Improving leadership and management training and assessment for doctors in postgraduate training

Literature Review

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Introduction

The literature review synthesised and summarised leadership development and assessment literature from across healthcare leadership and leadership journals and grey literature, to provide a firm foundation in published best practice in medical leadership development. With this aim, the project team updated the most recent and comprehensive systematic review of leadership development for medical professionals and also reviewed leadership development practices outside healthcare, where there has been a longer history of research into leadership development and assessment.

This review identified contemporary leadership development methods, core content, learning theories that support effective leadership development, as well as core policy and strategy documents that concern medical leadership development. Through a synthesis of these findings, the review provided key insights regarding the design, delivery, and assessment of medical leadership development both in programmes and in the workplace.

There is clear support in the peer reviewed and grey leadership development literature for experiential learning approaches (learning through 'doing' and reflection) and for fostering developmental relationships (for example, mentor-mentee relationships or longer-term supervision focussing on the learner's personal and professional development and growth). This underlies a growing movement towards supporting effective **workplace** leadership development rather than relying on externally provided leadership development programmes as has historically been done.

The literature on assessment in healthcare leadership development lags behind the literature on assessment of professionalism, from where core insights about assessment can be drawn. There is a need for assessment of leadership development to be tailored to the specific purpose of leadership development efforts, as well as to assess over time rather than at a single point, to incorporate multiple methods including workplace and qualitative assessment, and to support and encourage learning through appropriate and timely feedback. These conclusions will be explored in the assessment section below.

Why leadership development?

As leadership is increasingly recognised as crucial to organisational performance, there has been a considerable investment in leadership development internationally, including in the United Kingdom (UK). In the UK, best estimates indicate that NHS trusts spend up to 29% of their organisational development budget on leadership development (West et al., 2015) or as much as £1 billion per year. This trend is limited neither to the United Kingdom nor healthcare. Beer et al. (2015) estimate that worldwide more than $350 billion (US dollars) is spent on leadership development in American companies.

Despite modern healthcare priding itself on being evidence-based, little is known about the effectiveness of leadership development interventions in healthcare (Clark and Armit, 2008; Leslie et al., 2005; Straus et al., 2013; West et al., 2015). This lack of evidence regarding the effectiveness of leadership development extends outside healthcare (for example, Beer et al., 2015; Day and Sin, 2011).

West et al., in their 2015 review of the evidence base for medical leadership development, lament that "*Overall, the evidence for the effectiveness of specific leadership development programmes within the NHS is highly variable and little robust evidence has been accumulated, despite the vast sums spent*" (West et al., 2015).

The challenge of defining leadership and management

One of the difficulties with writing guidance for leadership development and assessment is that "there are almost as many different definitions of leadership as there are persons who have attempted to define the concept" (Stogdill, 1974). Stogdill had himself previously articulated his own definitions of leadership. In one of the broadest articulations, he states the basic conditions for leadership to be:

1. A group (of two or more persons)
2. A common task (or goal-oriented activities)
3. Differentiation of responsibility (some of the members have different duties)" (Stogdill, 1950).

Theories and definitions of leadership have continued to proliferate and evolve over the years. There are now many more professional and lay definitions of leadership which are still used. Some examples of definitions follow:

"The process (act) of influencing the activities of an organised group in its efforts towards goal setting and achievement" (Stogdill, 1950)

"The art of motivating a group of people to achieve a common goal" (The King's Fund, 2011, p. 12)

"A process whereby an individual influences a group of individuals to achieve a common goal" (Northouse, 2013)

"The projection of personality and purpose onto people and situations in order to prevail in the most demanding circumstances" (Ministry of Defence, 2010)

"To create the conditions for people to thrive, individually and collectively, and achieve significant goals" (Pendleton and Furnham, 2016)

"The process of influencing others to understand and agree about what needs to be done and how to do it, and the process of facilitating individual and collective efforts to accomplish shared objectives" (Yukl, 2013)

"Achieving results with and through others" (Blake and Mouton, 1985, p. 198)

As with leadership, management does not have a commonly agreed definition (Northouse, 2013; Parry and Bryman, 2013; Yukl, 2013). There has been debate as to what constitutes leadership and what constitutes management since the introduction of a dichotomy between transactional and transformational leadership (Bass, 1985; Bennis and Nanus, 1986; Burns, 1978).

