comment

"Workforce problems are the biggest threat to service sustainability" **DAVID OLIVER**
"I have no desire to hand over all of my minor illness work" **HELEN SALISBURY**
PLUS Californian fires remind us of air pollution dangers; inclusion in medical schools

WOUNDED HEALER Clare Gerada

Dissecting doctors' resilience

The traditional structures that have helped doctors prepare themselves psychologically for a career in medicine are changing rapidly or disappearing altogether.

I started medical school more than 40 years ago. In my first week I joined my first medical group—for dissection. The groups were allocated alphabetically, and mine was made up of students with surnames beginning with E-K. For the next two years we met over the cadaver for three hours a day, four days a week.

Decades later we still meet, though usually without a dead body in sight. We've become lifelong friends and borne witness to each other's personal and professional milestones along the way. We learnt anatomy together, but our work group provided so much more than just learning. Our discussions over the dissecting table helped us through the important first steps in becoming a doctor, preparing us for that vital transition from layperson to health professional.

Once qualified, we had plenty of new opportunities to form strong attachments with other medical professionals. These ranged from our training groups to our close knit medical firms, doctors' messes, dining rooms, and general practice partnerships.

These groups served a purpose. As well as helping us learn the skills required for the job, they provided support during difficult times. They also helped us to develop coping mechanisms to sustain us in a life spent so close to suffering.

Put simply, in those informal spaces we developed the psychological resilience required for a career in medicine, particularly the unconscious defences we needed in order to distance ourselves from the patients we cared for.

Many factors are contributing to the rise of mental illness in doctors. And many of these are external—for example, the lack of resources to do the job expected of us, the industrialisation of our craft, and the constant cycle of reorganisation.

Closer to home and day to day, the present structures within medicine where doctors can come together to train, work, play, and reflect together have been reduced or removed completely, and some have been moved to the sterile virtual world.

The lack of those informal spaces threatens our ability to build the resilience we need to work. I'm not suggesting that we reintroduce learning dissection to help fill the gap. But, if we expect doctors to survive a lifetime in medicine, we must bring back the opportunities for them to be together without the threat of inspection, regulation, or monitoring.

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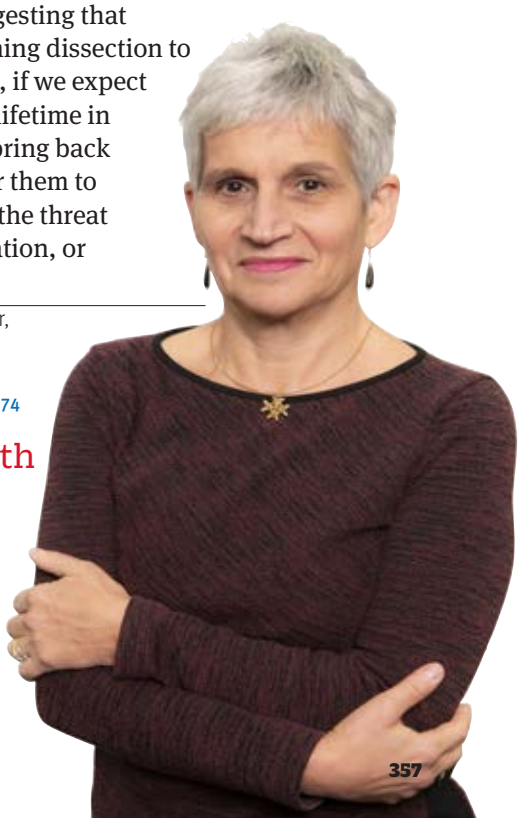
Discussions with peers helped us through the important first steps in becoming a doctor



PERSONAL VIEW Eleni Linos and colleagues

Californian wildfires should help focus minds on global air pollution

Doctors in the US state who have experienced the effects of smoke inhalation need to add their voices to the campaign to improve the environment for 91% of the world's people

I am convinced clinic room three is smokier than clinic room two. Although I have a respirator mask in my bag, I don't wear it because it feels hypocritical to try to protect myself if I can't give a mask to the patient in front of me. So I just hold my breath when I go into room three.

This is the first time I have ever felt simultaneously worried about my own health, the health of my patients, and the safety of my children—whose school has just closed because the air outside is too dangerous to breathe.

This was the experience of one of the authors (EL), but illustrates what many healthcare professionals across California have been dealing with for the past few weeks. Wildfires continue to devastate the state, leaving more than 80 people dead, 1000 missing, and thousands displaced. Millions more are affected by the smoke, as the region becomes the most polluted in the world.

Air pollution is defined as the presence of a substance in the air that can cause harmful effects, and is measured by the air quality index (AQI). An AQI of 0 to 50 is considered healthy air, while 151 to 200 is unhealthy for all. Ranges above 300 are hazardous. The AQI reached as high as 271 in San Francisco on Friday—the city's worst recorded air quality.

Air pollution, including from wildfire smoke, has an immediate and long term impact on health. The immediate symptoms include wheezing, coughing, eye irritation, asthma exacerbation, and severe respiratory distress. Children, older adults, and those with pre-existing respiratory disease are particularly at risk. Air pollution also contributes to stroke, heart disease, lung cancer, COPD and acute respiratory infections.

In addition, wild fires can have a significant impact on mortality. For example, smoke from the 2017 Chilean fires caused 76 premature deaths, and around 340 000 deaths each year are estimated to be from landscape fire smoke.

