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Patient safety and the ageing physician: a qualitative study of key stakeholder attitudes and experiences

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ABSTRACT

Background Unprecedented numbers of physicians are practicing past age 65. Unlike other safety-conscious industries, such as aviation, medicine lacks robust systems to ensure late-career physician (LCP) competence while promoting career longevity.

Objective To describe the attitudes of key stakeholders about the oversight of LCPs and principles that might shape policy development.

Design Thematic content analysis of interviews and focus groups.

Participants 40 representatives of stakeholder groups including state medical board leaders, institutional chief medical officers, senior physicians (>65 years old), patient advocates (patients or family members in advocacy roles), nurses and junior physicians. Participants represented a balanced sample from all US regions, surgical and non-surgical specialties, and both academic and non-academic institutions.

Results Stakeholders describe lax professional self-regulation of LCPs and believe this represents an important unsolved challenge. Patient safety and attention to physician well-being emerged as key organising principles for policy development. Stakeholders believe that healthcare institutions rather than state or certifying boards should lead implementation of policies related to LCPs, yet expressed concerns about resistance by physicians and the ability of institutions to address politically complex medical staff challenges. Respondents recommended a coaching and professional development framework, with environmental changes, to maximise safety and career longevity of physicians as they age.

Conclusions Key stakeholders express a desire for wider adoption of LCP standards, but foresee significant culture change and practical challenges ahead. Participants recommended that institutions lead this work, with support from regulatory stakeholders that endorse standards and create frameworks for policy adoption.

INTRODUCTION

The number and proportion of physicians practising beyond the traditional age of retirement continues to rise in many industrialised countries.¹ In the

USA, over 240 000 physicians 65 years or older remained in practice in 2015, representing approximately a quarter of licensed physicians.² Although physicians' extended careers may alleviate workforce shortages and preserve access to their valuable clinical experience, the increasing age of the medical workforce has stimulated questions about how best to ensure the safety of care delivered by late career physicians (LCPs).^{3–4} The effects of ageing vary significantly between individual physicians, yet population studies consistently show age-related declines in cognitive and sensory abilities, as well as decreased knowledge currency and adherence to standards of care, that may begin after mid-career.^{5–8} Studies of the relationship between physician age and clinical outcomes suggest higher mortality for patients of elderly physicians, particularly among physicians with reduced practice volumes.^{9–11} Despite the safety implications of this literature, the USA and other countries lack systems to specifically assess and oversee the practice of LCPs.

Recognising the need for further guidance on this topic, the American College of Surgeons and American Medical Association have recently issued proposals urging individual physicians to undergo physical examinations at age 65 and to acknowledge and respond to the effects of ageing.¹² However, some safety experts have questioned whether the paradigm of unguided professional self-regulation effectively assures patient safety.¹³ Despite physicians' commitments to the concept of professionalism, data suggest physicians do not reliably self-report or report unsafe colleagues.^{14 15} Without new approaches, uncertainty about knowing

when to retire and how to approach colleagues whose skills have declined due to age will continue to challenge the medical profession.

Other safety-conscious industries, such as aviation, have explicit policies about retirement age.^{16 17} However, those policies required special congressional exemption from age discrimination statutes that govern most industries, including healthcare. Outside the USA, a few medical regulatory agencies have organised or proposed age-based competency reviews. For example, the Colleges of Physicians and Surgeons of Manitoba and Ontario, Canada conduct peer assessments by chart review at age 75 and 70, respectively, and every 5 years thereafter.^{18 19} In late 2017, the Medical Board of Australia proposed requiring physicians to undergo peer review and health checks at age 70 and every 3 years thereafter.²⁰ The outcomes of those efforts remain incompletely studied.

