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Title Page

What is the evidence base for leadership coaching for postgraduate medical doctors? A scoping review.

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Contributorship

All authors contributed to all parts of the process and the report. AS led the search strategy. FD and AFM led the data extraction. FD is the guarantor.

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Abstract

Background:

Coaching is increasingly used to benefit doctors' professional development. Our scoping review summarises the current state of the evidence relating to workplace leadership coaching for qualified doctors

Methods

A rapid scoping review was conducted, informed by Joanna Briggs' Institute guidelines, with protocol designed a priori. Medline, Embase, and APA PsycInfo were searched for relevant articles. Search results were screened for inclusion in duplicate. Data were synthesised descriptively and thematically, mapping the existing research and identifying knowledge gaps.

Results

A total of 5307 references were screened, and 94 met the inclusion criteria. 15 references (16%) were classified as 'Leadership Training Needs Assessments'; 15 references (16%) were classified as 'Evaluations of Leadership Development Interventions with Coaching'; 18 references (19%) were classified as 'Evaluations of Leadership Coaching Interventions'; one (1%) specifically evaluated a team leader coaching training programme; thirty-seven references (40%) were commentaries; one was a research protocol (1%); and seven (7%) were reviews.

The studies were positive about the role of coaching in medical leadership development, and as a skill for doctors to develop. The use of the term 'coaching' was frequently conflated with the term 'mentoring'. Most intervention references mentioned the coaches' qualifications or training. Only three used coaches with internationally recognised accreditation qualifications, and the majority used 'faculty coaches'.

Conclusion

Most of the coaching components of leadership interventions, reviews and commentaries included in our review were considered successful. Coaching appears to be increasingly requested as an intervention for leadership development, and identified as a training need for medical leaders.

Key Messages

What is already known on this topic – Coaching has been identified as an effective method to develop medical leadership competencies, however there have been no formal research syntheses to date.

What this study adds – This is the first synthesis of the literature evaluating leadership coaching interventions for postgraduate doctors. The references were generally evaluations of real-life interventions, and were universally positive about the role of coaching for medical leadership development. We also found that coaching was confused with mentoring, many coaches held supervisory authority, and few coaches met professional accreditation benchmarks.

How this study might affect research, practice or policy – Medical leadership researchers and commissioners should use definitions of workplace leadership coaching and mentoring in line with the academic literature, and report whether the coach has supervisory authority. We recommend (a) the coach's professional qualifications, and the presence/absence of individual accreditation by a professional body as well as the methodologies and coaching protocols used are documented, and (b) more rigorous experimental designs and standardised outcome measures are used in evaluations.

INTRODUCTION

Four systematic reviews have assessed the determinants of improving medical leadership, and collectively identified fifteen studies which included coaching as a helpful intervention [1–4]. Lyons et al [1] found that improved organisational level outcomes were more likely to include project work, mentoring, coaching, and the use of reflective instruments. Frich et al noted that while self-awareness is fundamental to leadership capacity, few medical leadership development programmes address personal growth, self-awareness, ways of 'being', or emotional intelligence [4]: these are aspects of leadership development which coaching, and specifically coaching psychology, is likely to be highly effective at addressing [5,6].

Coaching, with over a century of practice, involves goal setting, constructing solutions, and self-directed learning, and is being increasingly used in the workplace., An inclusive definition of workplace coaching frequently referred to is that it is '*a one-to-one custom-tailored, learning and development intervention that uses a collaborative, reflective, goal-focused relationship provided to all levels of employees by external or internal coaching practitioners who have no formal supervisory authority over the coachee'* [7,8]. In practice, workplace coaching can also be used as an intervention with teams, groups, on one's own ('self-coaching'), as well as one-to-one contexts, and in a range of other settings in addition to the workplace. A table of definitions relating to coaching and similar 'helping' interventions is provided in supplementary material (Supplementary Table 1).