Short term exposure

This increase in mortality can be significant even from short term exposure. A systematic review and meta-analysis of 108 studies examining short term exposure (a few days) to high levels of air pollution found strong evidence of increased mortality and admissions among the elderly and a higher risk of death per 10 $\mu g/m^3$ rise in particulate matter. This review found evidence that suggested that women and those with lower socioeconomic status may be at higher risk of death following short term exposure.

Our community's reaction to the polluted air has been mixed. Many scrambled to find indoor air purifiers and respirator masks—both of which sold out online and in stores within a day. Many families left the area, driving to the mountains or flying out of the state. As doctors and health professionals, we were prepared for the rise in emergency department visits, especially among the elderly, yet we have been largely unprepared to give advice or support to patients without the luxury to leave or avoid being outdoors.

"At least we don't live in Beijing," one friend said. Another commented, "the air is always like this in India." These statements point out our privilege as Californians—our air quality is expected to improve in a matter of days, and stay healthy long term. This is not true for the vast majority of people around the world.

According to the World Health Organization, 91% of the world's population live in areas with unhealthy air, and an estimated 4.2 million premature deaths occur each year because of air pollution. Low and middle income countries are significantly more affected, and air quality disparities continue to grow. The air quality reached levels over the past week that many found unbearable, but these levels are a daily reality for many communities. Inequalities persist within the US, with people of colour and those

COMMENT Scott Wilkes

Studying medicine has been for the privileged, but that's got to change

Scott Wilkes is head of the University of Sunderland's School of Medicine, which will begin teaching its first students in 2019

The creation of 1500 medical school places by Jeremy Hunt, the former health secretary, has the potential to be one of the most important decisions made in medical education. This is not simply because the UK desperately needs more doctors—which, undoubtedly, it does—it's because these places were created with a focus on widening participation.

As doctors, we are not representative of the population we serve. Around 80% of applicants to medical school come from just 20% of the UK's schools, most of those being independent or grammar schools. Fewer than 4% of medical students come from the north east of England, where I work, and a high proportion of schools in the area have never sent a student to study medicine.

Remedying this is not just a question of "doing the right thing," it's critical for our profession. We need doctors who can tap into the needs of the population they serve because they've been in the same place at some point in their lives. And it's also about distribution. Some of the country's more disadvantaged areas have a shortage of doctors, particularly GPs. Doctors tend to work where they train or where they were bought up, so drawing applicants from a less restricted pool will help tackle this problem.

Of course, some people worry that wider participation means weakening the high entry standards that have meant only the "brightest and best" are able to become doctors. But this completely misunderstands both the

BOB STRONG/REUTERS

Smoke from the blaze around the city of Paradise caused many to suffer respiratory problems

with lower socioeconomic status exposed to the highest levels of particulate matter.

Systemic solutions

As climate change leaves communities increasingly vulnerable to drought, fire, and resulting air quality emergencies, health professionals can't simply treat acute exposures or recommend masks and air filters. The urgency to find systemic solutions to poor air quality is clear.

Doctors can lend their voices and credibility to broader environmental movements, including tackling short lived climate pollutants which contribute to poor air quality and climate change.

California is already a leader on climate policy and, maybe, the fires' silver lining is that demand will grow for stronger measures to protect air here and across the globe. For those health professionals who have had to balance their health with patients' and families' health, let's join the fight for a healthier environment for all.

I felt worried about my own health, the health of my patients, and the safety of my children

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current situation and what's needed to change it.

Yes, medics are usually triple A students across the sciences and we don't want that to change. But the application process doesn't ensure places are awarded on merit alone. Because competition is fierce, medical schools have always used other admission metrics. All of these—personal statement, work experience, entrance exams—can be exploited by those with greater social and economic advantage.

Triple A students exist in the schools that have never sent a pupil to study medicine. We just need to work harder to get more of these to do science A levels, and then persuade them to choose medicine. And, finally, we need to use more nuanced metrics to identify which applicants will make the best doctors, regardless of their circumstances.

We'll have to wait a while to see change filter through to the workforce. It's going to be a slow process, but one that's long overdue.

ACUTE PERSPECTIVE David Oliver

Top healthcare words of 2018

The *Collins English Dictionary*'s top 10 words of 2018 included "plogging" (picking up litter while jogging), "VAR" (video assistant referee), and "floss" (a dance craze). So here's my top words of the year for UK health services. I've doubtless missed some, so please do post rapid responses or tweet your suggestions.

Plan: It was good to see, for the first time in NHS history, a draft workforce plan (technically, a "strategy") from Health Education England. It has its imperfections, but at least it's a plan. And we're eagerly expecting the launch of NHS England's 10 year plan. Again, not everyone will be happy with its details, but a shift towards medium term plans beats short term, politically driven cycles.

Workforce: To my mind, and that of major think tanks, healthcare workforce problems are the biggest threat to service sustainability. One in 11 medical posts is unfilled, as is one in nine nursing posts. In a survey, NHS senior managers recognised workforce gaps as their biggest challenge. And NHS Providers has set out some urgent solutions. My campaigning slogan for 2019 should be: "It's not a plan without a workforce plan."

Person centred: "Multimorbidity" and "frailty" feature prominently as healthcare becomes increasingly about people who have many problems rather than just one disease. Yet the experiences of patients and families show that person centred care is still far from the norm. Despite a culture in social care that has long valued personalisation, severe cuts mean that people with needs—and, crucially, their carers—are increasingly denied support. Person centred care is a key plank of the10 year plan, and a social care green paper is in preparation. I'm hoping they contain good news.

