leadership and provided examples of how leaders, managers and followers might address issues and challenges. Leadership takes place at various levels (the intrapersonal, interpersonal/team, organisational and system levels) and leaders need to become familiar with and adept at navigating these levels. Leadership needs to be formally taught right from the undergraduate stage and refreshed throughout an educator's career so that people are equipped to take on leadership and followership roles appropriately and work in multi-professional teams. Any leader needs to be credible to influence others towards making change, therefore educators need to take time to understand the context in which they work so that they can work within and across the various education and healthcare systems that comprise HPE.

Lifelong learning in the workplace forms the greatest part by far of ongoing leadership development; this is

where you gain the experience and the practical wisdom to be effective in a wider range of leadership activities and situations. Leadership is also very personal; everyone is different and should play to their strengths. Understanding yourself and your values is essential so that you can work on and nurture your emotional intelligence, grit and authenticity and decide where you want to focus your attention as a leader. This may involve stepping above the parapet sometimes, being the first follower, or moving beyond advocacy to activism. Wherever and whatever you decide to lead on, we hope this guide has provided some ideas for your development and inspired you to learn more about leadership in health professions education.

Disclosure statement

The authors report there are no competing interests to declare.

Funding

The author(s) reported there is no funding associated with the work featured in this article.

Notes on contributors

Judy McKimm, MBA, MA, BA (Hons), PGDip, Cert ED, FAMEE, FAoME, SFHEA, is Emeritus Professor of Medical Education at Swansea University Medical School, Wales, UK and at King Saud University, Riyadh, Saudi Arabia.

Subha Ramani, MBBS, MMed, PhD, FAMEE, is Associate Professor of Medicine, Harvard Medical School, Boston, USA; Adjunct Professor, Massachusetts General Hospital Institute for Health Professions Education, Boston, USA; and Honorary Professor of Medical Education, University of Manchester, UK.

Kirsty Forrest, MBChB, BSc Hons, FRCA FAcadMed, MMed, FANZCA, is a Professor of Medical Education and Dean of Medicine at Bond University, Queensland, Australia.

Jo Bishop, BSc (Hons), PhD, PGCertEd is the Curriculum Lead for the Bond University Medical Program and Associate Dean, Student Affairs and Service Quality (SASQ) for the Faculty of Health Sciences and Medicine, Bond University, Gold Coast, Australia.

Ardi Findyartini, MD, PhD, is Associate Professor in Medical education and is currently the Head of Medical Education Unit and Head of Cluster, Centre for Medical Education, Indonesia Medical Education and Research Institute, Faculty of Medicine Universitas Indonesia, Jakarta, Indonesia.

Chloe Mills, BA (Hons), MA, Department of Applied Linguistics, Swansea University, Swansea, UK.

Mohammed Hassani, MBCh, MD, JMHE, CMCL-FAIMER, Professor of Clinical Biochemistry & Medical Education, College of Pharmacy Practice, King Abdulaziz University, Jeddah, Saudi Arabia & College of Medicine, Tanta University, Egypt.

Abdulmonem Al-Hayani, MBBS, DipFMS, PhD, MHA, Vice-President for Educational Affairs and Professor of Anatomy, Department of Anatomy, Faculty of Medicine, King Abdulaziz University, Jeddah, Saudi Arabia.

Paul Jones, Graduate Entry Medicine Programme Director, Faculty of Medicine & Health Sciences, Swansea University, UK.

Vishna Devi Nadarajah, BSc (Hons), MHPE, PhD, is the Pro Vice-Chancellor of Institutional Development at the International Medical University, Kuala Lumpur, Malaysia.

Greg Radu, MD, MBA, FRCPC is Associate Dean of Learner Well-Being and Success and Associate Professor of Psychiatry at Memorial University, Consultant Psychiatrist at St. Clare's Hospital, St. John's, Canada, and Senior Medical Advisor, Department of Health and Community Services, Government of Newfoundland and Labrador, Canada.