Workplace coaching may cover a range of intended outcomes such as employee wellbeing or skill development. One common form of workplace coaching is that of coaching for leadership development, in order to enhance the professional development of managers and leaders, also referred to as 'executive coaching' or 'business coaching'. Leadership coaching typically involves two-way contracting between the coachee and coach, or three-way contracting between the coachee, coach and sponsoring organisation, with objectives that link back and are subordinated to wider organisational objectives [9].

There is a growing body of evidence on the effectiveness of leadership coaching in terms of a positive impact on a wide range of cognitive, meta-cognitive, affective and skills outcomes at individual, team, and organisational level, in a wide range of workplace contexts and occupational roles [7,9–16]. Of interest, an overall positive effect size of 0.59 was identified in a 2023 meta-analysis which included only randomised controlled trials of coaching studies, confirming the efficacy of coaching interventions in a variety of applications [16]. Coaching psychology, a form of coaching practiced by psychologists integrating the rigor of psychology practice applied in a coaching context, which has been shown in meta-analysis to have specific impacts on workplace outcomes over and above other approaches to coaching [11].

Regarding workplace coaching for medical leadership, coaching has been identified as an effective method to develop medical leadership competencies[5], however there have been no formal research syntheses to date. This scoping review[17] aims to map and characterise the existing literature relating to leadership coaching for postgraduate medical doctors, with particular attention to how coaching is conceptualised, implemented, and evaluated. [18].

Our thematic synthesis was shaped by three sub-questions

i) What is the type and volume of the published literature relating to leadership coaching for postgraduate doctors?

ii) To what extent does the current literature relating to leadership coaching for doctors use coaching interventions which meet internationally recognised definitions and core competencies of coaching?

iii) What gaps exist in the literature, and what implications do these have for future research?

METHODS

This scoping review followed JBI methodology[19] and is reported in compliance with the PRISMA-ScR reporting checklist [20]. The protocol was designed a priori [18].

Inclusion Criteria

Commentaries and protocols were included, however letters, editorials, posters, and conference abstracts were excluded. Only references reported in English were included.
We included published peer-reviewed references that reported on the purposeful use of coaching competencies, skills and/ or behaviours in the context of medical leadership development, received by or delivered by doctors as follows:

- We defined doctors as being licensed physicians, post-primary medical degree.
- We included coaching interventions described as one-to-one ‘executive’, ‘business’, ‘workplace’, ‘professional’ or ‘leadership’ coaching, including where leadership coaching is used as an element of a wider leadership training programme
- ‘Team coaching’, ‘group coaching’, ‘peer-peer coaching’ and ‘self-coaching’ were included
- Coaching in the context of doctors’ personal lives was included only where this specifically related to leadership development
- We included references relating to both the presence and absence of ‘supervisory authority’ by the coach

Exclusion Criteria

We excluded references which were not in the English language, or which focused on:

- Medical students before their primary medical qualification
- Retired doctors
- Non-medical health professionals
- Other forms of workplace and non-workplace coaching (specifically 'health coaching'; 'microsystems coaching'; 'quality improvement coaching'; 'surgical coaching'; 'clinical skills coaching'; 'career coaching'; 'wellbeing coaching'; 'life coaching')

Search Strategy & Reference Selection Process

We searched for relevant articles via Medline (via PubMed), Embase (via OVID) and APA PsycInfo (via OVID) [21] from 1 Jan 1993 to 3 Apr 2024. We chose 1993 as the earliest date because we were not aware of any publications on this topic before this. Our full search strategy and reference selection process is provided in Appendix 1.

Screening

References were screened in three steps: title review, abstract review, and full-text review. Title review was conducted by all authors. Abstract review was conducted by FD only due to resource limitations, with 10% of abstracts also reviewed by a second author (AFM, OL) to establish consistency. Full-text review was conducted in duplicate by FD and AFM, with discrepancies resolved by consensus. Reasons for exclusion at the full-text stage were recorded. Any disagreements that arose between the reviewers at each stage of the selection process were resolved through discussion between the authors.

