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Self-determining medical leadership needs of occupational health physicians

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Self-Determining Medical Leadership Needs of Occupational Health Physicians

Purpose: Medical leadership is seen as crucial to the transformation of healthcare services, yet leadership programmes are often designed with a top-down and centrally-commissioned 'one-size-fits-all' approach. In the UK the Smith Review (2015) concluded that more decentralised and locally-designed leadership development programmes were needed to meet the healthcare challenges of the future. However, there is an absence of empirical research to inform the design of effective strategies that will engage and motivate doctors to take up leadership roles, while at the same time, healthcare organisations continue to develop formal leadership roles as a way to secure medical leadership engagement. The problem is further compounded by a lack of validated leadership qualities assessment instruments which support researching this problem further.

The purpose of this national study was to explore which factors motivate doctors to engage in leadership roles and to frame an inquiry of self-assessment within Self Determination Theory (SDT) to identify the extent to which a group of Occupational Health physicians (OHP) were able to self-determine their leadership needs, using a National Health Service (NHS) England competency approach promoted by the NHS England Leadership Academy as a self-assessment leadership diagnostic.

Design/Methodology/approach: The analysis draws on a sample of about 25% of the total population size of the Faculty of Occupational Medicine (n=1000). The questionnaire used was the Leadership Qualities Framework tool as a form of online self-assessment (NHS Leadership academy, 2012a). The data were analysed using descriptive statistics and simple inferential methods.

Findings: OH Physician are open about reporting their leadership strengths and leadership development needs and recognise leadership learning as an ongoing development need

regardless of their level of personal competence. This study found that the single most important factor to affect a doctor's confidence in leadership is their experience in a management role. In multivariate regression, management experience accounted for the usefulness of leadership training, suggesting that doctors learn best through applied 'leadership learning' as opposed to theory-driven programmes.

Drawing on Self Determination Theory (SDT) (Deci and Ryan, 1985; 2000; Ryan and Deci, 2000) this article provides a theoretical framework that helps to understand those doctors who are likely to engage in leadership and management activities in the organisation. More choice and self-determination of medical leadership programmes is likely to result in more relevant leadership learning that builds on doctors' previous experience in this area.

Research Limitations and Implications: While this study benefitted from a large sample size, it was limited to the use of purely quantitative methods. Future studies would benefit from the application of a mixed methodology to combine quantitative data with one to one interviews or a focus group.

Practical Implications: This study suggests that doctors are able to determine their own learning needs reliably and that they are more likely to increase their confidence in leadership and management if they are exposed to leadership and management experience.

Originality Value: This is the first large scale study of this kind with a large sample within a single medical specialty. The study is considered as insider research as the first author is an Occupational Health Physician with knowledge of how to engage OH Physicians in this work.

Introduction

A failure of medical leadership and engagement, particularly amongst doctors, is a recurrent theme emergent across UK hospital enquiries (Kennedy, 2001; Francis, 2013; Keogh, 2013) with doctors being blamed for not engaging with the organisation (Fulup, 2012). However the problems in healthcare have been identified as more systems-related (Bergman et al, 2015) requiring a clear vision from the top of the organisation (Bergman et al, 2015; Mulla et al, 2014) in order to improve and transform services and to generate new cultures of patient-centredness led from the Executive Board down (Bergman et al 2015; Dixon Woods et al, 2014; Mulla et al, 2014; Smith, 2015). The broader global health policy agenda seeks medical leadership as a priority in the UK, (Darzi, 2008; Bohmer, 2012; Dickenson et al, 2013) Canada (Alberta Government, 2013; Van Aerde, 2013) United States (Berwick et al, 1992, Berwick, 2013) Australia (Van Aerde, 2013) Sweden (Gozzard and Wilson, 2011) through the engagement of doctors in non-clinical matters such as the alignment of the management of resources (consultant time) with commissioned consultant activity, to improve the quality of services for patients within the organisation. Involvement in non-clinical matters has been termed: "medical engagement" (Spurgeon et al, 2011; 2015) and 'service improvement' is defined as Improvement Science, with specific tools and techniques that require clinician engagement and leadership to improve services for patients (Berwick et al, 1992; Berwick, 2013; Bergman et al, 2015). There is clear evidence of the link between leadership and a range of important outcomes within health services (Kings Fund, 2012; Eckert et al, 2014; West et al, 2014; Smith, 2015).