ORCID

Judy McKimm  <http://orcid.org/0000-0002-8949-5067>

Subha Ramani  <http://orcid.org/0000-0002-8360-4031>

Chloe Mills  <http://orcid.org/0000-0002-5837-9688>

Vishna Devi Nadarajah  <http://orcid.org/0000-0002-7126-7189>

References

- Al-Youbi A, Al-Hayani A, McKimm J, Hassani M. 2021. Perspectives on Higher Education: Supporting the professional development and recognition of university teachers. UK: McKimm Consulting & Associates
- Amin M, Till A, McKimm J. 2018. Inclusive and person-centred leadership: creating a culture that involves everyone. *Br J Hosp Med (Lond)*. 79(7):402–407.
- Ashokka B, Ong SY, Tay KH, Loh NHW, Gee CF, Samarasekera DD. 2020. Coordinated responses of academic medical centres to pandemics: sustaining medical education during COVID-19. *Med Teach*. 42(7):762–771.
- Avolio BJ, Gardner WL. 2005. Authentic leadership development: getting to the root of positive forms of leadership. *Leadership Quarterly*. 16(3):315–338.
- Barrow M, McKimm J, Gasquoin S. 2011. The policy and the practice: early-career doctors and nurses as leaders and followers in the delivery of health care. *Adv Health Sci Educ Theory Pract*. 16(1):17–29.
- Barrow M, McKimm J, Gasquoin S, Rowe D. 2015. Collaborating in healthcare delivery: exploring conceptual differences at the “bedside”. *J Interprof Care*. 29(2):119–124.
- Bourdieu P. 1986. The forms of capital. In J. G. Richardson (Ed.), *Handbook of theory and research for the sociology of education*. New York: Greenwood. p. 241–258.
- Boyatzis RE. 2009. Competencies as a behavioral approach to emotional intelligence. *J Manag Dev*. 28(9):749–770.
- Boyatzis RE. 2008. Competencies in the 21st century. *J Manag Dev*. 27(1):5–12.
- Brown B. 2012. *Daring greatly: How the courage to be vulnerable transforms the way we live, love, parent, and lead*. New York (NY): Gotham Books.
- Buchanan D, Ketley D, Gollop R, Jones JL, Lamont SS, Sharpe A, Whitby E. 2004. *No going back: a review of the literature on sustaining strategic change*. Occasional Paper: Leicester Business School.
- Burgess A, van Diggele C, Mellis C. 2018. Mentorship in the health professions: a review. *Clin Teach*. 15(3):197–202.
- Cardiff S, McCormack B, McCance T. 2018. Person-centred leadership: a relational approach to leadership derived through action research. *J Clin Nurs*. 27(15–16):3056–3069.
- Coyle D. 2018. *The culture code: The secrets of highly successful groups*. New York: Penguin Random House.
- Duckworth A, Duckworth A. 2016. *Grit: the power of passion and perseverance (Vol. 234)*. New York (NY): Scribner.
- Duckworth A, Gross JJ. 2014. Self-control and grit: related but separable determinants of success. *Curr Dir Psychol Sci*. 23(5):319–325.
- Duckworth AL, Peterson C, Matthews MD, Kelly DR. 2007. Grit: perseverance and passion for long-term goals. *J Pers Soc Psychol*. 92(6):1087–1101.
- Dweck C. 2016. What having a “growth mindset” actually means. *Harv Bus Rev*. 13:213–226.
- Edmondson AC. 2018. *The fearless organization: creating psychological safety in the workplace for learning, innovation, and growth*. Hoboken; New York: John Wiley & Sons.
- Finefter-Rosenbluh I. 2020. Try walking in my shoes’: teachers’ interpretation of student perception surveys and the role of self-efficacy