Perhaps the most commonly held position is that leadership and management are distinct roles that need not necessarily reside in more than one person (Kotter, 1990; Mintzberg, 1980; Yukl, 2013). Excellence of a single individual in both leadership and management roles is not common, and this has perhaps strengthened the ongoing debate (Kotter, 1990; Pendleton and Furnham, 2016). It is clear, however, that many functions and competencies seem to be shared by leader and manager roles (e.g., M. Young and Dulewicz, 2008).

For the purpose of this review leadership and management will not be separated, and Blake and Mouton's broad definition of leadership will be used: "*achieving results with and through others*" (Blake and Mouton, 1985, p. 198) as this is consistent within the definitions and descriptions adopted by the General Medical Council (GMC) in "Leadership and Management for all Doctors" (General Medical Council, 2020) and by the Faculty of Medical Leadership and Management (Faculty of Medical Leadership and Management, 2020).

Medical Leadership or clinical leadership?

Clinical leadership usually refers to leadership roles (formal or informal) for any healthcare professional, including doctors, nurses, physiotherapists, occupational therapists, midwives, podiatrists (NHS Improvement, 2019). Medical leadership and physician leadership refer specifically to leadership roles (formal or informal) for those with medical qualifications (regardless of whether they currently practice clinically) (Goodall, 2011; NHS Institute for Innovation and Improvement and Academy of Medical Royal Colleges, 2009). Confusingly, it is still common in the research to conflate clinical leadership with medical leadership.

For the purpose of this review medical leadership is treated as a subset of clinical leadership as this is the position most commonly held in the literature (Spurgeon et al., 2015; West et al., 2015).

Medical leadership in the literature

In the medical leadership literature, two broad streams can be identified that have different approaches to defining medical leadership: doctors in leadership roles, and doctors as leaders (Berghout et al., 2017).

The first stream considers medical leadership to mean doctors taking on formal leadership roles such as clinical lead, clinical director and medical director. (Andersen, 2006; Goodall, 2011; Sarto and Veronesi, 2016; Savage et al., 2020) The second stream considers medical leadership to be an intrinsic component of doctors' daily work (Edmonstone, 2009; Frich et al., 2015; Noordegraaf et al., 2015). The boundary between formal and intrinsic approaches to medical leadership is usually implicit and often unclear (Berghout et al., 2017).

The General Medical Council in the UK takes the view that all doctors however, including trainees, need to engage in leadership activities as part of their roles (General Medical Council, 2012, 2017). FMLM's Leadership and management standards for medical professionals (2020) explicitly apply to both definitions of medical leadership.

"They are relevant and apply equally for all medical and dental professionals across the UK. Moreover, they form a basis for organisations to support doctors and dentists in management and leadership positions".

There have been relatively few efforts to systematically understand how health professionals see leadership. Leadership development literature increasingly considers leadership to be an activity best shared amongst a group or team (Avolio et al., 2009; Fitzgerald et al., 2013; Leung et al., 2018; Pearce et al., 2009). This is the approach taken by the GMC, which now requires all doctors to be able to undertake leadership activities as part of their role (General Medical Council, 2017).

In practice however, clinicians still tend to view leadership as a quality or a role of an individual (Mianda and Voce, 2017). This difference in approach likely needs to be addressed in order to create space for improved leadership development for doctors in training.

Why pay attention to medical leadership?

In recent years, effective medical leadership has been recognised across healthcare as being a vital component in the saving of money, staff turnover and patient lives. There is a growing body of research, expert opinions and political opinions that support this position (Bohmer, 2012; Darzi, 2008; Falcone and Satiani, 2008; Goodall, 2011; Spurgeon et al., 2015; Tasi et al., 2019; West et al., 2015).

Calls for improved quality of patient care and increased capacity of healthcare systems to implement and adopt innovations have brought with them a heightened focus on engaging doctors in change management and in leadership (Bohmer, 2012; Darzi, 2008; Fisher et al., 2009; Goodall, 2011). There are strong expert and political opinions that effective medical leadership is important for healthcare outcomes (Bohmer, 2012; Darzi, 2008). These expert and political positions are supported by a growing body of research literature (Geerts et al., 2020; Goodall, 2011; Goodall and Stoller, 2017; Stoller, 2009).

It has been suggested that the reluctance of doctors to take on leadership and management responsibilities has curtailed the shift towards increased numbers of doctors holding formal leadership roles (Aggarwal and Swanwick, 2015; Ireri et al., 2011; Spehar et al., 2012). Clinicians have long considered management and leadership to be the "dark side" (Spurgeon et al., 2011), where the focus on budgets and administration is at the expense of a focus on patients' quality of care.