AI: Matt Hancock, England's health secretary, threw his zeal behind digital technology and artificial intelligence. AI featured in his recent vision for prevention, as well as in the department's digital vision for healthcare and NHS England's digital strategy. It's too early to predict how transformative technology will be, and independent empirical evidence on its adoption is way behind the euphoric speculation.

Winter: A veteran star word along with its cousin "winter pressures" but "year round" is creeping up. "Waits" or "delays" feature here too: in emergency departments, in elective operations or procedures, and in community services.

We have national good practice guidance from NHS leadership. But structural problems around low bed capacity, under-resourced primary and community services, rising demand, and public attraction to acute care will take years to solve.

And No 1 is ... There can be only one winner and, sadly, it was also top in 2016 and 2017: Brexit. Until it's resolved the entire machinery of government will be preoccupied—and, once done, its impact on the NHS and research will be profound.

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Independent empirical evidence about AI is way behind the euphoric speculation

PRIMARY COLOUR Helen Salisbury

What should GPs stop doing?

Many GPs routinely work 12 hour days, and we still end up having to come in on days off to catch up. There simply aren't enough GPs to do the work being asked of us, and there's still no evidence of a magic GP tree.

Way back in 2014, Jeremy Hunt, the then health secretary, promised us an extra 5000 GPs by 2020, but we've learnt not to raise our hopes. In June this year, figures from NHS Digital revealed that we now have 1400 fewer full time equivalent GPs than when that target was set.

Some commentators suggest that much of what GPs do is quite simple and could be delegated to other, less expensive staff. But what exactly should we be handing over?

Being a good family doctor is like being a good parent: you don't form strong bonds by being there just for the special moments and the "quality time." Rather, these are built through the mundane and the everyday, the nappy changes and the school run, so that you have a chance of helping when teenage angst sets in. The same is true of old fashioned family practice. If you've come to know your patient with their odd rash, infective gastroenteritis, and self limiting back pain, it's a little easier for you, and for them, when red flag symptoms appear and the future is uncertain.

So, although I'm delighted that expert specialist nurses run our long term condition clinics, I have no desire to hand over all of my minor illness work. The minor is often entangled with the serious anyway, and many of my patients arrive with more than one problem. I'm likely to discuss tinnitus, an ankle sprain, and a change in bowel habit all in one 12 minute consultation, as well as doing a quick medication review.

Instead, I'd like a pharmacist to do those medication reviews more thoroughly, handle repeat prescriptions, and adjust medications after admissions. I'd like a small army of admin staff to do all of my referrals (last week it took me 49 mouse clicks and six free textboxes to request a podiatry appointment), to chase results, read the incoming mail, and answer endless requests for information.

Perhaps what each GP needs is an assistant—not an independently practising physician's assistant but someone to delegate to, so that we can focus on our patients. One size doesn't fit all, and in some settings minor illness nurses are just what the doctor ordered: in a neighbouring practice of mine with a very high student population, this system works well.

In general practice we're lucky to have the autonomy to employ a variety of staff who fit our patients' needs. We just need the resources to do it.

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Being a good family doctor is like being a good parent: you don't form strong bonds by being there just for the special moments and the quality time

NEW BMJ PODCASTS

Carers need a voice in the NHS

"I first became a carer—although I wouldn't have labelled myself that—when I was 17 when my mum had her first bout of cancer. I remember that being an extremely stressful and worrying time and we certainly didn't have any support other than ourselves and immediate friends."

Christine Morgan, independent chair of the Greater Manchester Carers Strategic Group, explains her mission to bring the needs of carers into planning for the NHS

How cancer drug trials report harms

"During trials we should ask all participants to answer yes or no to the question, Do you think that the toxicities are acceptable?' But we're not doing that. Only patients can determine whether the toxicities were tolerable or not. It seems to be a bit paternalistic to label these subjective terms and claim that the toxicities were favourable when in fact patients are suffering from serious side effects."

Oncologist Bishal Gyawali describes how the terms acceptable, manageable, feasible, favourable, tolerable, and safe are used to give "a false impression" of the adverse effects of cancer drugs

Talk evidence: Vitamin D

"I—particularly as a general practitioner—have had lots of guidance to say vitamin D is the choice to reduce fractures and falls in the elderly. Well, this systematic review of 81 trials says you can keep your money—and as a practitioner I would say this quality systematic review says don't recommend vitamin D supplements."

Carl Heneghan, professor of evidence based medicine at the University of Oxford, joins *The BMJ*'s Duncan Jarvies and Helen Macdonald for a new kind of BMJ podcast. It will focus each month on what's been happening in the world of evidence and what you should start or stop doing. In the first of the series, they discuss vitamin D

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Rethinking the relationship between organisational culture and quality care

Russell Mannion and **Huw Davies** on how institutional codes relate to performance, quality, and safety

If we believe the headlines, health services are suffering epidemics of cultural shortcomings. Extensive enquiries into failures and scandals in the NHS over several decades have indicated aspects of hospital culture as leading to those failings (box 1).[1 2] The recent report into more than 450 premature deaths at Gosport War Memorial Hospital mentions culture 21 times.[3] After such reports, widespread and fundamental change is typically prescribed as the remedy (box 1).[4 5]

Ideas of culture are also central to quality improvement methods. From basic clinical audit to sustained improvement "collaboratives," business process re-engineering, and Lean Six Sigma, the need for cultural reorientation is part of the challenge.[6]

Yet although the language of organisational culture—sometimes culprit, sometimes remedy, and always part of the substrate at which change is directed—has some appeal, we should ask deeper questions. What actually is culture in health services? How does culture relate to quality, safety, and performance? And can changing culture lead to improvements in care and organisational performance?

