BMJ Open Reasons and remedies for under-representation of women in medical leadership roles: a qualitative study from Australia

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ABSTRACT

Objective: To elicit medical leaders' views on reasons and remedies for the under-representation of women in medical leadership roles.

Design: Qualitative study using semistructured interviews with medical practitioners who work in medical leadership roles. Interviews were transcribed verbatim and transcripts were analysed using thematic analysis.

Setting: Public hospitals, private healthcare providers, professional colleges and associations and government organisations in Australia.

Participants: 30 medical practitioners who hold formal medical leadership roles.

Results: Despite dramatic increases in the entry of women into medicine in Australia, there remains a gross under-representation of women in formal, high-level medical leadership positions. The male-dominated nature of medical leadership in Australia was widely recognised by interviewees. A small number of interviewees viewed gender disparities in leadership roles as a 'natural' result of women's childrearing responsibilities. However, most interviewees believed that preventable gender-related barriers were impeding women's ability to achieve and thrive in medical leadership roles. Interviewees identified a range of potential barriers across three broad domains—perceptions of capability, capacity and credibility. As a counter to these, interviewees pointed to a range of benefits of women adopting these roles, and proposed a range of interventions that would support more women entering formal medical leadership roles.

Conclusions: While women make up more than half of medical graduates in Australia today, significant barriers restrict their entry into formal medical leadership roles. These constraints have internalised, interpersonal and structural elements that can be addressed through a range of strategies for advancing the role of women in medical leadership. These findings have implications for individual medical practitioners and health services, as well as professional colleges and associations.

Strengths and limitations of this study

- Senior leaders can be a hard to reach population for research purposes. We included male and female interviewees from a range of different medical leadership roles across Australia.
- The use of semistructured interviews enabled a deeper and more nuanced understanding of the barriers to women entering medical leadership roles than previous surveys in this area.
- The sample size was relatively small (n=30), and the lower representation of women in the relevant roles resulted in fewer women than men being recruited.
- Gender issues were only one component of the wider study from which this data are drawn, rather than its primary focus. As such, the perspectives set out are exploratory in nature.

BACKGROUND

The number of women enrolled in professional degrees such as law and medicine has risen from under 25% in the 1970s[1,2] to over 50% today.[3–6] Yet, gender imbalances in leadership persist across a range of professionalised organisations, including law firms,[7] consulting firms,[8] universities[9] and health services.[6,10]

In Australia, despite the introduction of equal opportunity policies in healthcare and the achievement of gender parity at medical school since 2000, women's upward mobility into medical leadership roles remains restricted by a 'glass-ceiling'.[11–13] Women remain notably under-represented in formal high-level medical leadership positions (see table 1).[10] Even when women are successful in achieving leadership roles, their participation is skewed towards positions with a non-clinical public health focus (eg, in government health departments), rather than clinical leadership (eg, in health services).[11]

Table 1 Female representation in selected medical leadership roles

Organisation/ organisation type	Position type	Female representation (for 2015 unless otherwise stated)
Hospitals	Chief Executive Officer	12.5% (for hospitals with >1000 employees) 38% (for hospitals of all sizes) (Drawn from a sample survey by the Workplace Gender Equality Agency)[34]
Australian Medical Association	President (national or state/territory branch)	22%
Medical schools	Dean	28%
Medical colleges	Member of governing board or committee	29% average across all colleges
National Health and Medical Research Council	Lead investigator on funded projects	32% (2014)[31]
Health departments	Chief Medical Officer or Chief Health Officer (state/territory and federal)	33%
Medical students' societies	President	38%
Royal Australasian College of Medical Administrators	Trainees in medical administration	39% (2014)[6]

Such under-representation and skewed representation matters because placing medical practitioners in leadership roles of all types is an important element of a strong and effective healthcare system.[14 15] Failure to ensure a fair representation of women in senior roles, which accurately mirrors their representation in the medical workforce, may contribute to cultural and ideological divides between those in leadership roles and clinicians. Moreover, there is evidence to suggest that strong female representation at board and senior manager levels is associated with better organisational performance.[16]

International research has identified cultural, structural, organisational and personal barriers to women entering medical leadership roles. These include: gender stereotypes, inadequate childcare, inflexible working hours, hierarchical structures, and a lack of appropriate training and mentoring.[17] Some of these barriers also present challenges for male doctors seeking to achieve a balance between their personal lives and professional leadership roles. However, the impact of those barriers is disproportionately greater for women,[12] who still spend twice as much time as men undertaking childcare and unpaid household work.[18]

We sought to understand current perceptions towards women in medical leadership in Australia, to identify barriers and enablers of women entering such roles, and to identify some practical interventions that might better support and encourage women to adopt senior medical leadership roles.