Despite the direct association between medical leadership; engagement and quality improvement in healthcare organisations (Guthrie, 2005; Ham and Dickenson, 2008; Ham et al, 2016; Spurgeon, 2011; 2015), only a few NHS Trusts in the UK have generated 'in-house' capacity for leadership development (Ham et al, 2016) to embed medical leadership within healthcare organisations as suggested by Lord Darzi (Darzi, 2008). In reality there is actually much variation in clinical leadership strategies in and across hospitals and healthcare

organisations (Mulla et al 2014) with medical consultants typically feeling disengaged from their organisations and viewing management with little enthusiasm (Mannion, 2010; Mulla et al, 2014, Van Aerde, 2013). Clinician leadership roles have emerged in some healthcare organisations as a mechanism for structural engagement of medical consultants, although these roles have not generally increased the visibility of clinicians at strategic levels in UK, NHS Trusts (Veronesi et al, 2013; Mulla et al, 2014). It has been argued that the structural creation of formal leadership roles is just one element required to achieve effective medical leadership (Baker and Dennis, 2011) and that for this to be successful, a strategy of collective and distributed leadership at all levels of the organisation must be pursued to advance quality improvement projects based on improvement science (Baker and Dennis, 2011; Van Aerde, 2013).

While there continues to be global variation in the effectiveness of various strategies to secure the engagement of doctors, this empirical study set out to ask the primary question: 'to what extent are doctors motivated to engage in leadership and management roles? And secondly 'what factors are likely to motivate doctors to become engaged in such roles?' These questions were answered through an empirical study, employing a methodology that derives its findings through empirical data drawn from physicians themselves. This study engaged physicians through one of the Faculty of the Royal Colleges of Medicine in the UK and it was not designed to produce generalizable data to infer across all medical and surgical specialties. Rather the study aimed to, generate a large enough sample of one specialty of doctors (OHP) working across various different health care contexts and who by their background of training and experience are likely to represent a variety of clinical specialities such as Medicine, Surgery and General Practice.

The Emergence of Medical Leadership Roles

The emergence of doctors in 'leadership' rather than 'management' roles within organisations, has coincided with Darzi's vision (Darzi, 2008) and appears to have had

some success in attracting doctors to this role compared to managerial roles for doctors, which have traditionally been perceived by doctors as having less value than clinical roles (Fulop, 2012).

Doctors have questioned theirs and their colleagues' motivation to give up part of a valued clinical role for a medical leadership or management role as a hybrid leader that from a doctor's perspective, carries very little value (Fulop, 2012) and is likely to challenge their primary identity as a clinician (Joffe and Mackenzie-Davey, 2012; Spyridoridis et al., 2015) as social pressure influences them to take up a management post (Spehar et. al., 2012; 2015).

The Francis inquiry into Mid-Staffordshire Hospital (Francis, 2013) and later the Keogh Review (Keogh, 2013) in the UK, reported on poor levels of clinical engagement and found this was associated with high levels of patient mortality. Subsequently the Care Quality Commission increased its expectations of clinician engagement within NHS Trusts as part of the CQC regulatory inspection process, which, in turn, officially made medical engagement synonymous with increases in quality of care, yet the term 'medical engagement' is still poorly defined and retains a level of ambiguity in its use within organisations. Van Aerde (2013) suggests that medical engagement should not be considered as engagement with the organisation per se but engagement with peers.

The term "clinical leader" has been used since 2001 by the then NHS England Leadership Centre and the term applies to anyone with a clinical background who occupies a leadership role whether formal or informal; this now includes all healthcare professionals (Nicol, 2012). However the term "clinical leadership" continues to be a problematic concept as clinicians have competing responsibilities as both leaders and clinical providers (Edmonstone, 2009a; 2009b; 2014); there is a lack of consensus as to how to develop clinical leaders across the

UK (Edmonstone, 2014) and the role is often devoid of an exploration of values, with a moral or ethical dimension being largely absent in the discussion of the role (Moscrop, 2012).