Greater specificity around both culture and performance enables us to understand more precisely the possible relations between them: quality improvement work is ill served by broadbrush accounts of culture and service quality. We seek to move past the use of culture as simply a rhetorical tool used by politicians and in policy edicts. Instead, we outline a more nuanced account of the social dynamics of healthcare services.

Box 1 | Culture in healthcare scandals: from Kennedy to Francis

From Ian Kennedy's review of the failings in paediatric cardiac surgery in Bristol during the 1980s and '90s[2] to Robert Francis's inquiry into the systemic failings at Mid Staffordshire Hospital Trust over a decade later,[1] culture has been implicated.

Culture as culprit

"There was an insular 'club' culture [at Bristol], in which it was difficult for anyone to stand out, to press for change, or to raise questions and concerns"[2]

"Aspects of a negative culture have emerged at all levels of the NHS system. These include: a lack of consideration of risks to patients, defensiveness, looking inwards not outwards, secrecy, misplaced assumptions of trust, acceptance of poor standards, and, above all, a failure to put the patient first in everything done"[1]

Culture as remedy

"The culture of healthcare, which so critically affects all other aspects of the service which patients receive, must develop and change"[2]

"The extent of the failure of the system shown in this inquiry's report suggests that a fundamental culture change is needed"[1]

What is culture in this context?

Healthcare organisational culture (from here, just culture) is a metaphor for some of the softer, less visible, aspects of services and how these become manifest in patterns of care. The study of organisational practices derives from social anthropologists' approaches to the study of indigenous people: both seek to unravel the dynamics of "tribes." The view that culture can be managed to remedy past deficits and produce desirable outcomes is often smuggled in through this re-application of the ideas of culture to organisations. This view needs some critical scrutiny,[5] one that explores a more nuanced account of organisational culture in healthcare.

In one common framing,[7] the shared aspects of organisational life—the culture—are categorised as three (increasingly obscured) layers (box 2). First, and most visible, are the physical artefacts and arrangements, as well as the associated behaviours that get things done. These visible manifestations are seen in how estate, equipment, and staff are used and configured, and in the range of behaviours seen as acceptable, sometimes referred to as "the way things are done around here."

The second level is the shared ways of thinking that are used to justify the visible manifestations (box 2). This includes the beliefs, values, and arguments used to sustain patterns of clinical practice. In this way, the local clinical culture is expressed not only through what is done, but also how it is talked about and justified.

KEY MESSAGES

- Organisational culture represents the shared ways of thinking, feeling, and behaving in healthcare
- Healthcare organisations are best viewed as comprising multiple subcultures, which may be driving forces for change or may undermine quality improvement initiatives
- A growing body of evidence links cultures and quality, but we need a more nuanced and sophisticated understandings of cultural dynamics
- Although culture is often identified as the primary culprit in scandals, with cultural reform required to remedy failings, such simplistic diagnoses and prescriptions lack depth and specificity

Students of organisational practices and social anthropologists both seek to unravel the dynamics of "tribes"

Box 2 | Three levels of organisational culture in healthcare[7 8]

Visible manifestations The distribution of services and roles (such as the long established divides between secondary and primary care and between health and social care), the physical layouts of facilities (receptionists behind desks and doctors in consulting rooms), the established pathways through care (including the ubiquitous outpatients appointment), demarcation between staff groups (and the tussles that challenge or reinforce these), staffing practices and reporting arrangements, dress codes (such as different coloured scrubs for different staff groups in emergency departments), reward systems (pay and pensions, but also the less tangible rewards of autonomy and respect), and the rituals and ceremonies that support approved practices. Visible manifestations of culture (sometimes called artefacts) also include the established ways (both formal and informal) of tackling quality improvement and patient safety, the management of risk, and the accepted ways of responding to staff concerns and patient feedback or complaints.

Shared ways of thinking The values and beliefs used to justify and sustain visible manifestations and their associated behaviours, as well as the rationales for doing things differently. This might include prevailing views on patient needs, autonomy, and dignity; ideas about evidence for action; and expectations about safety, quality, clinical performance, and service improvement.

Deeper shared assumptions The (largely unconscious and unexamined) underpinnings of day-to-day practice. These might include ideas about professional roles and delineations; expectations about patients' and carers' knowledge and dispositions; and assumptions about the relative power of healthcare professionals—collectively and individually—in the health system.

Box 3 | Patient safety culture assessment tools

Safety Attitude Questionnaire (SAQ) A major (quantitative) assessment tool developed in the US and widely used in the NHS to help organisations assess their safety culture and track changes. The SAQ is a reworking and refinement of a similar tool widely used in the aviation industry. There are various versions, but they typically comprise around 60 survey items, in the form of five point Likert scales, in six safety related domains: safety climate; team work; stress recognition; perceptions of management; working conditions; and job satisfaction. Completed by individuals, scores are aggregated to indicate the overall strength of the organisation's extant safety culture.

Manchester Patient Safety Framework A facilitative (qualitative) educational tool. It explores nine dimensions of patient safety and describes what an organisation would look like at different levels of patient safety. Assessment is carried out in facilitator-led workshops, and the assessments can be used to prompt reflections, stimulate discussions, and understand strengths and weaknesses.