Supporting this position, Spehar found that one of the main reasons for doctors moving into 'clinician-manager' roles (which he defined as formal leadership roles held by clinicians) was in order to protect their colleagues from non-medical managers who might otherwise step into those roles and maliciously or carelessly inflict harm on their colleagues and the care of their patients (Spehar et al., 2012).

Despite historical reluctance of doctors to take on formal leadership roles there has still been increasing support for medical leadership (Berghout et al., 2017; Ireri et al., 2011; Spehar et al., 2012).

Medical leadership has been adopted as a core competency in medical councils worldwide, including by the United Kingdom's General Medical Council (General Medical Council, 2018), the Canadian Medical Association (Frank JR, Snell L, Sherbino J, 2015), the New Zealand Medical Council and Australian Medical Council (Australian Medical Council, 2012), and a range of other national medical councils and regulators.

Professional bodies have been set up to support and regulate medical leadership including, amongst numerous others, the Faculty of Medical Leadership and Management (FMLM) in the UK, the Canadian College of Health Leaders (CCHL), the Royal Australasian College of Medical Administrators (RACMA) and the American Association for Physician Leadership (AAPL) (Angood, 2014). This is a significant change given that only 20 years ago, medical leadership was not often discussed, let alone researched or regulated or supported (O'Connell and Pascoe, 2004).

Medical leadership development

While there now seems to be agreement that effective medical leadership has a positive effect on healthcare outcomes, it is not yet clear that current approaches to medical leadership development have a positive effect on healthcare outcomes (Frich et al., 2015; Geerts et al., 2020; Kumar et al., 2020; Lyons et al., 2018, 2020; Sultan et al., 2019).

The number of studies of medical leadership development programmes and of their impact on healthcare outcomes is growing, and there are indicators that the quality of research is improving (Frich et al., 2015; Geerts et al., 2020; Lyons et al., 2020). However, the peer reviewed literature still offers limited consensus on best practices in design, content and assessment of medical leadership development. This is unsurprising given the wide range of definitions of leadership which persist, as outlined briefly above. As a related challenge, the availability of leadership development for both medical students and doctors remains low both internationally and in the United Kingdom (Abbas et al., 2011; Baird et al., 2018; Ireri et al., 2011; Webb et al., 2014).

Best practices in medical leadership development

In order to solidify the foundations for evidence-based medical leadership development, as part of the literature review the project team reanalysed data from the most comprehensive systematic review of medical leadership development to date (Lyons et al., 2020) to isolate conclusions relating to the design and the assessment of medical leadership development.

These conclusions were supplemented by drawing on well-established grey literature, and then later in the report draw on expert knowledge through a series of interviews with leading medical leadership development practitioners.

The systematic review completed by Lyons and colleagues in 2020 improved on previous systematic reviews by including an extensive manual search for relevant papers. Lyons and colleagues were able to identify 117 papers evaluating the impact of different medical leadership development programmes. Previous systematic reviews include fewer than half of these 117 papers: 45 (Frich et al., 2015), 52 (Sadowski et al., 2018) and 25 (Geerts et al., 2020).

To highlight findings from the most reliable papers, Lyons and colleagues also applied two critical appraisal tools to each of the included papers, the Medical Education Research Study Quality Instrument (MERSQI) (Reed et al., 2007) and the Joanna Briggs Institute tool (Aromataris and Munn, 2019).

The 117 papers included met the three conditions of 1) describing leadership development (programme, workshop, course, etc.); 2) including doctors; and 3) evaluating that leadership development.

Most of the studies took place in the United States (67%) or the United Kingdom (16%). The remainder of studies were in other European countries (7%), Canada (4%), or Australia (3%), with a single study each from Africa (Nakanjako et al., 2015), India (Gulati et al., 2019), Israel (Maza et al., 2016), and Qatar (Al-Mutawa et al., 2016).

The majority of the included studies included doctors only (76%). Doctors ranged from residents (60%) to full specialists (30%) and academic medical faculty (19%). Most studies were focused on a single level of experience, with only 9/117 including doctors of multiple grades. The 26 studies (24%) reporting multidisciplinary participants included nurses (12%), clinical managers (15%), and allied health professionals (9%). Most studies did not report the gender of participants (74%) or the age of participants (87%).

Most leadership development efforts were focused in one organisation only (61%) (single hospital, hospital department or university). Just under a quarter (23%) of leadership development were delivered across more than one healthcare centre, although a further 15% of studies were conducted across a specialty training programme outside healthcare centres.