A small number of US medical centres have established policies for mandatory assessment of LCPs, eliciting controversy among physician employees and criticism from legal experts.^{21 22} As healthcare leaders explore how to systematically assess the competency of senior physicians, they are encountering challenging unanswered questions regarding the ethical, clinical and behavioural norms that should guide such efforts.²³ What is the appropriate balance of self-regulation versus public assurance? What factors lead stakeholders to evaluate the LCP policies of healthcare institutions as just and reasonable? These questions take on particular urgency as rapid changes in the practice environment buffet physicians.²⁴ Accelerating shifts in technology, electronic records, payment systems, generational attitudes and employment models shape an increasingly unfamiliar practice environment and may create low morale and a sense of loss of control for LCPs.²⁵ Questions about the oversight of LCPs arise against a backdrop of a broader debate about the roles of continuous quality improvement, maintenance of certification and professional regulation of physician competence regardless of age.²⁶ This context may influence how physicians respond to new LCP policies.

Debates about the best way forward lack information about the attitudes and experiences of key stakeholders, such as patients, LCPs, state regulators and healthcare leaders. To better understand these issues, we conducted a series of 26 key informant interviews and two focus groups. Our specific research questions were (1) what are the ethical principles that appear to drive stakeholder thinking about oversight of the ageing physicians? (2) what are stakeholder attitudes about current approaches to ageing physicians? (3) what realistic policy alternatives do stakeholders believe might lead to improvement?

Table 1 Characteristics of 40 participants of key informant interviews and focus groups

Age	Mean years (SD)	59.3 (10.4)
Gender (% , n)	Female	42.5% (17)
	Male	57.5% (23)
Professional role (% , n)	Medical director	30% (12)
	Patient advocate	25% (10)
	Senior physician	20% (8)
	State medical board member	15% (6)
	Nurse	5% (2)
	Junior physician	5% (2)
Credentials (% , n)	MD/DO	55% (22)
	Masters (eg, MBA, MEd, MSPH)	15% (6)
	PhD/EdD	12.5% (5)
	JD	7.5% (3)
	BSN	5% (2)
US region (% , n) (key informants only)	East	23.1% (6)
	South	23.1% (6)
	Midwest	26.9% (7)
	West	23.1% (6)

METHODS

We conducted 60 min interviews with 26 purposively sampled key informants representing a geographically balanced cohort from the following stakeholder groups: state medical board leaders, institutional chief medical officers (CMOs), senior physicians (>65 years old) and patient advocates (patients or family members in advocacy roles). We also conducted two in-person, 90 min focus groups. We purposively recruited eight participants per group, including one nurse, two patient advocates, two CMOs, one medical board leader, one junior physician (<5 years in independent practice) and one senior physician. The University of Washington Institutional Review Board approved the study. [Table 1](#) presents participant characteristics.

Details about the content, conduct and analysis of the interviews and focus groups are available in the online supplementary appendix titled 'Detailed Study Methods'. In brief, experienced qualitative researchers led data acquisition and analysed transcripts through a thematic content analysis framework, coding the presence of each theme and quotations exemplifying these themes using Atlas.ti (Berlin, Germany).

RESULTS

Presentation of age-related impairment

In respondents' experience, age-related impairment becomes manifest through physical, cognitive and behavioural changes that can lead to adverse clinical outcomes, poor peer reviews and patient complaints. Respondents reported ageing caused reduced stamina, diminished dexterity, tremor, an outdated knowledge base, memory impairment and slow processing speed. Behavioural signs included failure to adapt to new systems, oversimplified heuristic reasoning and limited

engagement with work. Ageing was also believed to amplify and ossify natural character traits, including flexibility and willingness to work in teams; physicians who embrace life-long learning, teamwork and coaching were thought to weather change and ageing more successfully. Participants also identified several benefits associated with physician ageing, including wisdom, satisfaction derived from long-term relationships, and accumulated contributions to the field.

Compared with other issues that impair physician performance, such as substance abuse, respondents distinguished ageing as more likely to be gradual, progressive and irreversible. Although chronological age is a risk factor for age-related impairment, all participants agreed that the effects of ageing are highly variable and that age is an inaccurate measure of competence.