Deeper still, and thus much less overt and accessible, are the largely unspoken and often unconscious presuppositions that underpin both dialogue and clinical practice (shared assumptions; box 2). Such attitudes may be formed early, go deep, and be less amenable to modification.

These three levels are linked, of course, but not simply. Some of the deeper values and assumptions are taught in early professional education (the so-called hidden curriculum), reinforced through professional interactions, and then made visible as accepted practices. Other cultural manifestations are created or shaped externally, perhaps by the macro policy environment (for example, service configurations or reward systems), but over time these can influence shared ways of thinking and even deeper assumptions (about who or what is valued, for example). As healthcare becomes more global, with regular movement of staff across national borders, major shapers of the cultural aspects may also include national, ethnic, or religious cultures.

Organisational culture, then, covers how things are arranged and accomplished, as well as how they are talked about and justified. Taken together these can reflect a shared and commonly understood view of hospital life manifested in patterns of care, safety, and risk. Although we focus on the hospital environment here, these arrangements and narratives are found (albeit in different forms) across all healthcare organisations from general practices to community trusts. Those wishing and situated to improve services need a sophisticated understanding of the social dynamics and shared mental schema that underpin and reinforce practices and inform their readiness to change.

An important additional layer of complexity is that shared mental schema may be confined to subgroups within care services, with important implications for patient experience and service delivery.

One culture or many subcultures?

Healthcare organisations are notoriously varied, fractured by specialty, occupations, professional hierarchies, and service lines. Some cultural attributes might be widespread and stable, whereas others may be shared only in subgroups or held only tentatively. Important subcultures are delineated most obviously, as professional groups, and the faultlines are most obvious as these groups compete for resources and status.[9] Other subcultures can emerge. Some groupings may excel at articulating and enacting desirable values and practices, which may be helpful to organisational goals; for example, specialist teams or centres of excellence. Less helpfully perhaps, other subgroups may work to undermine changes promoted from external sources (often construed as countercultures). Whether such countercultures reflect unwarranted resistance to change or a more appropriate defence of enduring values may be hard to discern and depends on perspective and context.

Two of the major professional groupings concerned with quality improvement—doctors and managers—may differ in several important ways, for example. Doctors may focus on patients as individuals rather than groups and view evidence through a positivist natural sciences lens. Managers may be more concerned with patients as groups and value a social science based experiential perspective.[10] These cultural divergences have important implications for collaborative work, especially for people in hybrid roles who may either retain an allegiance to their base group or seek to adopt the cultural orientations of their new role. They also form an important target for purposeful cultural reform, which might sometimes seek to strengthen trends or at other times to inhibit them.

In sum, specific subcultures may be powerful catalysts for innovation and improvement or defenders of the status quo (for good or ill); they can be useful safeguards against risk or covert countercultures undermining necessary reforms. Making sense of this diversity should be an essential part of any cultural "diagnosis" in seeking quality improvement.

Can culture be assessed and managed?

There are two distinctive views of culture. The first is optimistic about

the potential for purposive cultural management, seeing culture as something that an organisation has—an attribute that can be assessed and manipulated to improve care. The second view is more concerned with securing insights about organisational dynamics, without focusing on whether they can be manipulated. It sees organisational culture as something the organisation simply is—an account of local dynamics not readily separable from the organisational here-and-now.

These two perspectives take us down different routes of assessing and managing healthcare cultures. The first emphasises the use of metrics to assess the prevalent culture around a performance domain, such as patient safety. This approach assumes that a strong "safety culture" is associated with better outcomes for patients. Such measures may identify targets for managed change, and repeated measurement may be used to gauge progress against cultural objectives, with the hope that improvements in care will follow (for example, the Safety Attitude Questionnaire; box 3). Many such tools exist to assess different aspects of culture, although the science behind them is often weak[11] and their reliability and validity are questionable.[12]

The second view seeks to explore cultural dynamics, often working through dialogue and perhaps using images and narratives rather than measurement instruments. This view is more modest about the potential for manager-led change but may still see cultural assessment as part of an overall influencing strategy (for example, the Manchester Patient Safety Framework; box 3).

Although both perspectives draw on assessment tools, they do so for different reasons: the first emphasising quantitative measurement to identify targets for change and to track progress (a summative approach); the second using qualitative insights more discursively to prompt reflection, learning, and shared actions (a more formative strategy).

In practice, many researchers, organisational leaders, and quality improvement specialists will seek insights from across these approaches, despite the (at times uncomfortable) accommodations needed between their divergent assumptions.

Does culture matter?

It seems obvious that the shared, cultural aspects of organisational life must have some bearing on outcomes. Yet because of the complexity of healthcare cultures and the ambiguity around service "success," establishing such links through research is not easy.[13] Nonetheless, the most recent systematic review of work in this area found a "consistently positive association . . . between culture and outcomes across multiple studies, settings, and countries."[14] So, culture does seem to matter. Individual studies can also offer important actionable insights, such as on the importance of leadership, the need for balanced cultures, and on the contingent nature of the relationships between culture and performance.

Clearly, the relations between culture and quality, safety, or efficiency are unlikely to be straightforward. Culture, although important, offers no "magic bullet"—the challenge becomes one of understanding which components of culture might influence which aspects of performance.