Data Charting

Two reviewers (FD& AFM) extracted data in duplicate. Disagreements were resolved through discussion between the authors.. Extracted data included participant demographics, coaching concept, setting/context, methods, coach qualification, and key findings relevant to the review questions. The full list of data items is provided in Appendix 2.

The quality of the coaching interventions was assessed as to whether they met one or more of the internationally recognised definitions and core competencies of coaching described by

three of the world's leading coaching professional bodies. Whilst recognising that other professional coaching bodies exist, specifically we were interested in documenting any reference to: the European Mentoring and Coaching Council Individual Accreditation Awards (EMCC [22]); the International Coach Federation Credential Award (ICF [23]). We were also interested in the British Psychological Society 'Standards for Coaching Psychology' (BPS, [24] and associated 'Chartered Registration in Coaching Psychology', a legally defined, doctoral level award integrating coaching and psychology practices in non-clinical populations) due to previously mentioned findings of the enhanced impact of coaching psychology on specific outcomes.

Synthesis of results

Data were synthesised descriptively and thematically, mapping the existing research and identifying knowledge gaps.

Patient and public involvement

No patients or public involved.

RESULTS

Characteristics of the Literature

We identified 7385 references in aggregate. After deduplication using Bond University's Systematic Review Accelerator Deduplicator [25], 5357 references remained. 50 further duplicates were removed (15 manually, 35 by Covidence[26]). From the 5307 unique references, a total of 94 references met the inclusion criteria. Details about the reference selection process[20] are shown in Fig 1.

Insert Fig 1 here

The first reference was published in 2002. Three were published during 2005-09 (3%); 13 during 2010-14 (14%); 27 during 2015-19 (29%), and 50 during the period 2020-24 (53%).

The references were conducted in a total of 13 countries, primarily the United States of America (n=70, 75%). Six were set in the United Kingdom (6%), and six in other European countries (6%). Five (5%) were located in other countries (1 in each of Australia, Egypt, Saudi Arabia, Singapore) and two were located in two countries (both set in the United States plus either Canada or UK).

There was a wide range of urban and rural settings in both public and private sector health care contexts, including whole health care systems, as well as academic, tertiary, secondary, primary, ambulatory, rehabilitation and community-based hospitals or clinics. References included cancer and trauma centres, military settings, as well as several in medical education establishments. Four references [27–30] focused on women in medical leadership roles, and one on minority junior faculty [31].

The mean proportion of female participants was 59% across the 22 references that reported gender. Participants were postgraduate doctors at a wide range of different career stages, from newly graduated doctors, interns, residents, experienced senior clinicians, to medical leaders including Chiefs. Sixteen of the intervention references related to residents specifically. Participants were from a range of specialities including: family medicine/ primary care; internal medicine; public health; orthopaedics and trauma; clinician-scientists; and 'multiple specialties'. A small number also included non-medical participants.

Types of reference and key findings

We classified the types of reference as follows, see also Supplementary Tables 2 and 3.

1. **Leadership Training Needs Assessments**

15 references (16%) were classified as 'Leadership Training Needs Assessments' [29,32–45] to identify doctors' training needs and preferred modalities regarding their leadership development, using a mixture of quantitative and qualitative methods. They found that coaching was considered a useful and/ or preferred method to support their leadership development by the doctors surveyed. They also reported that participants generally desired more training in coaching, or 'coaching and mentoring', skills to enhance their own leadership development.

2. **Evaluations of Leadership Development Interventions with Coaching**

15 references (16%) were classified as 'Evaluations of Leadership Development Interventions with Coaching' [27,28,30,46–57], and used a range of intervention methods of which one was coaching. One of these also included a leadership training needs assessment [49]. These intervention references were all reports of real-world leadership development interventions, and consistently reported that the development interventions were successful, and that the coaching elements had contributed positively to the improvement. The need for skilled coach development was mentioned [49,50,52]; one reference noted that experiential learning and coaching are required to acquire process skills and that both are 'resource intensive and personally challenging'[49]. One reference used peer-peer coaching [58], and six references

were longitudinal in design or included evaluation over a longer time period post-intervention [28–30,52,54,57].