While the role "clinical leader" encompasses all healthcare professions, the term "medical leadership" has been used in the UK to describe doctors engaging in specific leadership development initiatives (Ham and Dickinson, 2008). Similarly in the United States the term '"physician leadership" is a more widely used term to describe the engagement of doctors in leadership development programmes. The use of the terms "medical leadership" and "physician leadership" allude to a specific type of leadership programme that is shaped and designed in an acceptable form to offer encouragement to doctors to engage in leadership and to bring them to the table. These terms, however, serve to continue to maintain a positivist epistemology in medical/physician leadership programme design, typically resulting in programmes that impart conceptual knowledge to physicians through lectures and seminars with little attention being paid to building self-awareness (Frich et al, 2014) or developing a shared morality (Moscrop, 2012).

Few physician leadership programmes examine outcomes and, in those that do, there is a narrow focus on individual rather than system-level outcomes (Frich et al, 2014). Physician-only programmes also miss opportunities for developing the capacity to collaborate across professional boundaries, when collective and distributed leadership are markers of enabling 'developmental dialogues' around the flow of activities round a patient (Gozzard and Wilson, 2011). The misalignment between inputs (processes) and outputs (outcomes) of medical leadership programmes is a global concern particularly where there is scepticism of political interference in medical engagement for example in Canada and the UK (Van Aerde, 2013) and while Australia has medical leadership programmes, there are no defined observable measures to agree outcomes for these programmes (Van Aerde, 2013).

The most successful health services that achieve excellent outcomes for patients are those where all doctors see themselves as leaders , for example at Kaiser Permanente in the US doctors understand that "medical leadership is the way business is done around here" and lead collective and distributed leadership across the system (Van Aerde, 2013). It is argued that all doctors are leaders (Mipos, 2002; Darzi, 2008) even though they may not yet believe that they are (Mipos, 2002) which suggests an argument for 'whole system' or 'whole organisation' medical leadership as opposed to a focus on a select few 'medical leadership' roles.

The Impact of Clinical Leadership Roles

While effective clinical leadership is identified as a key issue to advancing quality in healthcare organisations and numerous strategies are in place to enhance it, to date there are a lack of studies that show improvements in patient outcomes or outcomes for the healthcare workforce as a result of these strategies (Leggat and Blading, 2013; Daly et al, 2014; Frich et al, 2014; Careau et al, 2014). Nor is there any clear evidence that clinical leadership makes a difference to improving quality and safety (Leggat and Balding, 2013). These authors generated opinion evidence by conducting focus groups with clinical leaders and concluded that clinical leaders could only be effective if their organisation supported the clinical leadership role. Their study suggested that high-performance work systems led by managers could create the conditions to motivate employees to achieve the goals of the organisation. There is also little evidence that clinical leaders can create sustainable change. Grint and Holt (2011) argued that such change is dependent on the tacit knowledge associated with the building of relationships with others and that successful leadership is about engaging in the mundane activity of leadership work (Grint and Holt, 2011; Alvesson and Sveningsson, 2003) which is difficult to measure and evaluate.

Current Approaches to Medical and Clinical Leadership Development Design

The introduction of the Darzi Leadership Fellows, an initiative to identify and fast-track potential (http://www.yorksandhumberdeanery.nhs.uk/future_leaders_programme/) future leaders, led to the development of Masters' programmes in clinical and medical leadership. Such formal training programmes have been criticised in that they remove the doctor from the context of practice and develop the "leader" with new skills and knowledge to apply to their place of work. There has been a significant criticism of a "leader"-only approach which overlooks important contextual influences that shape the focal construct of leadership at different levels (Day, 2000; Day and Harrison, 2007). Leader-only approaches focus on *"the development of individual leaders through the enhancement of their personal attributes and qualities, behaviour and knowledge and skills - the creation of human capital"* (Edmonstone 2011, 2014) whereas "leadership development" is seen *as "a social influence process balancing order through the making and mending of relationships and is therefore a collective or shared activity, rather than an individual one"* (Edmonstone, 2011).

There is however a need to develop "leadership" programmes based on knowledge of what motivates medical leaders, to ensure that there is a direct fit between: the needs of the organisation; the aims of the programme and factors influencing motivation and or disengagement of participants with the programme. This research paper is focused on "leader development" as defined by Day (2000) as opposed to "leadership development" as it focuses on an individual leader's capacity to reliably self-determine their own leadership development needs in order to identify a level of individual readiness, intrinsic motivation to engage with leadership as a concept and a preparedness to *"expand their capabilities in leadership roles and processes"* (Solansky, 2014; Day, 2000; Van Velsor and McCauley, 2004).

