

# The hidden curriculum: requiem for a surgical dream

Chris Brown,<sup>1</sup> Richard John Egan,<sup>2</sup> Wyn Lewis<sup>3</sup>

## INTRODUCTION

Curricula are complex, dynamic and represent the foundation of educational programmes. Yet, no accord exists regarding definition, content is under constant revision, with repetitive iterations a pervasive threat. Curriculum derives from the Latin verb *currere* 'to run or proceed', and the first educational reference appeared in the *Professio Regia*, by University of Paris' Professor Petrus Ramus, published posthumously in 1576,<sup>1</sup> and by the 19th century, European Universities routinely referred to curricula when describing course content. The Oxford English Dictionary definition is 'subjects comprising a course of study in a school', and components may comprise: explicit (taught subjects and competencies in a defined mission); implicit (lessons arising from school culture); hidden (not automatically negative); excluded and extra-curricular (augmented academic aspects).

Hidden curricula are a consequence of education. Ethical, moral and value-based lessons, learnt without explicit intention, because of profound cultural and social bias. Originally referred to in primary and secondary education, research into hidden curricula refers to knowledge gained with characteristically negative meaning, such as reinforcement of existing difference. The drive towards evidence-based medical practice, and improved patient outcomes, subjects clinicians to vibrant targets. Omnipresent undercurrents, not formally part of established programmes, filter through the working environment, are often subtle, but nevertheless visible, sometimes powerful, gender biased and risk discrimination. In many respects, hidden curricula can be more material than any syllabus, with lessons long remembered because of consistent daily reinforcement.

<sup>1</sup>General Surgery, Wales Post Graduate Medical and Dental Education Deanery School of Surgery, Cardiff, UK  
<sup>2</sup>General Surgery, Wales Post Graduate Medical and Dental Education Deanery School of Surgery, Cardiff, UK  
<sup>3</sup>General Surgery, Wales Post Graduate Medical and Dental Education Deanery School of Surgery, Cardiff, UK

**Correspondence to** Dr Chris Brown, Wales Post Graduate Medical and Dental Education Deanery School of Surgery, Cardiff CF14 4XW, UK; [chrisbrown87@doctors.org.uk](mailto:chrisbrown87@doctors.org.uk)

Modern National Health Service (NHS) hospitals are volatile; working climates can be hostile, with high-risk profiles, especially so with regard to unscheduled emergency work, where adverse events are inherent to the job description. Driven by a time-bound, target-focused managerial culture, criticism can be disproportionate and unjust. Rather than the airline industry 'black-box thinking', where adverse events are viewed as learning opportunities, pointing to improvement, toxic blame cultures can result in crumbling morale. Leadership styles are mostly transactional and rarely transformational, largely focusing on 'keeping the ship afloat' through short-sighted reward driven goals rather than inspirational example directed motivation, intellectual stimulation to inspire and empower. Moreover, progressive measures to deliver better clinical outcomes, curriculum demands intensive on-call rotas (with frequent gaps), Sisyphean goals and dwindling resource, produce work-related emotional stress, which risks patient welfare with important economic implications.

## BURNOUT

Emotional exhaustion, depersonalisation and a diminished sense of accomplishment are now recognised as a syndrome termed burnout, increasingly recognised with symptoms akin to acute stress reaction and post-traumatic stress disorder. In the UK, as many as two-thirds of junior doctors allegedly report damaged physical or mental health because of intense NHS burdens.<sup>2</sup> Social relationships suffer, and such stress has been reported to increase the risk of ischaemic heart disease, stroke, substance abuse, absenteeism, divorce, depression and suicide.<sup>3</sup> Shanafelt *et al* reported that almost 1 in 10 US surgeons (9%) self-reported major medical errors, and burnout was shown to be an independent predictor of error reporting.<sup>4</sup> *Respondeat Superior* states that an employer may be held legally responsible for unlawful employee acts within their employment scope, which in medical doctrine can result in liability for negligence. Thiels *et al* reported a 10-year US experience of 87 malpractice cases involving surgical

trainees. Sixty-seven cases (77%) resulted in death or permanent disability, and most involved elective surgery (70%) with a named junior resident as defendant in 69%. Junior residents were involved primarily with lawsuits related to medical decision-making (21 of 24 (87%)). A total of 42 cases (48%) resulted in a jury verdict or settlement in favour of the plaintiff, with a median payout of US\$900 000 (range, US\$1852 to US\$32 million). In addition to the high settlement figures, the prolonged duration from incident to closure (median 4 years) likely profoundly affected the trainees at their career start, highlighting the importance of perioperative management, and appropriate supervision as a target for litigation prevention education, notwithstanding the benefits to the healthcare system, and most importantly the patient.<sup>5</sup> To err is human and mistakes are not the sole preserve of junior doctors, but befall senior doctors, and indeed the full spectrum of the multi-disciplinary workforce. Proactive, team-based approaches to develop strategies for early stress identification and countermeasures including resilience training should be the focus.