Programmes ranged in length from less than a day (five programmes, 4%) to a maximum of four years. The median length was six months, with only 18 (15%) of leadership development interventions being longer than one year.

Impact was categorised using an adapted version of Kirkpatrick's framework for evaluating training outcomes, as outlined below.**Kirkpatrick Level**	Description
Level 1 Reaction	Participants' satisfaction with the learning experience, its organisation, presentation, content, teaching methods, and quality of instruction
Level 2A Change in Attitudes	Changes in the attitudes or perceptions among participant groups towards leadership, management, and/or administration
Level 2B Change in Knowledge or Skills	For knowledge, this relates to the acquisition of concepts, procedures, and principles; for skills, this relates to the acquisition of thinking/problem-solving, psychomotor, and social skills
Level 3A Behavioural change (self-reported)	Documents the transfer of learning to the workplace and changes to professional practice, as noted by participants themselves
Level 3B Behavioural change (observed)	Documents the transfer of learning to the workplace and changes to professional practice, as noted by a third party or by promotions.
Level 4a Results (self-reported)	Organisational results perceived by respondents and group effectiveness perceived by subordinates
Level 4b Results (observed)	Tangible organisational results, such as reduced costs, improved quality and safety, impact of projects

Table 1: Kirkpatrick's Framework for evaluation of training programmes as adapted in Lyons et al (2020)**.**

Faculty

Leadership development was predominately designed and delivered by either in-house faculty (36%) or a mix of in-house and external faculty (32%). The professional backgrounds, qualifications and experience of faculty was generally not reported. Importantly, our findings indicated that leadership development interventions which used a combination of internal and external faculty were most likely to report organisational results, and those interventions which used external faculty only were least likely. This suggests that externally delivered programmes are likely not the best solution for improving medical leadership development.

Educational Methods

Most studies which reported organisational outcomes associated with their leadership development efforts included small group work (71%) alongside project work (68%) and large-group lectures (62%). Many also used individual or group mentoring (48%).

Relationship between educational methods and organisational outcomes (all studies)

Legend:
- Studies with Kirkpatrick level 4 outcomes (k=34)
- Studies without Kirkpatrick level 4 outcomes (k=83)

X-axis: Percentage reporting component (0%, 20%, 40%, 60%, 80%, 100%)

Categories: Small Group sessions, Project work, Large-group sessions, Mentoring, Assignments, Reflective Instruments, Coaching, Role play or simulation, Readings, Multi-Source Feedback (360), Online content
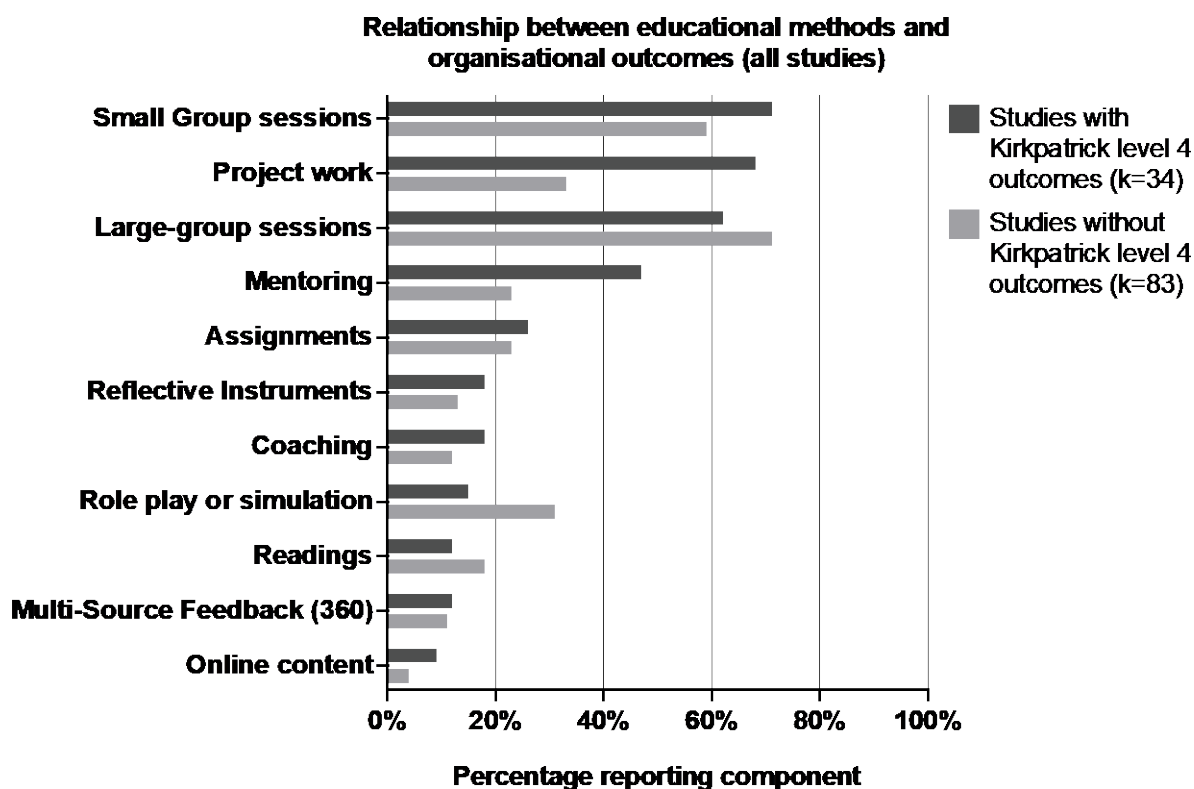
Figure 1: Educational methods employed in the reviewed studies. Kirkpatrick level 4 outcomes refer to studies which reported organisational or patient impact from their respective programmes (see table above). Figure from Lyons et al (2020).