Self Determination Theory

Self Determination Theory (SDT) is a theory of motivation (Deci and Ryan, 2000; Ryan and Deci, 2000; Gagne and Deci, 2005; Deci and Vansteenkiste, 2004), arguing that people are

inherently proactive in mastering their inner drives and emotions to achieve their potential. However, optimal personal development does not happen automatically, but needs nurturing from the social environment (Deci and Vansteenkiste, 2004) or from within the work place.

Intrinsic motivation (as differentiated from *extrinsic* motivation) is defined by three fundamental and innate elements which are *competence* (White, 1959), *autonomy* (Deci and Ryan, 2000; Williams and Deci, 1996) and *relatedness* (Baumeister and Leary, 1995), which can energise people in the work place and must be satisfied for long-term psychological health and wellbeing (Deci and Ryan, 2000; Ryan and Deci, 2000; Gagne and Deci, 2005).

Relatedness refers to the desire to feel connected to others, to love and care and to be loved and cared for (Deci and Ryan, 2000). People must have at least five positive and significant relationships in the work place and they must be free from conflict and negative affect for people to feel intrinsically motivated and for positive wellbeing (Baumeister and Leary, 1995).

Autonomy (Gagne and Deci, 2005) is defined as the *desire to self- organise experience and behaviour* and to be involved in an activity that is in alignment with one's integrated sense of self (Deci and Ryan, 2000; Gagne and Deci, 2005). Autonomy is sometimes often incorrectly equated with the ideas of internal locus of control, independence or individualism. 'Autonomy support' needs managers to explain what activity is commissioned and to allow clinicians to explore ways to effectively and efficiently deliver this activity. Each of the three elements play a necessary part in optimal psychological development and none can be thwarted or neglected without significant consequence (Deci and Ryan, 2000; Ryan and Deci, 2000). If the work place is controlling, over-challenging or rejecting, then individuals may display alternative defensive or self-protective processes. This may result in a person withdrawing him or herself and in more extreme cases to engage in psychological withdrawal or anti-social activities as compensatory motives for unfilled need (Deci and Ryan, 2000).

There is not an expectation that everyone in the organisation needs to develop 'intrinsic motivation' for example not all doctors will feel intrinsically motivated about medical leadership and engagement, but those who are not intrinsically motivated will need to "internalise" such requests to engage in a way that creates a level of acceptability to them (Deci and Ryan, 2000).

The fullest and most complete form of internalisation of extrinsic motivation is *integration*. 'Integration' works when the person identifies with the importance of specific behaviours but also integrates those behavors with other aspects of the self. An example here is when an external organisation requires regulation and inspection compliance. When regulations are 'integrated' people will have fully accepted them by bringing them into harmony or coherence with their values and identity. If integration occurs, 'external regulation' will have been fully-transformed into self- regulation and the result is self-determined extrinsic motivation.

While intrinsic motivation and the internationalisation of extrinsic motivation are the optimum ways to support motivation, 'external regulation' is seen as controlling and results in the emergence of 'externally-regulated behaviours' that are predicted to be contingency-dependent in that they show poorer maintenance once contingencies are withdrawn (Deci and Ryan 1985; Gagne and Deci, 2005).

Medical Leadership and Self Determination

A review of evidence supports the validity of SDT in medical education (Kusurkar et al, 2011) with intrinsic motivation influencing the choice of medical career (Kusurkar et al, 2011; Lochner et al, 2012; Watson et al, 2011). The development of medical trainees is highly competency-based in its curriculum content (Clark and Armit, 2010) and traditionally based on a more technical-biological and pharmacological model of care (Williams and Deci, 1996). Development towards a more bio-psycho-social model stresses empathy and patient-centeredness, with this approach being more appropriately suited to medical educators as

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"autonomy support" trainers/tutors. "Autonomy support" is defined as a person in an authority role (e.g. the healthcare provider or healthcare facilitator) taking the others' (patients or trainees) perspectives; acknowledging the others' feelings and perspectives and providing the other with information and choice. The use of pressure and control is minimised (Williams and Deci, 1996). The consequences for trainees are more positive when healthcare providers are "autonomy supportive". Being autonomous promotes internalisation of values and so being autonomous has something in common with valuing the psychosocial approach. The implications of this model of internalisation for medical education are that medical students who would otherwise be more bio-medically orientated may develop somewhat of a more humanistic orientation in a learning environment that supports their autonomous learning (Williams and Deci, 1996).