3. Evaluations of Leadership Coaching Interventions

18 references (19%) were classified as ‘Evaluations of Leadership Coaching Interventions’ [58–75]. These intervention references were all reports of real-world leadership coaching interventions. All reported a positive impact of leadership coaching for the doctors involved for outcomes ranging from general leadership development to team development to specific leadership skills including: time management and productivity; professional development; public speaking skills; as well as improving culture. Most outcomes measured were self-reported and/ or unvalidated with some exceptions: increased academic output [63]; professional learning plan creation [64]; improved lecture evaluations and public speaking invitations[58]; positive changes to multisource feedback results [65,67]; completion of planned initiatives [63]; and statistically significant improvements in leader’s validated wellbeing scores [61]. Many reported changes in reflectivity, self-awareness and identity change [74], including ‘viewing themselves as a leader for the first time’ [66].

Coaching was often combined with 360’ feedback [65,67,74]. Five references used peer coaching [27,58,63,69,70]; one reference used ‘group coaching’ [69]. Two references were longitudinal in design or included evaluation over a longer time period post intervention [65,67].

One reference reported that underlying needs were only identified following initiation of coaching sessions [72]. Two references commented that access to coaching enabled doctors to have ‘a strong sense of being supported’ [58] or to ‘feel invested in and appreciated’ [74].

Multiple benefits to faculty or peer coaches were described including: improved skills, self-reflection, networking, career advancement, and personal fulfilment [58]; and the rewards of observing teams understand and apply concepts, connecting with other members of the community, and gaining a deeper understanding of why quality improvement projects succeed or fail [70].

Challenges relating to faculty time constraints, variation in coaching ability, and funding issues were reported in one reference [71]. Ethical issues relating to the coaches having supervisory authority over participants was noted, with recommendations for the need for greater clarity of the coach’s role [64] ; the same reference also noted that trainees variably possess skills relating to self-directed learning and self-reflection.

4. Evaluation of Leadership Coaching Training Intervention

One reference (1%) specifically evaluated a team leader coaching training programme to provide clinical leaders with coaching tools they can use in their everyday work [76]. The training showed high potential but its effect on practice has not yet been evaluated. It was noted that a supportive working environment is necessary to develop and implement coaching skills, and that an approach that focuses on the interpersonal aspects of leadership plus a reflective stance was welcomed by participants.

5. Commentaries

Thirty-seven references (40%) were commentaries relating to medical leadership development. Of these, 23 were commentaries about the positive role of leadership coaching as a method of medical leadership development [77–99], and 14 were commentaries about a positive or a potential role for coaching in medical leadership development more generally [100–113].

6. Research Protocol

There was one research protocol (1%), for a randomised control trial of a physician coaching intervention in Belgium to promote self-reflective leadership and ethical decision making [114], it is believed this trial is currently in process.

7. Evidence Syntheses

We included 7 Literature, Scoping or Systematic Reviews (7%).

There were two non-systematic literature reviews: one reviewed leadership coaching models for physician and non-medical leaders [115] and highlighted the underutilisation of leadership coaching in healthcare; the other explored the application of coaching in surgery to enhance performance, wellbeing, and foster professional growth [116], with positive conclusions.

There were two scoping reviews and three systematic reviews, all in the context of wider medical leadership development rather than coaching specifically. One scoping review focused on female emergency physicians [117], concluding that mentoring and coaching were the most frequently encountered topic. The other scoping review concluded that mentoring and coaching in various formats, especially with senior faculty members, is a core element of effective academic faculty development [118]. A systematic review of evidence-based leadership development methods for physicians concluded that coaching was one of several effective methods of learning[2]; another systematic review of leadership training in graduate medical education concluded that small group teaching, mentoring, coaching and project work

appear to be the most effective approaches for leadership training[119]. The final systematic review sought to identify the effects of faculty development interventions to improve leadership abilities, concluding that a greater emphasis should be placed on peer coaching and mentorship [3].