METHODS

The data presented in this paper are drawn from research into the uptake of leadership roles by medical practitioners in Australia. The research adopted a qualitative approach, interviewing a range of stakeholders about their perspectives on the topic, and analysing the data using thematic analysis. One of the issues covered in the interview schedule was gender, and whether individuals perceived specific barriers to women becoming involved in medical leadership. In this paper we reflect on the responses to this line of questioning. Findings of the broader study are reported elsewhere.[19]

Four members of the research team (HD, GP, EL and MB) with qualitative research experience carried out the interviews. The involvement of researchers from different backgrounds (medical and non-medical, male and female, medical leaders and academics) helped to guard against bias during the interviews and analysis.

A purposive sampling approach was used to select medical practitioners who work in medical leadership roles in Australia, as defined above. For the purposes of this paper, we defined medical leadership as the practice of trained medical practitioners occupying formal leadership roles relevant to the health and medicine, at the level of managing and administering health-related services (such as hospitals), organisations (such as professional organisations) and government departments. While we recognise the importance of informal leadership to the practice of medicine, this form of leadership is outside the scope of this paper.

Interviewees were identified through researchers' personal networks and professional associations, including the Royal Australasian College of Medical Administrators. Additional interviewees were also identified via recommendations from other interviewees, using a snowballing recruitment strategy. We aimed to identify interviewees representing diversity in gender, age, tenure, leadership position, service/organisation type and geographical location. Interviewees came from five Australian states: Victoria, New South Wales, Queensland, Western Australia and Tasmania.

Potential interviewees were approached by phone or email and all who were approached agreed to participate with no subsequent dropouts. Interviews were

conducted between June and September 2014. We gave interviewees a choice of conducting the interview by telephone or face-to-face. Where interviewees elected for face-to-face interviews, the setting was a combination of public and private hospitals in Australia. Nobody else was present beside the interviewer and the researcher. Recruitment of interviewees continued until no significant new themes were emerging from the interviews.

To elicit interviewees' beliefs and experiences we used semistructured interviews. Interviewees were told that the purpose of the interview was to better understand the drivers and barriers impacting the involvement of medical practitioners in the leadership of healthcare organisations. Interviews lasted between 25 and 60 minutes. Interviews were recorded with interviewee consent and transcribed verbatim.

The interview schedule was informed by an in-depth search of the literature pertaining to involvement of medical practitioners in medical leadership roles. Questions in the schedule focused on three broad areas: intrinsic and extrinsic factors that encourage medical practitioners to take on leadership roles, barriers to such involvement and opportunities for improved support and development. Examples of the questions we asked include: 'How are doctors selected for leadership roles such as the one you are now in?', 'Are the barriers to medical leadership the same for men and women?' and "What do you think might need to change to make doctors more willing to move into leadership roles?

Following each interview, interviewers noted initial thoughts and ideas. Field notes and transcribed interviews were read and re-read by three researchers (HD, MB, LT) to achieve a close immersion in the data. Data were managed using N-Vivo software.

The approach to developing the coding framework was deductive and inductive, arising from the content of the interviews and informed by our review of the literature. Two experienced qualitative researchers (HD and LT) independently coded the transcripts from the first six interviews. Coding differences were resolved by consensus in discussion with the rest of the team. All transcripts were than coded by one researcher (LT) using this agreed framework, with regular reviews by MB and HD to ensure the consistency and thoroughness of coding. The interview schedule and coding framework is available on request to the authors.

All sections of coded data relevant to women in medical leadership were then grouped into themes. These themes explained larger sections of the data by combining different codes that were connected through key concepts and repeated patterns. Themes were then reconsidered in relation to the data set as a whole to ensure that no important themes had been missed during the earlier stages of coding. The final stage involved choosing examples of transcript to illustrate major themes and the diversity of responses. The gender of the interviewee, and the type of organisation in which they hold a leadership role, is noted alongside each quote.