Moreover, any relations between culture and health service outcomes are likely to be mutual and recursive: that is, perceived performance is as likely to shape local healthcare cultures as culture is to shape performance. Virtuous circles of high performance leading to reinforcing cultures of high expectations may be seen, as can spirals into decline where perceived performance failings lead to demoralisation and resignation to those poor standards.[20]

In these arguments, we can see how narrative practices about performance can have important effects on cultures and that this has implications for clinician leaders, managers, and policy makers in how they talk about and manage performance and improvement.

Conclusions

Acknowledging that culture is a complex construct can allow more judicious application of the concept. Paying greater attention to the multilayered and multifaceted complexity underlying the term—and recognising that many cultural subgroups make up healthcare—opens new avenues for understanding the deeply social and discursive nature of complex organisations.

The challenge is understanding which cultural components might influence which aspects of performance

How these insights are used in quality improvement depends on both other conceptual framings of the healthcare setting, the aspect of service quality or performance to be improved, and on the precise nature of the quality improvement methods to be used.[6] For some framings and improvement methods, culture is key; for others, cultural aspects are in the background. Our view is that the cultural dimensions of organisations are an important substrate on which improvement focused change is being sought and that, although never fully manageable, cultures can be better understood and must be purposefully shaped.

Finally, the cultural framing of healthcare draws attention to specific aspects of organisational life: the shared patterns of feeling, thinking, talking, and accomplishing that underpin local practice. In doing so, other important aspects of organisational life may be marginalised or neglected, such as individual skill, attitude, and responsibility; governance and performance management arrangements; the macro structural arrangements within which service lines are embedded; the incentives spread across the system; and the availability of material resources, human capital, and knowledge.

Each of these aspects interacts with and can sometimes overwhelm cultural features, with a resultant effect on the ability to shape and improve culture and services. The choice to focus improvement efforts on culture to the exclusion of, say, policy frameworks or resource constraints, inevitably has political ramifications, and these should be dealt with rather than ignored. Cultural reform in healthcare is no substitute for adequate resourcing. That said, the cultural perspective outlined here provides an insightful way of thinking and a practical set of tools to support wider quality improvement work.

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CANNABIS BASED DRUGS

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All GPs and primary care staff in NHS Scotland have free access to all the digital library subscription resources provided by NHS Education for Scotland. These include point of care evidence summary services, full text journals, books, and a range of databases available through The Knowledge Network. NHS librarians in each health board and the national clinical enquiry and response service, CLEAR, can help answer questions. For more information contact knowledge@nes.scot.nhs.uk

Annette E Thain, librarian, NHS Education for Scotland

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DOMESTIC VIOLENCE

Threats to doctor-patient confidentiality

Sokol is right to be concerned about confidentiality (Ethics Man, 20 October). The situation is even more complex than he suggests.

Regarding domestic violence, I regularly receive multi-agency risk assessment conference reports with instructions to put extracts in the notes of the victim and children. Health visitors and others do likewise. Multiple references to the same incident containing third party information are recorded. Access to records is easier than previously: a computer has several users outside the general practice, and a breach of confidentiality can occur inadvertently. Additionally, misplaced words or punctuation can alter meaning, even implying the opposite of that intended. Situations where both partners are violent cause more confusion. I was recently sent a report that said: "Victim has sent numerous malicious messages to victim."

The doctor in Sokol's piece was in a difficult position. GMC guidance emphasises the importance of confidentiality and trust in the doctor-patient relationship yet counsels caution in any delay to information sharing where children are at risk.

These conflicting duties are difficult to navigate. NHS staff are held responsible for their actions yet are powerless if things go wrong. This sense of responsibility without power causes stress, particularly when the reporting of serious case reviews blames the professionals, not the perpetrator.

At numerous tutorials on safeguarding I have been told that nobody is ever criticised for sharing information, only for not sharing. Sokol's piece is a good illustration of how that statement is sometimes wrong.

James W Gerrard, GP, Leeds

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LETTER OF THE WEEK

Finding facts on cannabis

Hamilton recommends that GPs consult Google Scholar and ask colleagues if they are unsure about prescribing cannabis (News Analysis, 20 October). We write to remind readers in England they have 24/7 access to reliable sources of evidence to inform clinical decisions.

NICE's evidence search provides access to authoritative evidence on health, social care, and public health. It focuses on synthesised secondary evidence, including content from more than 800 sources. Information and knowledge specialists at NICE add good quality systematic reviews. This service is openly available to everyone in the UK and includes reviews on the use of cannabis in treatment of epilepsy, neuropathic pain, and HIV/AIDS, and asthma.

Healthcare staff in England can access a vital, core collection of healthcare databases and full text journals for no charge at https://hdas.nice.org.uk. They simply need an NHS OpenAthens account.

NHS funded librarians and knowledge specialists are skilled in helping find information and search for evidence. They can offer summarised evidence searches and help teams keep up-to-date.

Health is a knowledge industry. We encourage practices to contact their local healthcare library. Health Education England is committed to work with NHS organisations to ensure all staff can access knowledge and benefit from librarians' expertise. We know that only a third of clinical commissioning groups currently have such arrangements in place. For advice contact your regional Health Education England library lead.

Marion Spring, associate director, NICE; Helen Bingham, head, Knowledge Services and Technology Enhanced Learning; Sue Lacey Bryant, senior adviser, Knowledge for Healthcare, Health Education England

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Confidentiality has limits in domestic abuse cases

I disagree with Sokol that Mary's case did not reach the threshold to break confidentiality. I think the GP did the right thing in referring this case to children's social care.