There were surgeons who fell asleep during operations; there were surgeons who had to be helped back to their office by residents; there were surgeons that became slovenly in hygiene and appearance, and on the other hand there were surgeons who still at age eighty were still operating and excellent (Senior Physician, Participant 8).

Informants stated that many physicians appropriately limit or quit practice, but an important minority do not, and practise beyond a safe retirement age.

Consensus emerged that physicians lacking self-awareness, in denial about the effects of ageing or missing an identity outside of work might persist in practice despite age-related deterioration.

...when they're doctors to that age in their life, they don't know who they are outside of being a doctor. So, any self-assessment is going to carry that bias, that, you know, I've always been the smartest person in the room; I'm still the smartest person in the room, I'm fine (Medical Board Leader, Participant 21).

Additionally, the culture of healthcare can facilitate unsafe practice when colleagues, nurses, and patients have difficulty speaking up about colleagues' incompetence.

...they are often well enmeshed in a system that serves to believe them and potentially allow them to appear more highly functioning than they are, and those individuals are reluctant to point out an individual's shortcomings (Health Institution Leader, Participant 9).

For employees, dependence on the impaired physician for work may create a conflict of interest, and employers may tend towards inappropriate leniency out of deference to long-term employees.

...it's a really difficult situation to feel that you're adequately honouring the individual's contributions over the decades of their career, yet facilitating a graceful and dignified either modification or withdrawal. It's very challenging and our mistakes

have been to lean to one side or the other and not find that perfect balance (Health Institution Leader, Participant 9).

Medical board leaders and CMOs reported particular difficulty identifying subtle impairment and unsafe physicians in low-risk or solo practice. Nonetheless, almost all informants shared stories of severely impaired elderly physicians, as experienced in the participants' role of patient, colleague or supervisor.

Overall, most respondents agreed that the oversight of LCPs represents an important and difficult problem, one that is a 'quiet challenge' (Patient Advocate, Participant 16) for health institution leaders. A few questioned the scope of the problem, yet many stakeholders from all groups stated that the oversight of LCPs receives inadequate attention and that improved guidelines and approaches are needed.

I'd like to see sort of a universal acknowledgment that it's an issue—I think that there are factions of the regulatory environment and... the healthcare community that recognise that it's an issue, but it's not something that's openly discussed. I think there is a lot of tiptoeing around the issue (Medical Board Leader, Participant 21).

Current approaches to assessment and oversight

Participants described rare healthcare institutions with LCP policies, but believed most institutions lack a systematic approach to monitoring senior physicians.

So, it seems to be an issue that we discuss off and on and honestly, we have not come to a clear plan for how to address it at our institution (Health Institution Leader, Participant 6).

Respondents expressed a belief that hospital-based credentialing sometimes detects poorly performing LCPs, but is an insensitive measure of performance.

We're doing assessments of all of our medical staff and gathering information that we can, but realistically it is challenging for—we have nine hundred medical staff and to get good information on every last one of them that gives a realistic picture of performance is a challenge (Health Institution Leader, Focus group 2, Participant 1).

Another health institution leader described the inadequacy of screening systems.

I've had instincts about people at my hospital and when I've looked into it I can't put my finger on anything that they've specifically done or not done; I've just had the feeling this person is reaching a time where it could be unsafe and then something's gone off, and then I say you know I wish I'd had a way of dealing with this earlier (Participant 20).

Respondents reported that the main barrier to LCP policies is lack of acceptance by physicians, but also

mentioned resource constraints, such as the lack of funding for cognitive testing within institutions and the absence of organisations prepared and funded to oversee self-employed LCPs. Components of physicians' resistance include a spirit of individualism, dislike of regulation and the lack of a culture of feedback.

Doctors are tired of being regulated by somebody else; they become doctors because they like to be individuals and masters of their own fate and their own practice, and that they just inherently don't like to be regulated (Senior Physician, Participant 8).