## SLEEP DEPRIVATION

Nothing declares first world economy status more than round the clock access to essential services. Markets driven by banking and commerce have little regard for traditional working hours, nowhere more so than healthcare, currently in particular focus given the push and promise of 7-day universal services for all. Sleeping at night is no longer the default option, and many decide that to permit other pursuits, they can survive with less sleep; but at what cost? A litany of disasters with global reach has been blamed on sleep deprivation; the nuclear accidents at Three Mile Island in 1979 and at Chernobyl in 1986, each took place at night and involved serious judgement errors by tired operators. When the Space Shuttle exploded in 1986, killing all aboard, the National Aeronautics and Space Administration launch authorisation managers who sanctioned take-off, despite poor weather, had little sleep the previous night. On a more everyday level, road traffic accidents more likely involve sleepy drivers, and the US National Commission on Sleep Disorders reported that driver fatigue contributed to over half of all vehicle accidents. Moreover, even if sleep deprivation does not result in death or injury, clinical studies report that it sways performance severely, which

ought to worry the chief of every sleep sick employee.<sup>6</sup>

The European Working Time Directive (EWTd) is legislation enshrined in UK law as the Working Time Regulations 1998, and came into force in the UK in 2009. This provided a number of protections, and it is clearly self-evident that where doctors are well rested and alert, thanks to improved work–life balance, the risk to their own safety, both on and off duty, is also reduced. Yet, conversely, these rulings have created time pressures in relation to working hours and in combination with increasingly demanding competency goals, frequently mean that explicit curriculum work is undertaken in an extracurricular manner, both during antisocial hours, and by working on EWTd mandated rest days, often unrecognised, consciously or subconsciously, under-resourced and without appropriate remuneration. Evidence for the association between burnout and sleep is increasingly prevalent. Sleep deprivation is a recognised safety hazard in 24/7 industries, impairing executive function, visual-spatial perception and psychomotor skill. The reduction in performance following 24 hours' sleep deprivation has been equated to the effect of a 0.1% blood alcohol concentration with a significant deterioration observed in subjects' visual and spatial memory, reaction times, concentration and decision-making; a finding that would reprimand a physician as unfit to assume clinical duty.<sup>7</sup> Moreover, a recent survey of trainee anaesthetists by the Association of Anaesthetists of Great Britain and Ireland reported that 84% of responding trainees felt they were too tired to drive home after a night shift, and 57% had experienced an accident or near miss.

### HARASSMENT AND BULLYING

Harassment, as defined in its simplest form, is unwanted behaviour, and when combined with persistent, undermining, intimidating and threatening behaviour escalates to a definition of bullying. Bullying at its core is an unacceptable antisocial trait, often learnt through environmental influences as a direct response to physiological stress. In 2014, the GMC National Training Survey reported that 8% of junior doctors experienced some form of harassment, with surgery ranked the second worst specialty. A subsequent RCS Edinburgh study reported 60% of trainees testified to workplace bullying, and almost all described observing it.<sup>8</sup> Moreover, with evidence reporting that 24% of victims subsequently go on to

become bullies themselves, there is a risk that unchecked, such damaging behaviour may become institutionally engrained in an organisation's culture.

### DEPRIVATION AND INEQUALITY

Disadvantage has many forms and affects health throughout life, may be absolute or relative, and can include: having few family assets, a poorer education and insecure employment. The longer people live in adverse economic and social circumstances, the greater the physiological and psychological burden, and the less likely they are to enjoy good health into old age. In 2004, the NPHS published the Deprivation and Health Report<sup>9</sup> and showed that, in nearly all instances, people living in the most deprived areas have worse health indicators than those in the most affluent.

Behavioural determinants of poor health, such as smoking and low levels of physical inactivity, are substantially more common in deprived areas, partly because residents have less choice in the way they live. People in the most deprived areas have higher levels of mental illness, hearing and visual impairment and long-term health problems, particularly chronic respiratory, cardiovascular and arthritic conditions.

Deprived area mortality rates are high for a variety of causes of death, including cancer, heart disease, respiratory disorders, trauma and suicide. Ergo, doctors working in deprived areas will experience a vastly different training environment and experience than those in less deprived areas. Exposure to advanced stages of serious diseases, although stressful, can potentially produce more able, experienced doctors, forged in the heat and burden of the clinical load, with the caveat that their training is commensurate. Yet, research in this arena is thin and the effect of deprivation on doctor's career progression is blurred. Successive governments have convened working groups and produced reports aiming to improve university access for disadvantaged students. The degree of any inequality is indistinct, but if considered in tandem with increasing tuition fees and living costs, it is plausible that many would-be-doctors are effectively denied the opportunity to read medicine. In the context of surgical training, it is also plausible that students more able to afford expensive training, revision and interview courses, possess an advantage over their peers, not least because they are more able to better cope with stress and health challenges.

### TRAINER VARIATION

In its most granular form, the most important training variable is the deliverer, that is, the trainer, with evidence of progress the key metric of effectiveness. In complex multifaceted craft specialties, such as surgery, this may be remarkably difficult to achieve, with surrogate markers often used to represent summative progress. A systematic literature review has reported super-themes to be associated with successful surgical trainers, not least the infectious passion for the job, which many surgeons can bring to those around them, which can lift morale and drive quality of care.<sup>10</sup>

### CONCLUSION

The British Army's Army Doctrine Publication Land Operations defines fighting power as a concept describing the operational effectiveness of armed forces and sets out three contextual components: conceptual, moral and physical. The conceptual component is the force's knowledge, understanding and application of doctrine, the ideas behind how to operate and fight. The moral component is the force's morale, leadership and ethical conduct: the ability to get people to operate and fight and do so appropriately. The physical component consists of manpower, equipment, sustainability and resources: the means to operate and fight. The three components are interdependent, with training considered part of the physical component. This thread is clearly applicable to the NHS, and alignment with all of the above principles should be considered. Operating 'left of bang', early recognition and structured reflection will facilitate resilience training, enhancing the medical workforce's health and well-being. Adept transformational leadership, black-box thinking and a shift away from time-bound, target-focused transactional leadership culture should mould, boost and transform surgical culture positively, to provide more effective, synergistic healthcare.

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