If there was any failure on the GP's part, it was promising confidentiality in a domestic abuse case—which should never be done—and in failing to assess Mary's risk of homicide, using the CAADA-DASH (coordinated action against domestic abuse-domestic abuse, stalking, and honour based violence) risk checklist.

Neither was I totally convinced the children were asleep nor in any danger. I assume they were in another room, but how can anyone be sure they were asleep and in no danger? A third of children who witness domestic violence are estimated to also experience another form of abuse.

In the UK domestic abuse accounts for 32% of violent crimes, with an average of two women being killed by their partner or former partner every week in England and Wales. Children living with domestic violence are at increased risk of experiencing emotional, physical, and sexual abuse, developing emotional and behavioural problems, and have increased exposure to other life adversities.

To protect children from abuse and neglect, cases of domestic abuse that involve them should be referred to children's social care. When a doctor consults with a patient about domestic abuse, they must clarify the limits of confidentiality if something is disclosed that needs to be acted upon. Doctors must also assess the patient's risk of homicide and, if high, refer to the police.

Jeremy C Gibson, GP, Derby

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ILLICIT DRUG USE

The complex impact on patients of funding cuts

Bedford Russell bravely told us of her son's sudden death from heroin (Personal View, 13 October). I support her calls for decriminalisation of use, better access to integrated mental health services, and a health based government strategy for care.

In England and Wales, heroin and morphine related mortality more than doubled between 2011 and 2015, from 10.3 to 21.3 per million, and in 2017 was still 20.5. Many reasons have been proposed.

Drug service targets prioritise "recovery" (planned discharge with no return to treatment within six months), often leaving people most at risk—those who have lost opiate tolerance and relapsed—

unable to access services.

Austerity has also affected people's access to stabilising factors: housing, education, work, and benefits. The "commercial" commissioning environment combined with huge cuts to government town hall grants—not ring fenced—has led to major reductions in many areas. This has often put an end to NHS provision, whether in mental health or GP shared care, even for those with complex needs. The numbers of NHS addiction psychiatrists has plummeted, and almost none are in training.

Support towards recovery does, of course, need to be much broader than health. But problem drug and alcohol users are often self medicating for mental health problems. They need an approach that recognises these mental health issues and that suicide risk is high, and which allows speedy access to psychological and psychiatric support.

Anna E Livingstone, GP, London

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LIFESTYLE MEDICINE

We must keep informed to best serve our patients

I was one of the first cohort of doctors to sit the lifestyle medicine examination in Edinburgh earlier this year (Chronic Disease, 27 October).

Although lifestyle and nutrition is listed as the initial step in guideline algorithms, it receives, at best, lip service. Part of the reason is that doctors are unaware of the profound benefits achievable with lifestyle changes, and part of this unawareness stems from the guidelines lagging behind the literature.

This is an ethical problem for the profession. We should not be leaving motivated patients at the mercy of the internet and we should not abandon less motivated patients because we do not think they will make changes. I hope all doctors—but first and foremost, GPs—will regard the field of lifestyle medicine as a natural extension of our advice about smoking.

Miriam Maisel, GP, Dumfries

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Integrate the knowledge across all specialties

Sayburn's article echoes recent findings published in the *Lancet*. The leading causes of "estimated years of life lost" are commonly associated with lifestyle factors. Thus, lifestyle medicine must be integrated into all specialties rather than forming one of its own.

Heart attacks and strokes are set to "surge in the next 20 years" owing to rising obesity, often associated with type 2 diabetes. Despite the increased number of medications available, the burden of disease is not declining.

McCartney says that "advising citizens and patients about evidence based alterations to diet or exercise to prevent and treat disease has been part of the medical curriculum for decades." In my experience it has barely been covered beyond the words "advise patient on a healthy lifestyle." Students should be taught the techniques to enable patients to understand how they could benefit from the change.

Judy Havinga, medical student, Birmingham

Cite this as: *BMJ* 2018;363:k4973

Helping to care for and empower patients

I strongly advocate implementing lifestyle medicine into curriculums because behaviours shape future communities.

Advising patients to modify simple behaviours through basic steps is beneficial for self management and empowerment. Patient centred self management

can be financially beneficial in the long term because chronic condition outcomes improve and hospital visits are reduced.

In 2017, students in Bristol set up Nutritank Society, which promotes nutrition and lifestyle medicine. Its demand soared and now exists in 15 medical schools nationwide. Diseases are managed through treating the cause. Becoming aware and advocating lifestyle medicine aim instead to prevent the cause by tackling the root of the problem.

Denise Lin, medical student, London

Cite this as: *BMJ* 2018;363:k4975

PREGABALIN AND GABAPENTIN

Need for international classification changes

Mayor notes that the UK will reclassify pregabalin and gabapentin—gabapentinoids—as class C controlled substances in April 2019 (This Week, 27 October). This change is owing, in part, to the increased rate of death associated with gabapentinoid misuse.

In the US, pregabalin was classified as a schedule V controlled substance, and gabapentin was approved as a non-schedule medication, despite having similar pharmacological properties. Recent international findings indicate that misuse of gabapentin in concert with opioids is a substantial threat to public health. There is an immediate need for international harmonisation of the classification of gabapentin as a controlled substance.

We call for hastened re-evaluation of gabapentin in the US and for a programmatic pharmacovigilance protocol at the federal level. By mandating the incorporation of gabapentin into prescription drug monitoring programmes in the US, we could potentially mitigate the known levels of gabapentin misuse that may be adversely affecting the opioid epidemic.