Some leaders saw general efforts to improve quality and peer review as non-controversial alternatives to policies for LCPs.

When reviewing a case where the physician's age has been raised as a concern, respondents expressed a belief that patient safety should be the primary principle organising the response. Fairness arose as another important factor; experienced case reviewers sought to evaluate adverse events without considering the physician's age, focusing on the standard of care and using the physician's historical performance as a benchmark. However, respondents also felt pressure to acknowledge the goodwill accumulated by senior employees and uncertainty about peer reviewers' ability to determine whether ageing contributed to the adverse outcome, promoting hesitancy to invoke age-related decline.

Respondents described a conversation between a departmental leader or chief medical officer and the LCP as an important, yet complicated, step after an episode of substandard care occurred.

I think that the first step should be really an individual one-on-one conversation with the surgeon and an informal conversation to discuss the situation and it may be that the surgeon himself has the same concerns as everyone else, but is not—hasn't really had a reason to, or doesn't want to vocalise them and it may be that an agreeable solution could be arrived just by having a conversation with the physician (Health Institution Leader, Participant 9).

Institutional leaders anticipated varied reactions to these one-on-one discussions from senior physicians, including grief, anger and denial. These conversations inform decisions about restricting or rescinding privileges, and often are initiated in hopes that the physician would voluntarily retire to avoid contentious administrative actions.

In most hospitals around the country the way that situation is handled is the chief of surgery has a meeting with that surgeon and either suggests or compels retirement or cutting back and the meeting doesn't go well and the older surgeon stands up and says a few expletives and storms out; that happens all the time. It's a very difficult problem for hospital presidents, vice presidents of medical affairs and

chiefs of departments to deal with (Senior Physician, Participant 8).

Physician responses to a hypothetical case mirrored this general approach, whereas patient stakeholders generally indicated they would seek care elsewhere rather than raising their concerns with the doctor or trying to verify the physician's competency.

After finding age-related skill decline, some described self-awareness as the 'litmus test' for considering limited practice rather than withdrawal of privileges. Most informants believed institutions should accommodate appropriate opportunities for limited practice, although others stated the progressive nature of ageing precluded keeping impaired physicians in clinical practice.

Role of patients and the public

Respondents believed that healthcare institutions do not currently invite feedback from patients specifically about the competency of senior physicians. Patients often have important insights, yet often remain silent out of fear of retaliation, loyalty to a familiar physician or a belief that elderly physicians are already assessed for fitness to practice. As stated by two patient advocates in a focus group:

(Group 2, Participant 3): I think patients feel the same way (as nurses). So, if they make a complaint the doctor is going to talk to the next doctor and then—yeah, they'll be blacklisted.

(Participant 2): System wise blacklisted.

Instead, patients quietly leave the practice of LCPs they do not trust. Patient advocates urged including patient stakeholders in the creation of LCP policies to impart legitimacy with the public.

To ensure some sort of legitimacy for the public, have a patient and family voice in that process somehow, whether it's developing what the parameters are or some sort of greater stakeholders than beyond just the medical and healthcare community; I think that would be helpful from a sort of public relation standpoint... I think there is a fear that sometimes the medical community really, whether it's true or not and I don't think it's true, wants to just protect their own (Patient Advocate, Focus group 2, Participant 2).

Respondents agreed that the public expects the profession to ensure safe care, regardless of the physician's age.

I think basically that the public's expectation is, I walk into a hospital or I walk into a clinic I will not be harmed in my visit (Patient advocate, Participant 2).

They also agreed the public assumes that elderly physicians' performance is already monitored and that those who remain in practice are doing so safely.

The lay public thinks you're already taking care of the problem, so I think it would come as a surprise to

a lot of them that this is something that hasn't been addressed (Participant 16).

Respondents believed the public was unaware of safety risks related to elderly physicians, but generally understands little about how physicians are regulated.