Definitions of Coaching and Core Competencies

Due to our inclusive approach, we did not exclude coaches with supervisory authority, and the majority of the leadership development intervention references mentioned the coaches' qualifications and/or the coaches' training. We identified twelve references which referred to 'Faculty Coaches', [48,49,51,52,55–57,59,63,64,71,74]. Four references [47,53,68,74], of which three were based in North America, specifically referred to Professional Certification/ Credentialling by the 'International Coach Federation' (ICF) [24]. None directly referenced qualifications relating to the international professional body the European Mentoring and Coaching Council (EMCC) [22], nor the British Psychological Society 'Register of Chartered Coaching Psychologists' (BPS) [24]). Accreditation by both of these bodies was indirectly referred to in one reference, though the author did not report their dual accreditation with these bodies in the reference itself 61]. Three references referred to proprietary brands of coaching methods [60,65,69]. Three references referenced psychology or psychology qualifications [61,67,73]. The remainder, where reported, included the following: 'the coach was outside the residency programme… from the health system's Employee Assistance Programme'[72]; 'partial fulfilment of a postgraduate qualification in Management Coaching' [75]; 'previously participated in at least one public narrative workshop'[62]; 'practice improvement coaches'[50]; 'experts in communication skills coaching'[71]; or 'seasoned career development coaches' [55]. A minority mentioned the provision of supervision for the coach.

Six references included some form of coaching skills training for faculty coaches as an aspect of their leadership programmes. One reference referred to senior residents developing skills in emotional intelligence and mock feedback sessions with actors using a 'checklist to guide principles of collaborative coaching' [48]; another mentioned teaching of faculty 'a set of process skills that form the basis of effective work relationships' and referred to the ongoing development of coaching faculty through 'coaching faculty reflection conversations' [49]. The third reference referred to a professional development programme for course participants with four components, one of which was a one-hour session teaching principles of 'appreciative coaching' [27]. In another reference, faculty coaches' education occurred through 'regular, ongoing meetings with leadership' including 'focused faculty development'[64]. Another reference used a group coaching course for newly qualified doctors and included content on 'systemic coaching model', though it is not clear whether this was in order to understand the

coaching programme or to develop coaching skills in participants [69]. The final reference described the most detail relating to coaches' training [71].

DISCUSSION

Our review describes the wide and growing body of literature on leadership coaching for postgraduate doctors, showing an increase in publications in recent years. Most references were conducted in North America, which included the most diverse populations, and the most varied research interests. The majority of references relate to needs assessments and/ or evaluations of leadership development programmes and were of relatively low quality. The references were universally positive about the role of coaching in medical leadership development, and as a skill for medical leaders to develop.

We used an inclusive definition of coaching, as defined by the authors without excluding any references which did not meet commonly accepted definitions and standards in order to provide a comprehensive review of the literature. Definitions are heterogenous, and several references used the terms 'coaching' and 'mentoring' interchangeably, and/ or did not use definitions of coaching consistent with the literature. One reference highlighted deliberate use of a coaching framework branded as mentoring to reduce misinterpretation among participants [64]. Both coaching and mentoring support professional development but differ in their execution, as summarised in Supplementary Table 1.

Assessing the competency of coaches used in intervention studies is still exploratory and reliant on reported details in the included references. The optimal level of coach training and or accreditation for maximising medical leadership development is not yet known. Coaching remains an unregulated profession, with national and international voluntary accreditation bodies; the British Psychological Society's 'Register of Chartered Coaching Psychologists' is the only legally protected award globally which the authors are aware of relating to any form of coaching.