There are three main barriers in thwarting the intrinsic motivation and integration of extrinsic motivation of doctors. The first is that Leadership and management as a subject specialty sits within the psychosocial sciences and are largely separated from undergraduate medical studies which remain wholly focused on the more bio-technical perspectives. Younger doctors are seeking external learning opportunities to develop leadership and management skills, knowledge and experience by benefiting from the opportunities of Leadership Fellowships (Darzi, 2008; Stoll et al, 2011), a secondment with access to a Postgraduate Certificate in a medical leadership programme. Many of these programmes have been evaluated to have shown considerable development of new competencies in leadership and management (Agius et al, 2015). Most programmes are not integrated with the undergraduate medical curriculum.

Secondly, for the majority of medical consultants there has been a more extrinsic regulatory push for leadership development and much of this has come through external regulators such as the Care Quality Commission and the Trust Development Authority. Medical consultants on the one hand do not have the new skills (competence) to successfully

undertake clinical leadership roles and on the other do not have the capacity within their clinical workload to devote sufficient time to become competent. Many feel pressurised to undertake the role as others do not come forward. When they undertake the role they may feel an element of surrendering their autonomy, as there are pressures to develop roles in collective and distributed leadership (Eckert, et al, 2014; West et al, 2014).

Finally, while some medical consultants will become interested in leadership and management in their organisations, there may not be the capability in the organisation to support the time needed for these activities to be undertaken. The intrinsic motivation to become drawn to leadership and management may thus be thwarted by organisational structures, staffing and a lack of time to devote to advancing leadership or service improvement. Other factors that enhance or undermine intrinsic motivation suggest that when extrinsic rewards are introduced for doing intrinsically interesting activity, people tend to feel controlled by their rewards, prompting a shift in the perceived causality for the behaviour from the internal to the external (Lepper et al 1973). Autonomy is undermined by surveillance evaluation, threats and deadlines, which undermine intrinsic motivation and leads to non-optimal outcomes. In contrast offering choice and acknowledging peoples' inner experience encourages more intrinsic motivation and supports peoples' confidence in their performance leading to an enhanced sense of self (Deci and Ryan, 2000). Providing autonomy support, relative to control is associated with more positive outcomes, including greater intrinsic motivation, increased satisfaction and enhanced well-being (Deci and Ryan, 2000).

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Method

Sample and procedure

Participants in this study were members of the Society of Occupational Medicine (SOM) and Faculty of Occupational Medicine (FOM) of the Royal College of Physicians of the UK who were working across a range of organisational contexts in England, including the statutory NHS, private healthcare, self-employed and in General Practice. Occupational Health Physician (OHP) practice is a specialty of medical practice guided and regulated by the Faculty of Occupational Medicine of the Royal College of Physicians of the UK (FOM).

Initially respondents were sent an email to access the electronic study form based at Google+ platform though e-mail by the Society of Occupational Medicine (SOM); a reminder email followed two weeks later. For those who could not access electronically, a word version of the form was sent to their personal email address by the SOM who collected their responses before sharing it with the investigator after removing identifiable information. The data were exported to an Excel spreadsheet. The on-line survey received ethics approval from Sheffield Hallam University Research Ethics Committee August 2013. .

Measures

It was a pragmatic decision to use the NHS England Leadership Academy Healthcare Leadership Framework as a self-assessment leadership tool as this had been developed as a specific framework for healthcare within the English NHS. This instrument was selected over other well-known instruments, such as the Multi-factor Leadership Questionnaire (MLQ), because of its relevance to the participants in the study and because it had been developed specifically for leaders in a healthcare context. Permission to use the Leadership Framework within the study was given by the NHS England Leadership Academy.