Policy development

Respondents stated that the priorities guiding institutional LCP policies should be patient safety first, followed by respect for physician well-being, privacy and dignity. They recommended supporting practice longevity whenever possible and restricting privileges gracefully while acknowledging past service. Respondents encouraged policies that are clear, evidence-based, validated, supported by national guidelines, fair and consistent. They believed that assessments should be objective, periodic and longitudinal to detect meaningful changes. Competing concerns included doubts that current performance tests assess physicians effectively or economically. Some worried that LCP policies would trigger age discrimination lawsuits and premature retirements, exacerbating physician workforce shortages.

Respondents recommended an array of testing approaches, including cognitive and vision tests, simulation testing, and peer, staff and patient reviews. No consensus emerged about an effective strategy, although most respondents reported some degree of external assessment would be required to avoid bias and conflicts of interest. The large majority agreed that any assessment system would be ineffective unless mandatory. As one health institution leader said, "if we're going to do it, as much as it pains me to say it, I think it has to be mandatory" (Participant 6). A few proposed voluntary assessments as a temporary bridge to mandatory programme. Self-assessment was deemed ineffective in its current uncoordinated form, yet some suggested confidential, standardised self-assessments as a non-threatening way for individuals to appraise their functioning. Stakeholders universally rejected a mandatory retirement age.

Respondents anticipated physicians would oppose mandatory late career testing and encouraged culture changes to increase acceptance of periodic testing. For example, testing should be framed around both patient and physician health, analogous to required tuberculosis screening. Also, testing should be paired with retirement planning resources, start in early career and be applied across all age groups, as is done in aviation. Respondents comparing oversight of seniors in medicine and aviation believed that autonomy and self-regulation were top priorities in medical culture, preventing the creation of strict external oversight, whereas pilots had embraced assessment as part of a safety culture.

Role of medical boards and transparency

Most respondents believed that healthcare institutions should lead the oversight of LCPs, reasoning that hospitals and clinics possess more information about physicians than medical boards and can best contextualise doctors' practice history and outcomes.

The care sites, hospitals, or physicians' organisations have the ultimate responsibility for the quality of care of patients. So, if we're talking about quality of care issues that definitely has to be handled by either the medical staff or an employer (Health Institution Leader, Participant 12).

Physician participants unanimously agreed that healthcare institutions were the appropriate locus of control for oversight of LCPs and saw this institutional role as a component of functioning as a self-regulating profession and consistent with existing regulatory obligations to maximise patient safety. State board leaders also reported they lack the resources to take on a campaign to oversee ageing physicians. Stakeholders agreed that regulatory and institutional stakeholders should collaborate to be most effective.

However, participants raised concerns about allowing the healthcare institutions to lead oversight systems. Disadvantages of this approach include exclusion of physicians in solo practice, ineffectiveness at facilities without routine and direct peer observation, undesirable policy variability between institutions, and susceptibility to conflicts of interest and local politics.

I'm sure it would raise a lot of resistance because the docs are so used to regulating themselves and policing themselves. But I think—I don't see an independent medical staff of a particular hospital necessarily being able to pull that off with a vote from their members because they're fairly self-protective (Health Institution Leader, Participant 12).

Unlike physicians, patient advocates broadly believed that more external oversight was required to avoid bias, conflict of interest and inconsistency.

I probably think an outside organisation because I'm not sure if we can all be that honest about our frailties as we get older (Patient Advocate, Participant 16). You know aviation is different too just because they have a culture that they're supposed to report errors and are continuously learning. Healthcare has not totally reached that point yet (Patient advocate, Participant 11).

While most physicians did not embrace direct LCP oversight by government agencies, some welcomed a role for government or other agencies (eg, The Joint Commission) in creating general expectations for ageing physician policies that hospitals would execute.

The State could say you have to have these elements of a programme in place and do some sort of auditing

of that, and I think that would be the role of the State, not to do the actual (Senior Physician, Focus group 1, Participant 4).