There was a higher prevalence of project work in programmes that reported organisational outcomes than in those that did not (68% vs 33%). There was also higher prevalence of mentoring (47% vs 30%).

Educational Content

There was limited consistency of educational content across the included programmes. The only content area reported in more than half of the programmes was leadership theory (65% of programmes).

Other content areas reported included performance management (44%), self- management (41%), change management (39%), communication (36%), teamwork (33%), quality improvement (30%), healthcare policy (27%), healthcare finance (26%), and leadership behaviours (20%). There were no noticeable differences in content in programmes that did or did not report organisational level outcomes.

Summary of leadership development literature – what works

The reanalysis of the systematic review by Lyons and colleagues (Lyons et al., 2020) shows three factors of particular interest that are associated with programmes achieving high-level impact.

Firstly, the programmes which were most consistently associated with organisational impact were delivered by a mix of both **internal faculty** (who work in the same organisation as the participants) **and external faculty** (who are brought in from outside organisations to contribute to the programme).

This was not surprising given that effective leadership depends on context as well as capability: internal faculty are more likely to have rich expertise regarding the local context whereas external faculty may be able to bring in useful expertise regarding developing leadership capability. Despite the need for internal faculty for leadership development being the clearest of all the findings, the need for internal faculty with local experience is not emphasised in the grey literature or in the published approaches of most major UK medical leadership development providers. In medical training, this finding emphasises the need for supervisors and trainers in primary and secondary care across the UK to be involved in supporting the leadership development of their trainees.

Secondly, there was **more consistent impact from programmes that utilised more active and experiential approaches to learning**. Those approaches in particular included projects and either individual or group mentoring, rather than just lectures or small group discussions (although these programmes tended also to include both lectures and small-group discussions, which were the most common educational method used across all programmes). This aligns with the 70:20:10 rule which has been promoted by the Centre for Creative Leadership (Rabin, 2014), and states that leadership development tends to be 70% experiential, 20% developmental relationships, 10% formal learning. Finally, **specific educational content appeared less important than the educational methods used**.

While there was variation in the organisational impact associated with the use of different educational methods, there was no notable difference in educational content, which was widely varied regardless of impact. The only content which was reported in more than half of the programmes was leadership theory (65% of programmes). Frequently applied content (but still in a minority of the programmes regardless of impact) included performance management (44%), self- management (41%), change management (39%), communication (36%), teamwork (33%), and quality improvement (30%). This could be taken to be reassuring for trainers and supervisors who are concerned about their lack of knowledge: which there is likely a threshold of relevance of leadership programme content, the educational methods are much more important. The importance of methods aligns with recent emphasis on the need for capacity-building in leadership development rather than knowledge and skills teaching ("vertical leadership development") (Petrie, 2015).

Smaller systematic reviews of medical leadership development which have been published in recent years have broadly agreed with the above findings (Frich et al., 2015; Geerts et al., 2020; Husebø and Akerjordet, 2016; Rosenman et al., 2014; Straus et al., 2013).

Some additional findings stood out from each of these reviews. Frich and colleagues concluded that there is need for "more interactive learning and feedback to develop greater self-awareness" and a wider focus on systems rather than just individuals (Frich et al., 2015). Geerts and colleagues concluded that effective interventions include amongst other methods "workshops, videotaped simulations, multisource feedback (MSF), coaching, action learning, and mentoring" (Geerts et al., 2020).