(Insert Table 1 here)

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Analysis

In each domain of the Healthcare Leadership Framework, respondents are presented with eight leadership behaviours and asked to rate their use of each behaviour as "a lot of the time", "some of the time" or "very little/ none of the time". In this study, an individual who rated four or more of the eight behaviours in a domain as "all the time" was considered "confident" in that domain; otherwise s/he was considered "not confident". Outcomes are summarised as percentages of participants rated "confident" or "not confident" in each domain. Subgroup analyses were carried out, defining subgroups by demographic factors (see Table 2). Since many of these factors are not independent, multivariate logistic regression models were fitted by a forward selection method to the "confident"/"not confident" outcome for each domain to assess statistical significance.

Results

A total of 249 responses were received, representing 25% of the estimated study population. Whilst there are 1,200 OHPs registered with the FOM, on a rough estimation the Faculty believes that around 1,000 of them are actually residing and working within the UK and were eligible to participate (personal communication). Among participants, 178 were either Fellows or Members of the FOM which represented 31% of the total Fellows/Members (596) who were the primary target of the study.

Other characteristics of respondents are shown in Table 1. The gender balance among participants (66% male/ 34% female) is believed to be an accurate reflection of the OHP community. As expected, respondents tended to be older, with prior GP experience, although the majority was now employed in private industry or self-employed.

Demographic details of respondents are shown in Table 2. The overwhelming majority (over 70%) were consultants or accredited specialists in OH who were members or fellows of the FOM. Consequently they tended to be older and more experienced; 58.3% were aged over

50, while 61.8% had more than 15 years' experience in OH. Approximately one-third were female, while two-thirds had previous GP experience - not surprising as this is a common background for OHPs. Occupational Health has a significant role in the private sector and 161 (64.7%) were employed in private industry or were self-employed. Just over a quarter were employed within the NHS and the remainder elsewhere in the public sector. Management experience among participants was common, with approximately two-thirds (168) having a management role currently or previously. However, only just over a quarter of participants (70) had received formal management training while a similar proportion had received no management training at all.

(Insert Table 2 here)

Leadership Competencies

Figure 2 shows the proportions of participants rated as confident in each of the seven Leadership Framework domains. It can be seen that the proportion decreases across the domains, except that D6 - Creating the Vision - has the lowest level of confidence ratings. The later domains relate to the more strategic leadership skills, so this is generally to be expected.

Subgroup analyses suggested the same pattern of decreasing confidence levels across all subgroups. Univariate comparison of subgroups suggested that specialist OHPs, those with FFOM/MFOM and those with management experience were significantly more likely than those without these characteristics to express confidence across most domains. Those with formal management training were significantly more likely to express confidence across some domains than those without, while the self-employed tended to express less confidence, particularly compared with those in the public sector. GP experience, sex, years in OH practice and age (50 or under vs over 50) made no difference to expressed confidence in most of the 7 domains.

Since many of these potential explanatory factors are likely to confounded, a multivariate analysis was carried out separately for each domain. Table 3 shows odds ratios for the factors included in the simplest model for each domain. In domains D2, D3, D6 and D7, no other factor was significant in explaining variability once Management responsibility had been accounted for, while in domain D5, differences between those employed in the NHS and the self-employed were also significant. In domain D4 (Improving services) there was significantly increased odds of expressing confidence associated with being female and being in private employment rather than self-employed. An OHP employed by a private farm in the UK often has the additional responsibility of managing and/or leading the service which a self-employed OHP rarely has to assume. Hence their competency in Improving services is an expected finding. However the gender difference may be an artefact of the data rather than a true effect as it is out of line with all the other results. Further research to establish the may be carried out to explore whether the gender difference truly exists. In each of domains D2 to D7, the odds of being "confident" associated with having Management responsibility was between 1.9 and 4.4 times that associated with not having Management responsibility. Only for Personal qualities was there an obvious difference, with only GP experience providing any explanation for increased confidence in this area.

(Insert Figure 1 here)

(Insert Table 3 here)

(Insert Figure 2 here)

Perceived need in Leadership and Management Training

Irrespective of confidence level OHPs believed that they would need training in all leadership domains, particularly in D3 to D7 (see Table 3). Confidence level had no impact on their perceived training need. The participants preferred work-based training through such means as shadowing experienced leaders (52%), through

regular workshops/discussion groups (51%) or by web-based training (49%). There was little appetite for formal qualification-based training programmes (29.7%).