Most respondents recommended balancing public transparency of assessment programme with physician privacy and dignity. Consensus emerged around adequate transparency to ensure an effective process at the health system level, without sharing personal details of physician performance metrics. As one patient advocate reported, “knowing the system existed, I think, would be enough” (Focus Group 2, Participant 3).

Adapting the environment for career longevity

Respondents described forms of limited practice and practice environment reforms to facilitate career longevity. Limited practice roles included administration, teaching, consulting, a narrowed scope of practice and caseloads with low risk or volume gradually reduced from the physician’s historical baseline. For example, a surgeon with declining stamina, but intact cognitive and communication skills, could successfully assume a leadership role. Multiple respondents reported that practice limitations are a common, healthy and successful adaptation that already occurs informally.

I think you would find that the self-aware physician has been accommodating very successfully in thousands and thousands of instances... I can work with almost anybody who has or at least is willing to... consider you know proctors, mentors and the reviews of their colleagues. If they have no self-awareness, generally at that point then we just cut the tie (Health Institution Leader, Participant 3).

However, some opposed accommodations either generally or in specific circumstances: some personalities are ill-suited for leadership, incompetent physicians should not teach, and a narrow scope of practice might bore and disengage physicians.

Once you decide that something is off you don’t know when the next thing is going to be off or when other things are off that you don’t know about yet. So, I think there is very little room for reduced or simplified service (Health Institution Leader, Participant 20).

No consensus emerged about the appropriate way to reimburse physicians with low clinical activity; many older physicians expressed that payment should not decrease out of recognition for seniority, whereas most respondents believed that funds did not exist to support this approach.

Respondents believed that the practice environment can be remade to facilitate the safe practice of ageing physicians through physical environment changes (eg, non-slip surfaces, lighting), programme to support practice (assistive personnel such as scribes, partnerships between junior and senior physicians)

and adaptations to the electronic medical record to improve usability. In one focus group, an extended discussion emerged around the need to develop a culture and system of coaching throughout a physician’s career to maximise performance and a graceful and timely retirement. Participants envisioned peer coaches, rather than supervisors, who would conduct clinical shadowing to detect substandard performance, including age-related decline in practice. Creating a coaching programme might positively frame oversight around continuous life-long improvement and growth, rather than a punitive focus.

Everybody needs coaching and if it’s approached that way it’s very different than saying ‘oh you’ve crossed the threshold and now you have to have coaching but nobody else does’ (Health Institution Leader, Focus group 1, Participant 4).

Barriers to enacting a lifelong coaching programme included resources, developing a receptive culture, and limited access for small or solo practices.

DISCUSSION

Our findings highlight the challenges that the medical profession faces around assessing and responding to clinicians who might be experiencing an age-related decline in competence. Broadly, the themes that emerged from our research align with existing empiric literature on the effects of ageing, and highlight the need to organise LCP policies around the dual goals of patient safety and physician wellness. We add new evidence documenting that healthcare institutional leaders struggle to manage the oversight of ageing physicians and desire greater attention and new tools focused on this problem.

Our participants, representing diverse stakeholder groups, believed that healthcare institutions should lead the implementation of LCP policies, but acknowledged few institutions currently do so, and identified important challenges institutions would face related to variability in policy design, conflicts of interest, LCP acceptance and effectiveness. Although institutional responsibility for LCP oversight would not apply to the entire physician workforce, the steady migration of doctors from physician-owned practices to large employers highlights the salience of institutional leadership on LCP issues.²⁷ Our US-based participants’ preference that institutions lead the way may partly reflect an American cultural bias that local solutions are preferable to external intervention by state boards or other regulators; this assumption may not be shared in other countries.