The research was approved by the University of Melbourne Human Research Ethics Committee.

FINDINGS
Thirty medical leaders were interviewed, including eight women (see table 2).

Representation of women in medical leadership roles
The male-dominated nature of medical leadership in Australia was widely recognised by interviewees, with women 'disproportionately under-represented at the senior management level' (male, government department). In the words of one senior woman: 'the majority of that world is older men' (female, government department). Other interviewees described this in similar ways:

> I was sitting next to a chief resident, a female doctor elbowed her and said look count the number of females in the room and there was one other female apart from her. So in our group of 20 people there were two females. (male, hospital)

However, despite agreement that men are over-represented in medical leadership roles, interviewees were divided on the question of whether this disparity was the result of gender barriers.

A minority of interviewees reported that they did not perceive any barriers for women rising to, or succeeding in, leadership roles. Among this group, typical responses were that 'gender isn't an issue' (female, government department) and that effective people 'rise to the top irrespective of their gender' (male, hospital). On whether there is resistance to women taking on leadership roles another interviewee commented that "I don't think there is but I, I've never found myself to be particularly sensitive to this because I'm not a woman in the

Table 2	Characteristics of interviewees	
Characteristic	**Number (n=30)**
Sex	
Male	22
Female	8
Organisation	
Public hospital or health service	12
Private hospital	3
Government department or public sector agency	6
Professional college or association	9
Level of leadership	
Chief executive/president/dean	11
Senior executive for example, chief medical officer	10
Middle or first-line management for example, clinical leader, medical director	9

end" (male, government department). Such responses were characterised by the view that leadership roles went to whoever wanted the role and was 'the best person at the right time' (female, government department).

Several interviewees, including those who did not perceive any gender-related barriers, viewed the disparities in the number of women in leadership roles as 'natural' and somewhat inevitable. They offered three justifications for this view.

First, there was a view that these roles are best suited to people who are 'a born leader' with 'a strong personality' (male, professional organisation), and that women were inherently less likely to meet those criteria.

Second, there was a perception that biological roles are 'something that you just cannot change' (female, government department) and that women often chose to forgo leadership roles to spend more time with their families. As one interviewee explained:

> There's this 20 year period in most women's lives, if they have children… when they have a lot of other demands and responsibilities, and they have to weigh those up against potentially long days, irregular meeting times, travel etcetera and decide that that's not really workable for them. (female, professional organisation)

Third, there was a view that women would inevitably come through the leadership 'pipeline' as the number of women graduating from medical school has increased. 'Sixty per cent of graduates are women, and therefore that's going to flow on anyway' (male, hospital). According to this perspective, it is just a matter of time before the current female medical graduates work their way through the system, and gender parity is achieved in leadership roles: "It's probably another 10–15 years before you'll truly see the senior positions levelling off across the genders" (male, hospital).

Gender-related barriers
The view that gender disparities are 'natural' and inevitable was a minority view. Most interviewees believed that gender-related barriers were impeding women's ability to achieve and thrive in medical leadership roles. Interviewees identified a range of potential barriers across three broad domains—perceptions of capability, capacity and credibility. We discuss each of these in turn below.

Perceived capability
Many interviewees referred to the 'self-selecting process' (female, professional organisation) involved in aiming for leadership roles. Self-doubt, lack of self-confidence and underestimating personal capabilities led to doubt among some women that they were suited to leadership roles. The following quotes illustrate this type of perspective:

> I suppose when I was thinking and talking about this role here, you know, I had to think, 'Oh, can I do that?' or,

> 'Would I be able to do that?' I wasn't sure. (female, professional organisation)

> They still see me like the tea lady, and they can't believe that I'm actually able to function at their level. (female, government department)

In turn, this led to reluctance among women to 'self-promote as leaders, even though they could be wonderful leaders' (female, hospital). As other female medical leaders in our sample explained:

> It was internal, in a way, in that they didn't necessarily recognise that they did have the capability and that they could put themselves forward for things. (female, professional organisation)

> I'm forever saying to the female registrars you know, you are underestimating how good you are. I almost never say that to male registrars. (female, professional organisation)

Perceived capacity
Parenthood was the most commonly cited barrier to women taking on a leadership role. Several interviewees referred to an inherent incompatibility, 'whether we like it or not' (female, hospital), between trying to juggle high-level leadership and motherhood:

> There may be people who can juggle and manage that, but I do think for a lot of people they go, 'Oh, do I want to take that on and do all of that? (female, professional organisation)

Interviewees also reported assumptions that some roles were incompatible with part-time work. As one interviewee explained: 'at the level I'm at, it cannot be done part-time. You cannot job share at this level' (female, hospital). A male medical leader explained this barrier in this way:

> Now you know, whatever, whatever we'd like to think, the majority of women are not going to have a lot of extra time and energy to put into those roles while they're rearing children. (male, professional organisation)

A number of male interviewees noted that not having primary childcare responsibilities placed them at an advantage compared with their female peers:

> I could at any time turn up to a meeting on a weeknight. I could be away overnight. I could do what I have to do to be noticed and available. It's just much more difficult for women to do that if they've got a family … it just takes you away from a representative role [and that] is a chunk of your life that is difficult to make up for, to catch up if you like. (male, professional organisation)

At an institutional level there was limited support for more flexible options and work-life balance from other senior leaders, with a focus on women needing to 'fit in'

and just 'do the job' (male, hospital) rather than 'carrying on' about work-life balance.

Perceived credibility

Interviewees noted that women were often 'not being taken really seriously' (female, hospital), and their traits were readily dismissed as too feminine and thus not stereotypically consistent with being a leader. As an extension of this, several of the women interviewed noted a pressure on senior leaders to behave like 'one of the boys':

> It's almost like females in politics you've got to be like one of the boys to be a leader … It almost forces, 'You can join us if you're a girl but you've got to act this way.' (male, hospital)

Some interviewees noted that habitual privileging of stereotyped 'maleness' as the only credible context for leadership, created a heavily-gendered work environment. This environment was alienating and uncomfortable for some female leaders:

> It's one thing for them to talk about cricket or something I don't understand, but there's times when they go into something which is probably…like it's not sexually inappropriate, but it's probably…if they actually thought about the fact that there was a young woman in the room, they probably wouldn't say it. (female, government department)

In table 3 we further illustrate typical perspectives on the barriers identified, categorised by three types of barrier—internalised, interpersonal and structural.

Benefits of, and for, women in leadership roles

Despite the barriers that interviewees identified, many reported advantages of having women in leadership roles, both for individual women and organisations.

Benefits for women themselves included an opportunity to make a difference at an organisational level, and the satisfaction of blazing a trail for others:

> As far as I know I have been a little bit of a trail blazer in terms of part-time work in medical administration too, and being a female. (female, hospital)

Several women thought gendered barriers to entering non-clinical leadership roles were 'not as bad' as those for more clinically-focused leadership roles. In particular, these roles were seen as offering more predictable hours, with some ability to organise work around other commitments.

> So there's the flexibility, certainly at this stage in my career I can take work home and work on it, you know, after hours when the kids are in bed. (female, hospital)

At the organisational level, there was a perception that more diverse leadership resulted in better decision-making and improved outcomes for health services.

> I think it's time that we had a change from the middle aged man… with that sort of mindset … I think an organisation's richer for a diverse leadership. (female, professional organisation)

SUPPORTING WOMEN INTO LEADERSHIP ROLES

Interviewees identified a range of active strategies that would improve the representation of women in medical leadership roles. In particular, they noted the important

Table 3 Barriers to women progressing into, and through, medical leadership roles

	Internalised	Interpersonal	Structural
Perceived capability	"I probably wouldn't have done any of these things without encouragement. I wouldn't have had the sort of confidence I think to take on those roles unless somebody had asked me to do it." (female, professional organisation)	"I've heard it said … 'Oh no, she wouldn't be interested. She's got two young children. She wouldn't be interested to be head of department.' What? … Why not?" (female, hospital)	"I can understand that could sometimes be a factor, being female and not being taken really seriously, unless you're like really good …" (female, hospital)
Perceived capacity	"And in reality, I don't have children. I haven't had time off for maternity leave. I've worked full time for this period of time. I don't think I would be where I am if I hadn't done that." (female, government department)	"I must admit that some of those senior female doctors have been very harsh on their female colleagues around maternity leave and coming back into part time roles." (male, hospital)	"So you know a full-timer gets $24000 a year [for continuing education], a part-timer will get proportionally less, but that doesn't mean that their educational requirements are less." (male, hospital)
Perceived credibility	"I've done a Fulbright scholarship … but it's not something that I would raise. But, it's interesting that other people find it an important thing."— (female, government department)	"From time to time you will find there will be an old grey-haired man who won't want to have anything to do with a young female medical administrator." (female, hospital)	"Because it's competing for resources and because it's whoever yells the loudest is the one heard." (male, hospital)

roles of individuals, organisations, and the broader profession, in addressing gender barriers (see table 4).