Additionally, all systematic reviews also emphasised that there is need for considerable improvement in both quantity and quality of medical leadership research (Frich et al., 2015; Geerts et al., 2020; Husebø and Akerjordet, 2016; Rosenman et al., 2014; Straus et al., 2013).

The need for improvement in medical leadership research was likewise a finding in Lyons et al (2020) though this more recent and comprehensive review did identify some improvement in the quantity and quality of papers compared to the previous systematic reviews.

Assessing leadership

The literature on assessment of medical leadership development is surprisingly sparse, with no clear consensus as to the best means of assessment. Lyons and colleagues found that (85%) of medical leadership development evaluations used self-assessment questionnaires as their main means of assessment, supplemented in some cases (42%) by interviews, observations, project evaluations, tests, simulation assessments, or evaluating impact on organisational metrics (Lyons et al., 2020). Drawing from the literature on evaluation of medical leadership development, there have been a range of calls for evaluations to be tailored to the intended outcomes, of multiple methods, and include longitudinal outcomes (Frich et al., 2015; Geerts et al., 2020; Hannum et al., 2007; Husebø and Akerjordet, 2016; Rosenman et al., 2014; Straus et al., 2013). These findings align with the professionalism literature, which has called since 2010 for assessment to be programmatic, longitudinal and developmental, and in recent years has drawn attention to the need to consider context for professionalism (Hodges et al., 2011, 2019).

Several key points for assessment of medical leadership can be inferred from the literature on assessment of professionalism.

Firstly, there is a lack of reliable and valid instruments for assessment. In leadership assessment, while Rosenman and colleagues have conducted a review of instruments for the assessment of team leadership, these instruments focus on team function rather than on leadership, and assess only a small component of leadership as outlined by the GMC, Medical Leadership Competency Framework, Healthcare Leadership Model and FMLM Standards (Rosenman et al., 2015). There are more than 100 instruments which have been specifically developed to assess leadership development, as catalogued by the Leadership Instruments Library at James Madison University (Nickels and Ford, 2017). These instruments vary widely in purpose and provenance, and variously measure a wide range of concepts related to leadership. They unfortunately are considerably more consistent in their methodological flaws and lack of reliability and validity. In addition, many leadership assessment instruments are withheld under commercial licences, limiting their use to those who can afford them.

Secondly, there is a need for "triangulation of multiple kinds of measures, by multiple observers, synthesized over time with data gathered in multiple, complex and challenging contexts" (Hodges et al., 2011). Single measures of observed behaviours, self-assessments and measurement of single attributes are not considered adequate to assess professionalism, nor should they be considered adequate to assess medical leadership.

Thirdly, there is a need for assessment in a longitudinal form, incorporating feedback from faculty and students as well as other key players (including other healthcare professionals, administrators, patients). This helps to ensure that the assessment of development of an individual is able to take into account variation in the different contexts and challenges that they encounter through their training.

Finally, assessment should focus not just on the behaviour of individuals but also on the interaction between individuals and their environments, the impact of the environment on individuals, and the structural and organisational elements that impact the effectiveness of teams (Hodges et al., 2011). When Hodges and colleagues updated their seminal report on assessment of professionalism, they made three further comments that have direct applicability to the assessment of medical leadership. There has been a movement towards both formative and summative assessment which drives learning rather than merely deciding on learning: "there is greater emphasis on assessment over time and assessment 'for learning' instead of 'of learning'" (Hodges et al., 2019). There has been movement away from assessment of individual traits towards including consideration of context, which aligns with Frich's (2015) challenge to move towards evaluation of leadership at an organisational and system level. Perhaps most importantly for this report, there has been a movement towards considering entrustment (i.e. Entrustable Professional Activities) to assess professionalism, and by extension leadership, in an integrated way (Hodges et al., 2019; Ten Cate et al., 2016).

Summary of the leadership assessment literature - implications

There is a resounding need for further development of assessment approaches for medical leadership development. There are nonetheless clear implications that follow from the professionalism and the leadership evaluation literature. Appropriate assessment approaches should be:

1. Designed to include multiple methods, including reliable and validated instruments as well as qualitative and workplace-based methods (observations, feedback, reflections, portfolios)
2. Conducted longitudinally rather than relying on single point assessment
3. Tailored and adapted to the specific needs of the learner and of the developmental programme
4. Designed to encourage and facilitate learning and reflection through timely and constructive feedback.