- beliefs, perspective taking and inclusivity in teacher evaluation. *Cambridge J Educ.* 50(6):747–769.
- Findyartini A, Greviana N, Hanum C, Husin JM, Sudarsono NC, Krisnamurti DGB, Rahadiani P. 2021. Supporting newly graduated medical doctors in managing COVID-19: an evaluation of a massive open online course in a limited-resource setting. *PLOS One.* 16(9): e0257039.
- Frei FX, Morriss A. 2020. Begin with trust. *Harv Bus Rev.* 98(3):112–121.
- Goleman D, Boyatzis R, McKee A. 2001. Primal leadership: the hidden driver of great performance. *Harv Bus Rev.* 79(11):42–53.
- Goleman D. 1998. The emotionally competent leader. *Healthcare Forum J.* 41(2):36–38.
- Hanover Research 2013. Student perception surveys and teacher assessment. [accessed 2021 Jan 20]. <https://dese.mo.gov/sites/default/files/Hanover-Research-Student-Surveys.pdf>.
- Hassanien M, Abou-Kamer R. 2018. YouTube videos as a tool for faculty development in medical education: a learning analytic overview. *MedEdPublish.* 7(2):82.
- Hassanien M. 2018. A six-step approach for standardized student assessment in medical education. *JAMMR.* 25(2):1–11.
- Heifetz RA, Heifetz R, Grashow A, Linsky M. 2009. *The practice of adaptive leadership: tools and tactics for changing your organization and the world.* Boston (MA): Harvard Business Press.
- Heifetz RA, Linsky M. 2002. A survival guide for leaders. *Harv Bus Rev.* 80(6):65–74.
- Hodges J, Gill R. 2014. *Sustaining change in organizations.* Sage.
- Hollander E. 2012. *Inclusive leadership: the essential leader-follower relationship.* New York: Routledge.
- Hutchins G, Storm L. 2019. *Regenerative leadership: the DNA of life-affirming 21st century organizations.* Wordzworth Publishing.
- Kanter RM. 2020. Leading your team past the peak of a crisis. *Harvard Business Review* [accessed 2021 Jan 20]. <https://hbr.org/2020/04/leading-your-team-past-the-peak-of-a-crisis>.
- Khasan E, Borden J, Johnson S, Greenshaw L. 2019. Examining gender bias in student evaluations of teaching of graduate teaching assistants. *NACTA J.* 64(2):422–427.
- Kotter JP. 2007. Leading change: why transformation efforts fail. *Harv Bus Rev.* 85:1.
- Lazarus G, Mangkuliguna G, Findyartini A. 2020. Medical students in Indonesia: an invaluable living gemstone during coronavirus disease 2019 pandemic. *Korean J Med Educ.* 32(3):237–241.
- Liao Y, Thomas DC. 2020. Conceptualizing cultural intelligence. In *Cultural intelligence in the world of work.* Cham: Springer. p. 17–30.
- Maile E, McKimm J, Till A. 2019. Exploring medical leader identity and its formation. *LHS.* 32(4):584–599.
- Mannion H, McKimm J, O'Sullivan H. 2015. Followership, clinical leadership and social identity. *Br J Hosp Med (Lond).* 76(5):270–274.
- Marcelin JR, Siraj DS, Victor R, Kotadia S, Maldonado YA. 2019. The impact of unconscious bias in healthcare: how to recognize and mitigate it. *J Infect Dis.* 220(20 Suppl 2):S62–S73.
- Marcus LJ, Ashkenazi I, Dorn B, Henderson JM. 2008. Meta-leadership: expanding the scope and scale of public health. *Leadership in Public Health.* 8:1–2.
- Marcus LJ, Dorn BC, Henderson J, McNulty E. 2015. *Meta-leadership: a framework for building leadership effectiveness.* Cambridge, MA: National Preparedness Leadership Initiative. p. 2015.
- McKimm J, O'Sullivan H. 2016. When I say... leadership. *Med Educ.* 50(9):896–897.
- McKimm J, Jones PK. 2018. Twelve tips for applying change models to curriculum design, development and delivery. *Med Teach.* 40(5): 520–526.