Personal

At a personal level, several interviewees noted the importance of personal support from others. One source of this support was encouragement and leadership from female role models, as well as mentors and peers of any gender who nurtured women's efforts to establish careers in medical leadership.

> Well my boss, the boss who recruited me, is a woman, female, and so she was very encouraging. (female, professional organisation)

Another source of support was that provided by individuals and networks outside of work, to help manage competing demands and responsibilities. Sources of support cited included partners, other family members, and childcare.

> So I think one of the barriers is getting the right balance and finding time, and I've been very lucky that I've found that time, you know, I've been able to do that with the support from my family. (male, hospital)

> I think that it would be extraordinarily hard in the current environment for women who have got school-aged children to take on these roles, unless they have a well-oiled process of other support for them, whether that's their own partner or a nanny or something. (male, hospital)

Organisational/structural

At an organisational level, interviewees identified better educational opportunities, fairer appointment processes, and more parenting-friendly working arrangements as the three most urgently needed changes.

Proactively equipping women with the necessary education and skills was seen as a useful strategy for supporting their transition into leadership roles, when the time was right for them.

> We can either accept that and say, 'Oh you know, that's a disaster,' or 'it's terrible and can't do anything about it,' or I think we say to women, 'Look, you know, we're going to support you and provide you with education and leadership skills because when your kids are no longer, you know, at school or young school levels, you may want to take on some of these roles, and we will actually come to you and speak to you about that.' (male, hospital)

The importance of explicitly encouraging women to apply for leadership roles was mentioned several times.

> Half my executives are female. For the first four years I only had one woman on the executive and it troubled me greatly and I tried valiantly to recruit but couldn't… but now I've got probably the most. (male, hospital)

Interviewees expressed concern that many hospitals and other organisations still rely on informal networks to identify upcoming leaders and that candidates are 'shoulder tapped' for roles, rather than selected through a transparent appointment process.

> Mostly all the positions that I've ended up in I've been asked to apply and I haven't actually … I haven't chased them up as part of a career pathway. (male, hospital)

> I think we should be identifying people, easing them into it and not just tapping someone on the shoulder and

Table 4 Interventions suggested by interviewees to support women's participation in medical leadership roles

Who	What can they do?
Individuals	Recognise unconscious gender biases
	Serve as a peer support, role model or mentor for aspiring leaders
	Support and encourage women through periods of maternity leave and childrearing responsibilities
	Promote women for consideration for leadership roles
	Model good behaviour through recognition of and respect for female leaders
Organisations eg, hospitals	Provide flexible and family-friendly working hours
	Establish a female leadership group to offer peer support
	Create part-time leadership roles
	Be explicit and transparent about opportunities to apply for leadership roles
	Provide appropriate continuing education allowances and educational opportunities to part-time staff
Professional organisations eg, colleges	Improve reporting and consideration of gender issues at board level
	Help to connect women with female leaders and mentors
	Help to develop training and career pathways that dovetail with parenting and other caring responsibilities
	Encourage women to consider opportunities they may not have thought about
	Advocate for gender equity in wider social policy debates (eg, pay equity, access to education and childcare)

saying "how would you like to be medical director?" (male, hospital)

In addition to concerns about education and recruitment strategies, several interviewees mentioned the importance of flexible and parenting-friendly hours:

We have tried hard—I have tried hard here to accommodate people who have got fantastic management potential and capability but also want to work part-time. (female, professional organisation)

One interviewee noted that such changes would also benefit men with childrearing responsibilities.

The same comments may well apply to men—that they're not out there, you know, 18 hours a day career building in their 30s. They are working and going home and sharing parenting. (female, professional organisation)

Professional/cultural
Finally, some interviewees suggested rethinking the way medical careers are structured, and the influence of unconscious gender bias within the medical profession.