Whilst the majority of references mentioned the coaches' training, experience or qualifications to some extent, we were not able to draw conclusions as to the relationship between this and the impact on outcomes, and only three references focused explicitly on accredited coaches. Many 'Faculty Coaches' appeared to have supervisory authority over their coachee which is not 'pure' coaching according to the literature[7,8]. Boet et al (2023)[77] systematic review of coaching for physician wellness concludes that minimum standards of coach competency and conduct may be in participants' interests, if there is a relationship between coach certification and participant outcomes.

Given that coaching harms have been documented, and the coach's engagement in supervision has been found to reduce the incidence of this [120], coach accreditation is being increasingly used as a marker of coach competency and professionalism similar to medical licensing and revalidation [5]: ongoing regular supervision is a key requirement for coach accreditation, as are continued competency and ethical practice assessments. ..

Strengths and limitations.

To the best of our knowledge this is the first scoping review investigating the literature relating to leadership coaching for doctors. Strengths include the provision of a comprehensive documentation of the current literature in this field, combining commentaries with quantitative and qualitative references with coaching as a major or minor component across international boundaries, and a broad and inclusive definition of coaching, which enabled us to capture a wide range of references. There are a number of limitations, including: the exclusion of non-English language references; inherent publication bias of positive findings in terms of failed programmes not being reported or published – perhaps relating to conflicts of interest in programme providers seeking to generate credibility for their interventions; the lack of definitive definitions of both coaching skills, coaching qualifications, and leadership competencies; only one reviewer completed the Abstract screening.

Implications for Research and Practice

We have identified the following areas where the literature could be strengthened in future. To advance the evidence-base for medical leadership coaching it would be helpful if researchers clearly differentiated between coach, mentor and supervisor roles within their studies. In order to minimise confounders, dual or triple roles (coach, mentor and supervisor) need to be excluded from the research studies. We recommend that definitions of workplace leadership coaching and mentoring are used in line with the academic literature. The use of accredited coaches without supervisory authority is a topic of interest for future research and it would be helpful for future authors to describe qualifications, accreditation and coaching methodologies and/ or coaching protocols used, as well as whether the coach held supervisory authority, so that the literature can build with increasing granularity.

We recommend the use of validated leadership outcome measures plus other relevant measures relating to job satisfaction and wellbeing, the use of more objective measures to reduce risk of bias, to measure the impact on long-term outcomes from team members to the wider system and ideally outcomes including patient care, to use more rigorous experimental designs, to explore the impact specifically on diversity and inclusion (such leadership coaching for women and minorities), and to conduct studies beyond North America and English-speaking countries to allow the findings to become more generalisable over time. We also feel

it would be helpful to consider research scalability and the use of remote and / or digital coaching as potential means to democratise access for those in remote locations, underrepresented groups, and resource-poor environments, and to compare the relative cost-effectiveness of different methods of leadership coaching including the 'dose' and most appropriate format (eg 1:1, group, team) for the context, career stage, and speciality

Given the heterogeneity of approaches to medical leadership coaching, we also recommend that medical leadership coaching research and developmental interventions use a 'start with coaching psychology theory' approach when designing or commissioning coaching interventions in line with the advice of experienced researchers in the field [7,8], and to extend the research to other health professionals.

CONCLUSIONS

Most of the coaching components of leadership interventions, reviews and commentaries in our review have been deemed as successful, and coaching has been requested as an intervention both for leadership development as well as a training need for medical leaders. There continues to be capacity for improvement in terms of how medical leadership coaching initiatives are designed, delivered, implemented, and assessed to further increase the impact on personal, professional, team, organisational and broader patient and community health outcomes.

Medicine, and medical leadership, is a never-ending and constantly changing professional practice: current and future doctors should be equipped and trained to "learn, unlearn, and relearn"[121]. Our review maps and characterises the existing literature, and concludes that coaching is desired and increasingly used as a cornerstone of the ongoing professional development of medical leaders.

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Fig 1. What is the evidence base for coaching for postgraduate medical doctors? A scoping review. PRISMA Summary.

Data Availability Statement

This is a scoping review of existing data using published data.

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