Assessment has been identified as a powerful driver for learning. There may therefore be additional benefit to be gained from integrating assessment and learning together. For example:

- **Case studies** - involving patients/families/carers to explore dilemmas faced in medical leadership linked to ethics etc
- **Service improvement projects and audits** - encourage students as change leaders and to consider how and why health services change
- **Critical incident (or event) reports** - encourage reflection, require students to pay attention to elements of medical leadership
- **Short answer question papers** - establishing knowledge of legislative, managerial and administrative processes, as well as ethical principles
- **Portfolios** – enables the gathering and recording of leadership assessments over time.

Entrustable Professional Activities as outlined by ten Cate and colleagues (Ten Cate et al., 2016) invite further exploration in medical leadership assessment. They have the potential to combine benefits: driving learning through setting clear outcomes; offering opportunities to shape learning through formative feedback; providing a means for summative assessment of medical leadership development.

Summary

Assessment is a priority for both guiding trainee learning and for quality assurance. While self-assessment can support learning through reflection, if medical leadership development is to be improved across the UK it is important that more robust forms of assessment into leadership development are introduced.

There is close association between medical leadership and professionalism, and a general movement in medical education towards the use of Entrustable Professional Activities (EPA's). Therefore, the assessment portion of this report has been focused on identification and explanation of EPA's for medical leadership.

Conclusions for leadership development and assessment

For effective leadership development it is essential that learners are supported through experiential learning. Both to support transfer of learning and to support effective experiential learning, focus needs to be placed on opportunities for **appropriately embedded workplace leadership development**, rather than relying on formal programmes. Lessons from leadership programmes have highlighted the importance of project work and of mentoring. These lessons can and should be translated into workplace leadership development. While there is a need for further work on best practices in formal leadership development programmes, there is greater opportunity and urgency in supporting effective workplace leadership development.

Rather than relying on external leadership development providers, it is important for organisations to **engage their own local workforce in creating opportunities for effective leadership development**, drawing on their workforce's rich expertise in navigating the local context and bringing in external support when needed for their specific expertise in leadership development. It is important to explicitly and clearly articulate the purpose of leadership development, given the ongoing disagreement about how to define leadership.

This will enable trainers and supervisors to align their efforts towards achieving specific goals, supported by appropriate learning methods and learning theories (see appendix). Clarity about the purpose of specific leadership development efforts will enable more effective assessment. Further work on defining Entrustable Professional Activities (EPA's) for medical leadership may assist in highlighting the connection between learning and outcomes.

While the development of EPA's is ongoing, it will be important to tailor assessment efforts to the purpose of specific leadership development efforts, incorporating the principles outlined above. Assessment should be conducted over time rather than at a single point, it should include multiple methods including workplace and qualitative methods and be designed to support learning through feedback.

Appendix A: Learning theories

The following section briefly summarises some of the main adult learning theories and outlines where each might support leadership development purposes. Adult learning theories have increasingly been understood to underpin leadership development (Day et al., 2012) and medical education (Mukhalalati and Taylor, 2019; Taylor and Hamdy, 2013). As Day and colleagues summarised in their seminal 2012 book, "Leader development is an experientially based process. A major challenge of leader development involves helping leaders better learn from their experiences, whether as part of formal classroom education, job and operational assignments, or self-development initiatives" (Day et al., 2012, p. 158).

Adult learning theories encompass a range of theories that consider adults to learn differently from children (Knowles et al., 2005). The underlying differences proposed by Knowles and succinctly summarised by Taylor and Hamdy are:

(1) *The need to know (Why do I need to know this?)*
(2) *The learners' self-concept (I am responsible for my own decisions)*
(3) *The role of the learners' experiences (I have experiences which I value, and you should respect)*
(4) *Readiness to learn (I need to learn because my circumstances are changing)*
(5) *Orientation to learning (Learning will help me deal with the situation in which I find myself)*
(6) *Motivation (I learn because I want to)* (Taylor and Hamdy, 2013)

Adult learning theories encompass a range of related approaches and philosophies which have variable relevance depending on the intended outcome of learning (Allen, 2007).

Below is a brief summary of some of the major theories, clustered according to the developmental aim. Careful thought is needed about the intended outcomes to determine appropriate approaches for development.

Competence, Theory, Knowledge

Where there are clear and measurable outcomes for leadership development, an objectives-centred approach to leadership development may be most appropriate, centred in behavioural, cognitive and active learning adult learning theories.