Rather than a linear career trajectory, the possibility of an 'M-shaped career' (female, professional organisation) was raised by two interviewees. This career structure would support women to enter (or re-enter) leadership roles at an older age if that suited their lifecourse, rather than following a linear career trajectory:

We should be encouraging women who then move… beyond those childrearing years to the last ten or maybe 15 years of their working lives, where they've got a lot of interpersonal skills…I think we should be capitalising on that. (female, professional organisation)

Accordingly, some interviewees suggested that a more explicit focus on gender equity at an institutional level might be a useful strategy.

I don't like the quotas for women idea but I do like the idea that we do insist on diversity in leadership roles such as on boards. And that we don't have all the middle-aged men in suits. (female, professional organisation)

DISCUSSION
Principal findings
Although women in Australia have graduated as doctors at the same rate as men for over a decade, they remain grossly under-represented in leadership roles. This imbalance is evident at every level from the presidency of medical student associations to the governance of professional colleges.

Our interviews with 30 medical leaders identified mixed perspectives about whether or not gender barriers impede the entry of women into medical leadership. A small group of interviewees saw no significant barriers to women achieving these roles. In common

with the findings of previous studies, they justified the absence of women leaders using three main premises: (1) women have not been in the field long enough to have reached leadership (pipeline argument), (2) women do not seek leadership positions for family reasons, and (3) women are less likely to be 'natural' leaders.[20]

The majority of interviewees identified substantial gender barriers to women rising through the ranks. Internalised beliefs about the traits and qualities required of a leader dissuaded some women from actively seeking out leadership roles, unless they received mentoring and support from others. At an interpersonal level, interviewees reported that unconscious biases, sexist microaggressions, and a 'club culture' contributed to a hostile environment for female leaders within some health sector organisations. At a structural level, conservative social norms and androcentric career pathways made it difficult for women to balance the pressures and demands of maternity leave, child-rearing, caregiving and running a household with leadership roles.

Nonetheless, interviewees identified several advantages of medical leadership for women, including work-life balance issues that were not *as bad* as in clinical medicine, the opportunity to influence the future of an organisation, and the chance to be a trailblazer for other women. Interviewees also commented on the benefits of gender equity at an organisational level, with the inclusion of women in leadership roles leading to stronger and more inclusive decisions.

Strengths and weaknesses of the study
Our observations should be viewed in light of the strengths and limitations of this study. Senior leaders can be a hard to reach population for research purposes, due to the demands of their jobs. We were able to include a sample of male and female interviewees involved in a range of different leadership roles across Australia. Previous studies of women and medical leadership have used a survey design.[2] Our use of semistructured interviews enabled a deeper and more nuanced understanding of the barriers to women entering medical leadership roles.

However, the sample size was relatively small (n=30), and the lower representation of women in the relevant roles resulted in fewer women than men being recruited. Furthermore, gender issues were only one component of the wider study from which these data are drawn, rather than its primary focus. Our study also focused on formal leadership roles: we acknowledge that informal leadership also plays a critical role in the health sector. As such, we consider the perspectives set out here to be exploratory, and more detailed work is necessary to further enquire into the issues raised.

Findings in relation to other studies
Our findings add Australian voice to the growing international evidence that gender parity at medical school is

a necessary, but insufficient, step to gender equity within the broader profession.[10 21]

The justifications offered by interviewees for the under-representation of women in leadership roles—it is too soon to see women in these roles, women are too busy with their families, women are not natural leaders—are consistent with those identified in other studies outside of medicine.[22] A reading of the broader literature suggests that the basis for these justifications is thin.

First, with respect to the pipeline argument, women have made up a sizeable proportion of the medical workforce for decades. Yet, as noted by Weinacker and Stapleton,[21] female doctors are still not moving into leadership roles at a rate that reflects their presence in the workforce. This problem is not restricted to medicine. Across industries and professions, we continue to see a preponderance of men in formal positions of authority in organisations, even where the workforce is mostly female.[23] Furthermore, the present under-representation of women in the upper echelons of medical students' societies (which represent future medical practitioners), is not consistent with the claim that the mere passage of time and generations will see gender equity achieved.