Alyssa M Peckham, assistant professor, Boston; David A Sclar, professor, Glendale

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Drug's link to depression and suicidal ideation

Abuse of pregabalin and gabapentin for their euphoric effects may only be part of the story. Pregabalin has also been associated with suicidal ideation. In a small case series, approximately 10% of patients recently started on pregabalin developed depression or suicidal ideation, or both, which improved on cessation or dose reduction. Monitoring for depression after starting treatment and dose increases may also help to reduce the death toll.

Michelle A King, senior lecturer, Queensland

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ALCOHOL

A drug that interacts with prescribed medication

The notion of alcohol as a drug doesn't sit comfortably with the industry's marketing strategy (Editor's Choice, 20 October). But it doubtless should be regarded as such in light of its widespread use and multiple effects on individual and population health.

A further reason for overtly labelling alcohol as a drug is missing from this discussion. In addition to its direct effects on human physiology, alcohol has kinetic and dynamic interactions with many other drugs. These interactions are one of the reasons why problem drinkers require careful assessment of prescribed medication.

Because alcohol often fails to be considered as a concomitant drug, these interactions—some of which can be life threatening—tend to be inadequately recognised, reported, and managed. Calling a spade a spade, and alcohol a drug, will strengthen product warnings and the role of pharmacovigilance in protecting health.

David B Menkes, academic psychiatrist, Hamilton, New Zealand

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OBITUARY

Upendra Devkota

Nepal's first neurosurgeon

Upendra Devkota (b 1953; q 1977; FRCS Glas, FRCS Edin (ad hominem), FCSHK, FNAMS), died from cholangiocarcinoma on 18 June 2018

On the morning of 25 April 2015 Nepal was hit by an earthquake measuring 7.8 on the Richter scale, causing the deaths of nearly 9000 people. It was typical of Upendra Devkota that within hours he was able to care for hundreds of people in the grounds of his hospital, giving food and shelter for weeks. The area around his birthplace of Gorka was particularly affected, but within days he had organised a health camp.

Early life and career

Upendra was born into a poor family in the remote area of Gorka, where his father was an Ayurvedic physician. One of six children, he was educated at a new missionary school to which he often returned in later life. There were no roads or electricity. He was always proud of his origins and the fact that, as a good Brahmin, he was required to learn Sanskrit.

He won a scholarship to study medicine at Assam Medical College. After qualifying he returned to Bir Hospital—the main government hospital in Kathmandu—and came under the influence of DN Gongal, a general surgeon of the old school, who quickly realised this courageous young doctor had the potential to become Nepal's first neurosurgeon.

Upendra arrived in Glasgow—at the time making waves in British neurosurgery—to train under Graham Teasdale and Sam Galbraith (later minister for health for Scotland). He next moved to Atkinson Morley Hospital (later St George's), again at an exciting time; as a result of a collaboration between Nobel prize winning engineer Godfrey Hounsfield and the neuroradiologist Jamie Ambrose, the world's first brain scanner had recently been installed.

Upendra modelled his own practice on that of his Scottish mentors, always planning to return to Nepal and to DN Gongal.

Back at Bir Hospital, he took over an entire floor of what had become a shabby building. At weekends he and his local friends redecorated the wards, and equipment was often donated by his neurosurgery friends in the UK. A computed tomography scanner was promised by the government but stayed in storage for months owing to "lack of payment." Upendra published this fact in the local paper, and in days the scanner was out, up, and running.

Upendra was innovative. He employed a local metalsmith to make spinal stabilising prostheses. Burr holes were filled with bone from the patient's skull after being ground up in an autoclaved coffee grinder. A visiting neurosurgeon suggested that a patient with a giant internal carotid aneurysm might be operated on with the aid of hypothermic protection; this entailed a trip to the fish market for blocks of ice.

Upendra hosted two south Asia neurosurgical conferences at Bir Hospital.

Politics and state of the art hospital

In 2002, the King of Nepal appointed Upendra minister of health, science, and technology, although he continued working at the Bir, day and night, on call. He often said that he saved more lives by passing a law enforcing the wearing of motorcycle helmets than in neurosurgery itself.

It soon became clear that the government hospital wasn't allowing for modern neurosurgery, so Upendra bought some marshy land near his house on the outskirts of Kathmandu, and set up the National Institute of Neurological and Allied Sciences. He and his wife, Madhu (a professor in public health), modelled it on the Glasgow set-up. It was soon the cleanest and most efficient hospital in Nepal, and the only purpose built neuroscience institute. Visitors were astonished when they saw 100 beds and a superb intensive care unit. It was appropriately opened by Graham Teasdale and a small group of specially invited British neurosurgeons.

Upendra often said he saved more lives by passing a law enforcing motorcycle helmets than in neurosurgery

Upendra asked for a report on the status of his patients every night, and there is daily counselling for the relatives of patients in the intensive care unit. The unit is now 12 years old and has become famous throughout Nepal. Upendra's car was often recognised and stopped by patients waving an x ray, wanting advice.

He and his wife were always delightful hosts in their beautiful house and garden. Parties were usually attended by guests from the British embassy, along with visiting neurosurgeons, but horticultural talk was commonplace. Upendra took great pleasure in growing rice in paddies adjacent to his house. He often presented to the British Neurosurgical Society or supported accompanying registrars from Nepal.

Upendra Devkota leaves Madhu, who will direct the hospital, and three daughters.

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