This work uncovered a variety of policy challenges and implementation barriers that institutions may face to creating robust LCP oversight policies. Participants in the policy development process should include patient advocates, senior physicians and legal experts to ensure that model policies have public legitimacy,

physician acceptability and a low likelihood of inviting legal challenges. In addition, healthcare institutions should formulate action plans for cultural changes around the LCP issue. Emerging models of faculty retirement planning programme at academic medical centres highlight the need for a multipronged, multi-year strategy to overcome cultural barriers to physicians' engaging with retirement and succession.²⁸ Non-academic hospitals with few employed physicians may require different approaches to succession planning that emphasise late career professional development and coordination between institutions and individuals to maintain clinical programme.

Respondents unanimously asserted that patient safety should be the key driver of LCP policies and were equally adamant that current LCP approaches often fail to put patient safety first. For example, a strategy narrowly organised around identifying and removing underperforming LCPs may meet strong resistance. LCP policy-makers might learn from experience with other patient safety challenges. In initiatives directed at hand-washing, error disclosure and speaking up about unsafe conditions, self-regulation alone fails to deliver reliable patient safety outcomes. Instead, successful safety leaders developed a mix of policy, environmental and cultural changes to drive improvement, suggesting that a similar multifaceted approach, informed by behavioural economics and systems science, should be developed for LCP oversight.

Respondents described the current oversight of LCPs as reactive and hesitant, and thought that moving towards a proactive model will require affordable, reliable, and acceptable assessment and feedback processes for physicians as they age. Organising feedback around a longitudinal coaching model could help LCPs to maintain high performance through a framework designed for clinicians of all ages, although this proposed mechanism for assessment and remediation remains untested beyond high-profile anecdotes.²⁹ As patients increasingly speak up about other safety issues in healthcare, more work is also needed to clarify how patient feedback can optimise LCP performance.

Respondents struggled to reach consensus about an optimal testing regimen, suggesting that certifying boards and accreditors should devote resources to refining and standardising assessment methods. Sensitive early signals of LCP impairment would be especially helpful to institutional leaders. Such measures could include robust networks of performance sensors, such as team and hospital engagement behaviours or enhancements to the ongoing professional practice evaluation (OPPE) already required by The Joint Commission. OPPE and physician credentialing offer a framework for health institutions to detect impairment; however, the health institutional leaders among our participants did not believe these existing mechanisms were sufficient. Study is needed to understand

how to close gaps in these systems. For example, additional surveillance data on LCP performance could be harvested from patient safety systems and malpractice insurers, such as patient complaints,³⁰ adverse event rates and malpractice claims.

Our participants provided multiple suggestions regarding how LCPs could be supported within institutions through enhancements to physical plant, electronic health records and support staff. Participants also noted that while some physical and cognitive changes associated with ageing may be irreversible, others are modifiable through coaching or other forms of education. Rather than focusing solely on identifying those LCPs who are no longer able to practise medicine safely, LCP assessments should incorporate measurement of teachable behaviours and attitudes, such as teamwork, that could extend physicians' careers.

As with many qualitative studies, generalisability of our findings may be limited. We invited stakeholders from many backgrounds, but may not have captured all relevant viewpoints. All of the participants came from the USA, which may limit the study's usefulness in countries with different regulatory approaches. Our data do not provide quantitative support for the solutions proposed by participants, nor are they grounded in a legal framework for employer oversight of ageing employees.

CONCLUSIONS

Clinicians and healthcare system leaders struggle to determine the right time to change or end practice as physicians age. Wider adoption of LCP policies could address this challenge, but significant policy development and culture change lie ahead. Healthcare institutions have an opportunity to take the lead in addressing this emerging patient safety problem, redesigning care settings and clinical processes to provide fair, supportive environments for individual physicians. Regulatory stakeholders could support healthcare institutions by endorsing standards and testing approaches, developing clearinghouses for best practices and creating frameworks for policy adoption that encourage widespread participation. Future research should focus on developing programme and assessment methods that can be disseminated to diverse healthcare organisations. Patients and the public assume that effective programme for tracking physicians' competence as they age are already in place. The medical profession needs to step up and turn this expectation into a reality.

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