Second, the cultural assumption that childrearing and household responsibilities impede women from entering leadership roles is, at least in part, based on discriminatory social norms. The experience of Scandinavian countries with equitable parental leave suggests that 'family reasons' are—at least in part—a structural barrier to women returning to the workforce, rather than an inherent biological one.[24] Similarly, a recent survey of women in paediatrics found that, with strong support for a part-time training pathway, women were well able to remain part of the medical workforce and to progress to senior roles.[2]

For a substantial period of time there has been significant consensus that leadership is not just an inherent 'in-born' trait. Rather, it is strongly influenced by situation, behaviours, contexts and identities.[25] However, the superficial traits that societal stereotypes have long associated with great leaders (eg, being male, white, and tall[26]), are innate. This has fed false assumptions that leadership capability itself, rather than the superficial and stereotyped biological features we unduly associate with it, is 'in-born'.

The internalised, interpersonal and structural gender barriers identified by our interviewees are also familiar in other contexts.[21 27 28] Indeed, some of these barriers may be even greater in healthcare than other industries because it is overshadowed by the centuries-old cultural entrenchment of sharp distinctions between high-status 'men's work' (medicine) and lower-status 'women's work' (nursing).[29]

At an internalised and interpersonal level, medical practitioners have certain expectations around what a leader should look like, and how they should behave.[30] When these expectations meet with gender stereotypes and entrenched gender roles, they contribute to unconscious assumptions that have little to do with the actual knowledge and abilities of individuals. This negatively influences decision-making regarding promotions and appointments to leadership positions.

While we have achieved gender equity among graduates of medical schools, there may still be other bottlenecks in the leadership pipeline—for example, appointment to certain roles such as medical school dean or governing board of a college may require a track record of research, and yet fewer women than men are awarded major health research grants in Australia.[31]

At a broader structural level, responsibilities for child-rearing, care-giving and running a household still disproportionately fall upon women.[18] As a result, women are more likely to choose specialties based on factors relating to lifestyle, working hours, work flexibility and domestic circumstances.[32] These specialties (eg, general practice and public health medicine) also tend to have a less influential presence in large health services compared with male-dominated specialties such as surgery.[32] The problems around non-flexibility and work/life balance are particularly acute for women in hybrid medical leadership roles involving administrative/management duties and clinical duties. In these roles, non-traditional working hours (including long shifts and night shifts), an emphasis on needing to maintain continuity of care, and the often urgent and unpredictable nature of clinical demands, pose additional challenges to the workability of part-time work, job sharing and flexible work hours.

Implications for clinicians, health services and professional associations

A growing body of evidence suggests that women in leadership roles can help improve performance across a variety of domains.[33] Organisations in the health sector miss out when women are under-represented, stunting the pool of talent from which leaders are drawn.

At a superficial level, it is easy to suggest that aspiring female leaders should do more to identify mentors, plan their careers to accommodate both parenting and leadership, and call out sexism when it occurs. However, achieving meaningful change will require us to move beyond 'fixing the women' to a systemic, institutional approach that acknowledges and addresses the impact of unconscious, gender-linked biases.[20]

If these challenges are to be met, then health services need to take action, supported by individuals, professional associations and colleges. Revisiting rigid career structures, providing flexible working hours, offering peer support, and ensuring appropriate development opportunities, may all assist women to enter leadership roles. Recruitment processes should also be broadened to avoid recruitment via informal 'shoulder tapping' of candidates. In addition, dealing with barriers around organisational culture and unconscious bias will help to ensure those applications are considered on merit, without undue influence from gender bias.

Unanswered questions

Future research could usefully focus on identifying and studying organisations with profound gender disparities and strong gender balance. There is also a need for robust evaluations of the effectiveness of different interventions for supporting women into formal and informal medical leadership roles.

The profession, the public and individual women will all benefit when the phenomenal young women entering medicine are able to fully contribute to the leadership of the profession.