A behavioural approach considers learning to mean a change in behaviour and focuses on explicit linkages between behaviours and rewards (such as promotions, degrees, certificates, recognition). Instructors taking a behavioural approach are generally encouraged to find frequent opportunities for repetition of behaviours, for examination and feedback.

A cognitive or active learning approach considers learning to mean that learners have embedded new knowledge into their long-term memory. Cognitive approaches tend to focus on active learning, where students are involved in learning experiences which give them opportunities to practice new skills and behaviours until these become automatic and unconscious, and a learner can process higher-level information (Mukhalalati and Taylor, 2019). Ideally, these learning experiences introduce information that is counter to previously-known information, so that learners are forced to reconsider and reorganise their knowledge, before transforming that knowledge into information and experimenting to determine whether the new information is sufficient for the task at hand (Allen, 2007).

Confidence

Where increases in confidence are the main goal of leadership development (perhaps underpinning subsequent focus on stretch activities within zones of proximal development) (Vygotskiĭ and Cole, 1978), a humanistic or self-directed learning approach may be most appropriate.

Humanism underpins self-directed learning, focusing on the freedom of individuals to reach their full potential. Taking a humanism approach, instructors recognise that through planning, managing and assessing their own development, individuals may be able to increase in their sense of fulfilment, motivation, goals and independence (Mukhalalati and Taylor, 2019).

Motivation

Where increases in motivation to engage in leadership activities and leadership development are the main goal, self-determination theory or expectancy valence theory may be an appropriate approach. Self-determination theory, which has been explored most extensively in organisational psychology (e.g. Gagne, Briggs, and Wager, 1992), and education (e.g. Reeve and Jang, 2006). It focuses on the need of individuals for an internalised sense of autonomy, competence and relatedness.

Leadership development built around self-determination theory will seek opportunities for individuals to develop motivation to seek out new experiences and to take on leadership activities by developing their sense of autonomy, self-assessed competence and relatedness with others.

Expectancy valence theory suggests that motivation is a product of the likelihood of success and the value of success, proposing that motivation can be built by increasing an individual's estimation of either the likelihood of them succeeding in a leadership activity or the value (to them or to others) of them succeeding.

Communities, relationships, and team leadership

Within the NHS, it is increasingly understood that there is a positive relationship between shared or distributed models of leadership and outcomes for patients and organisations. (Boak et al., 2007; Fitzgerald et al., 2013) Where a team shares the responsibilities of leadership, it seems that service improvements are more likely to occur.

Where communities, relationships and team leadership are the intended outcome of leadership development, social theories of learning may be most appropriate. Perhaps the most well-known social theory of learning in healthcare is Wenger's communities of practice, otherwise known as situated learning. (Wenger et al., 2002).

Leadership development taking a situated learning or communities of practice approache places an emphasis on educators and leaders exemplifying desired behaviours and creating conditions where individuals can begin to legitimately contribute to leadership activities and become socialised within a leadership team.

Self-awareness

Self-awareness forms the first domain of a range of leadership development models, including the FMLM Leadership and management standards for medical professionals (Faculty of Medical Leadership and Management, 2020) and the Medical Leadership Competency Framework (NHS Institute for Innovation and Improvement, 2010).

Where improved self-awareness is the main goal of a leadership development programme, adult learning theories centred on developmentalism, reflective learning, deliberate practice and feedback may be the most appropriate approaches.

Developmentalism (Mezirow, 1978) puts critical reflection at the centre of learning, and focussing on the need for learners to confront their social, cultural, political, religious, economic and other viewpoints in order to learn new ways of thinking, behaving and responding to complex situations. Reflective learning is often split into reflection-on-action and reflection-in-action, as proposed by Schön (Schön, 1987). Leadership development that takes a reflective learning approach tends to use structured reflection in a supportive learning environment to support learners in testing their own knowledge and learning from practice.

Transfer of Learning

Research has suggested that the majority of training is not in fact transferred or translated into the working environment (e.g. Cheng and Hampson, 2008; Phillips, Jones, Schmidt, and Development, 1998) If the point of leadership development is to improve the effectiveness of clinicians and the leadership activities they engage in, transfer of learning is a necessary focus for leadership development. Transfer of learning is less an adult learning theory than a deliberate focus for developmental efforts.

Where transfer of learning is a focus for leadership development, it is particularly important to consider the context for leadership development and the opportunities for learners to apply their learning into their working environment (e.g. Caffarella and Daffron, 2013; Dopson, Fitzgerald, Ferlie, Gabbay, and Locock, 2010; Geerts et al., 2020).

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