(Insert Table 4 here)

Discussion

This research study set out to explore to what extent doctors are motivated to engage in medical leadership roles. The overwhelming finding from the data and supported with statistical significance, is that a clinician's confidence is increased if they had previous management experience. This is an interesting finding for three main reasons:

1) the strategy of supporting younger doctors to undertake an 'out of programme' medical leadership fellowship, is likely to be effective in terms of future succession planning of medical leadership roles, however not all younger doctors will take a leadership fellowship year and leadership learning is still not integrated with the undergraduate medical curriculum.

2) If the motivation to lead is connected to management experience then it would appear to support the reason why some of the more successful heath care organisations achieve greater medical engagement, for example "at Kaiser Permanente all doctors regardless of whether or not they hold formal leadership role are considered leaders and the learning system is set up accordingly" (Mipos, 2002). Such a strategy will ensure adequate interest in the succession planning for senior medical leadership roles.

However, an over-reliance on formal medical leadership roles will be an insufficient strategy on its own, to secure the high levels of medical engagement required to produce continuous quality improvement in healthcare. In SDT external regulation is considered controlling and externally regulated behaviours are predicted to be contingency dependent (usually with enhanced payments for a medical leadership role). Clinical Lead and Clinical Director roles in the UK NHS are usually a fixed term duration of three years. Take away a 'contingency dependent role' of Clinical Lead or Clinical Director role and there is a risk of future medical disengagement, when the medical leader reverts back to a consultant role.

3) While it is accepted that not all doctors will be intrinsically motivated towards leadership roles, SDT theory explains that doctors can be supported to integrate 'extrinsic regulation'. This is evidenced at jönköping, Sweden, which performs 2-3 times better than its peers and is a world leader in quality healthcare. All staff including doctors have two jobs "do what you do and improve what you do" (Gozzard and Wilson, 2011). Such a mantra combines the management of clinical practice and the leadership for improvement, demonstrating how leadership and management as co-dependent variables can be devolved into the everyday work of doctors. This emphasis generates an ethos of 'collective' and distributed leadership, with an emphasis on "sharing of leadership roles between participants in a complimentary manner to combine a diversity of experience" (Van Aerde, 2013). If management experience continues to be separated from leadership in the future, then this might well have a negative effect on the types of and levels of medical engagement.

This national study engaged a reasonble sample from the Faculty of Occupational Health medicine which in itself demonstrated interest and motivation to engage in self-assessment with a leadership tool for the purpose of contributing to leadership development of the profession, rather than for individual leader advantage through any individual feedback. The literature on the "hybrid" leader (Molleman, and Rink, (2015); Spehar, et al, (2015) Joffe and MacKenzie-Davey 2012; Fulop, 2012; Hallier and Forbes, 2005) helps us to understand more about how doctors are motivated towards leadership roles in relation to the development of their primary social identity as a doctor. The notion of the hybrid leader as professional first and driven by patient-led values may conflict with the more managerial and corporate-led values of a top-down managerial hierarchy. While an organisational managerial approach may seek to split the roles of clinical leader and clinical manager, this study showed that the roles are more interconnected and overlap and evidence more complexity than any split in roles would assume.

Healthcare organisations must avoid uncoordinated and piecemeal efforts to engage medical leaders and instead draw upon motivational theory to inform the design of a bespoke, context specific medical leadership strategy (Williams and Deci, 1996; Lee and Cosgrove, 2014; Solansky, 2014). There are benefits of implementing a job design model that has assimilated the essence of intrinsic motivation (Swarna Nantha, 2013). This can be done by creating a job design model that nurtures a work culture by fulfilling psychological needs that govern intrinsic motivation. The medical workforce must be trusted to identify their own needs and this study identified that they will undertake this exercise honestly and truthfully. The authors of this research recognise that this study has limitations as it was undertaken with one large sample of doctors from the same medical specialty. While the findings cannot be generalised across all medical specialties, the study offers new insights from empirical data on medical engagement and medical leadership. We recommend that future research should be mixed method research and should evaluate a preparedness of doctors to lead, to inform the development of organisational infrastructure to support further medical leadership and engagement.

In summary, Intrinsic motivated behaviours do not require or depend on reinforcements (Deci and Ryan 2000) and are also associated with better learning, performance and well-being (Deci and Ryan, 2000) The future engagement of medical consultants in leadership requires enabling leadership development to occur at the intrinsic level or to develop well-integrated (extrinsic) motivation strategies.

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