- McKimm J, McLean M. 2020. Rethinking health professions' education leadership: developing 'eco-ethical' leaders for a more sustainable world and future. *Med Teach.* 42(8):855–860.
- McKimm J, Mannion H. 2015. Medical leadership—we need more good followers. *Lancet.* 386(10003):1532.
- McKimm J, Ramani S, Kusrkar RA, Fornari A, Nadarajah VD, Thampy H, Filipe HP, Kachur EK, Hays R. 2020. Capturing the wisdom of the crowd: health professions' educators meet at a virtual world café. *Perspect Med Educ.* 9(6):385–390.
- Nadarajah VD, Er HM, Lilley P. 2020. Turning around a medical education conference: Ottawa 2020 in the time of COVID-19. *Med Educ.* 54(8):760–761.
- Obolensky N. 2017. *Complex adaptive leadership: embracing paradox and uncertainty.* London: Routledge.
- Paixão G, Mills C, McKimm J, Hassanien MA, Al-Hayani AA. 2020. Leadership in a crisis: doing things differently, doing different things. *Br J Hosp Med.* 81(11):1–9.
- Petrie N. 2014. Future trends in leadership development. Greensboro, NC Center for Creative Leadership.
- Ramani S, McKimm J, Findyartini A, Nadarajah VD, Hays R, Chisolm MS, Filipe HP, Fornari A, Kachur EK, Kusrkar RA, et al. 2021. Twelve tips for developing a global community of scholars in health professions education. *Med Teach.* 43(8):966–971.
- Randall LM, Coakley LA. 2007. Applying adaptive leadership to successful change initiatives in academia. *Leadership Organ Dev J.* 28(4): 325–335.
- Ribeiro N, Duarte AP, Filipe R, Torres de Oliveira R. 2020. How authentic leadership promotes individual creativity: the mediating role of affective commitment. *J Leadersh Organ Stud.* 27(2):189–202.
- Scouller J. 2011. *The three levels of leadership: how to develop your leadership presence.* Knowhow and Skill, Management Books.
- Sinek S. 2009. *Start with why: how great leaders inspire everyone to take action.* New York: Penguin.
- Sinek S. 2014. *Leaders eat last: why some teams pull together and others don't.* New York: Penguin.
- Sosik JJ, Jung D, Dinger SL. 2009. Values in authentic action: examining the roots and rewards of altruistic leadership. *Group Organ Manag.* 34(4):395–431.
- Souba W. 2011. Perspective: a new model of leadership performance in health care. *Acad Med.* 86(10):1241–1252.
- Swanwick T, McKimm J. 2017. *ABC of clinical leadership.* Hoboken (NJ): John Wiley & Sons.
- Teal CR, Gill AC, Green AR, Crandall S. 2012. Helping medical learners recognise and manage unconscious bias toward certain patient groups. *Med Educ.* 46(1):80–88.
- Thampy HK, Ramani S, McKimm J, Nadarajah VD. 2020. Virtual speed mentoring in challenging times. *Clin Teach.* 17(4):430–432.
- Till A, Dutta N, McKimm J. 2016. Vertical leadership in highly complex and unpredictable health systems. *Br J Hosp Med.* 77(8):471–475.
- Uhl-Bien M, Carsten M. 2018. Reversing the lens in leadership: positioning followership in the leadership construct. In *Leadership now: Reflections on the legacy of Boas Shamir.* Bingley: Emerald Publishing Limited.
- Velarde JM, Ghani MF, Adams D, Cheah JH. 2022. Towards a healthy school climate: the mediating effect of transformational leadership on cultural intelligence and organisational health. *Educ Manag Adm Leadersh.* 50(1):163–184.
- Wood T. 2009. Assessment not only drives learning, it may also help learning. *Med Educ.* 43(1):5–6.
- Worley CG, Jules C. 2020. COVID-19's uncomfortable revelations about agile and sustainable organizations in a VUCA world. *J Appl Behav Sci.* 56(3):279–283.