REFERENCES

1. Goldin C, Katz LF. *The power of the pill: oral contraceptives and women's career and marriage decisions*. National bureau of economic research, 2000.
2. Allen I. Women doctors and their careers: what now? *BMJ* 2005;331:569.
3. Joyce CM, Stoelwinder JU, McNeil JJ, *et al*. Riding the wave: current and emerging trends in graduates from Australian university medical schools. *Med J Aust* 2007;186:309–12.
4. Department of Health. *Medical training review panel: thirteenth report*. Canberra: Australian Government, 2010.
5. Kay F, Gorman E. Women in the legal profession. *Annu Rev Law Soc Sci* 2008;4:299–332.
6. Flanagan K. Medical Training Review Panel 16th Report. Canberra: Australian Government Department of Health and Ageing, 2013.
7. Pinnington AH, Sandberg J. Lawyers' professional careers: increasing women's inclusion in the partnership of law firms. *Gend Work Organ* 2013;20:616–31.
8. Tomenendal M, Boyoglu C. Gender imbalance in management consulting firms—a story about the costruction and efects of oanizational ientity. *Manag Organ Stud* 2014;1:30.
9. Lewis J. *Academic governance: disciplines and policy*. New York: Routledge, 2013.
10. Nath V, Marx C, Lees P, *et al*. Improving women doctors' ability to achieve their full leadership potential. *BMJ* 2014;349:g7649.
11. Kvaerner KJ, Aasland OG, Botten GS. Female medical leadership: cross sectional study. *BMJ* 1999;318:91–4.
12. Miller K, Clark D. "Knife before wife": an exploratory study of gender and the UK medical profession. *J Health Organ Manag* 2008;22:238–53.
13. Hymowitz C, Schellhardt TD. The glass ceiling: why women can't seem to break the invisible barrier that blocks them from the top jobs. *Wall Street J*, March 24, 1986, 1D-32D.
14. Ackroyd S, Kirkpatrick I, Walker Richard M, *et al*. public management reform in the UK and its consequences for professional organisation: a comparative analysis. *Public Adm* 2007;85:9–26.
15. Dickinson H, Ham C. *Engaging doctors in leadership: review of the literature*. Birmingham, University of Birmingham, 2008.
16. Department of Business IaS. *Women on boards February 2011*. London: Department of Business, Innovation and Skills, 2011.
17. Ham C, Clark J, Spurgeon P, *et al*. Doctors who become chief executives in the NHS: from keen amateurs to skilled professionals. *J R Soc Med* 2011;104:113–19.
18. Australian Bureau of Statistics. Trends in household work, *Australian Social Trends*, March, 2009: 19–24.
19. Dickinson H, Bismark M, Phelps G, *et al*. *Engaging professionals in organisational governance: the case of doctors and their role in the leadership and management of health services*. Melbourne: Melbourne School of Government, 2015.
20. Carnes M, Morrissey C, Geller SE. Women's health and women's leadership in academic medicine: hitting the same glass ceiling? *J Womens Health (Larchmt)* 2008;17:1453–62.
21. Weinacker A, Stapleton RD. Still a man's world, but why? *Crit Care Med* 2013;17:113.
22. Sweetman C. *Women and leadership*. Oxfam, 2000.
23. Smith JA. The role and experience of women chief executives in the National Health Service in England: gendered stories of leadership in difficult times. PhD Thesis, University of Birmingham, 2009.
24. Oláh LS, Bernhardt E. Sweden: combining childbearing and gender equality. *Demogr Res* 2008;19:1105–44.
25. Western S. *Leadership: a critical text*. Sage, 2013.
26. Gladwell M. *Blink: the power of thinking without thinking*. New York: Back Bay Books, 2007.
27. Angell M. Shattering the glass ceiling. *JAMA Intern Med* 2014;174:635–6.
28. Morley L. Lost leaders: women in the global academy. *Higher Educ Res Dev* 2014;33:114–28.
29. Witz A. Patriarchy and professions: the gendered politics of occupational closure. *Sociology* 1990;24:675–90.
30. Peck E, Freeman T, Six P, *et al*. Performing leadership: towards a new research agenda in leadership studies?. *Leadership* 2009;5:25–40.
31. NHMRC. *2014 NHMRC funding outcomes by gender for each scheme*. Canberra: National Health and Medical Research Council, 2014.
32. Harris MG, Gavel PH, Young JR. Factors influencing the choice of specialty of Australian medical graduates. *Med J Aust* 2005;183:295–300.
33. Adams RB, Ferreira D. Women in the boardroom and their impact on governance and performance. *J Financ Econ* 2009;94:291–309.
34. Workplace Gender Equality Agency. Gender diversity by industry spreadsheet, Canberra: Australian Government, 2014.