

Unacceptable behaviours between healthcare workers: just the tip of the patient safety iceberg

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Since the publication of the 1999 ‘To Err is Human’ report by the Institute of Medicine, healthcare researchers have been attentive to factors potentially associated with iatrogenic risk, or in other words medical care that exacerbates or complicates an existing patient condition. While studies have explored a variety of patient factors (eg, age and weight of neonates¹) and situational constraints (eg, staffing ratios and healthcare worker (HCW) sleep deprivation^{2,3}), the risks posed by negative interpersonal interactions in healthcare contexts remain understudied and poorly understood. It is therefore timely that in *BMJ Quality & Safety*, Guo and colleagues⁴ present a systematic review of research examining the effects of unacceptable behaviours between HCWs on clinical performance and patient outcomes. Guo and colleagues⁴ findings present an important step in raising awareness of the risks posed by negative interpersonal interactions among HCWs, shedding light on how and when such behaviour may indeed serve as a significant iatrogenic risk factor. However, as troubling as their findings may be, they may understate the magnitude and complexity of the challenge that unacceptable behaviours present to HCWs. In this editorial, we begin by commenting on the magnitude of impact that such behaviour has on clinical performance and patient safety, arguing that its true impact is most apparent when considered relative to the magnitude of impact of other iatrogenic risk factors. We then argue that other, largely unexplored, aspects of HCW exposure to unacceptable behaviour may impact clinical performance and patient safety no less than those aspects examined in Guo and

colleagues⁴ review, highlighting (1) the collateral effects of unacceptable HCW behaviour on witnesses and HCW teams, and (2) the effects of unacceptable behaviour directed at HCWs by patients or their families.

RELATIVE MAGNITUDE OF IMPACT

Among Guo and colleagues⁴ key findings are that unacceptable behaviours between HCWs may (1) have an adverse impact on HCW productivity (with some studies suggesting a productivity loss of between 9.5% and 22% and costing between US\$1484 and US\$11 581 per nurse per year), and (2) increase the rate of postoperative complications (according to one of the studies reviewed, by between 12% and 14%). Not mentioned, however, is the magnitude of the impact of such behaviour when compared with other well-known iatrogenic risks. This is understandable in that few studies offer such comparisons or even the estimates (eg, R^2) to facilitate them. However, in two simulation studies examining the effect of specific unacceptable behaviour events, Riskin and colleagues^{5,6} provide some evidence for comparison. They find such behaviour to explain approximately 40% of the variance in therapeutic outcomes (assessed in terms of such parameters as the quality/timeliness of diagnosis, and execution of specific procedures such as intubation), whereas meta-analytic evidence indicates that the presence/absence of computerised order entry systems explains just 12.5% of the variance in medication error⁷ and chronic physician sleep loss explains just 23% of the variance in clinical performance.⁸ Research aimed at estimating the risks posed by unacceptable HCW behaviour relative to other iatrogenic risk factors could have significant policy implications, potentially informing



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the allocation of resources towards alternative patient safety initiatives.

COLLATERAL EFFECTS: IMPACT ON WITNESSES AND TEAMS

Because Guo and colleagues⁴ review focuses only on the effects of HCWs' unacceptable behaviour on those HCWs targeted by such behaviour, it offers only a partial estimate of the clinical and patient safety implications of such behaviour. More specifically, the effects of HCWs' unacceptable behaviour may have important *collateral* effects: (1) impacting the *individual* clinical performance of third-party HCWs simply witnessing such behaviour, (2) generating a contagion-based, upward spiral of HCWs' unacceptable behaviour, and (3) debilitating *team* performance, or in other words the performance of teams comprising victims of and witnesses to HCWs' unacceptable behaviour.

Studies on industrial/organisational and cognitive psychology suggest that even witnessing such behaviour when targeted against someone else results in performance decrements that are no less severe than those experienced by the direct targets of such behaviour.^{9 10} Regardless of whether one is a victim or a witness of unacceptable behaviour, the unconscious processing of such an experience places demands on one's capacity-limited working memory. This in turn can slow information processing, increasing the odds of inattention blindness (eg, missing critical clinical indicators) and reducing attention to detail (ie, heightening the odds of making errors) and cognitive flexibility, central to timely and effective diagnosis.^{9 11}

No less significant are findings that indicate that witnesses to unacceptable behaviour are more likely to themselves subsequently direct similar behaviour towards innocent third parties, thus potentially generating an upward spiral of such behaviour.¹⁰ The explanation for such a 'contagion effect' stems from cognitive science and the notion of spreading activation. This idea of spreading activation suggests that witnessing unacceptable behaviour activates concepts associated with such behaviour in the observer's semantic memory (the individual's repository of knowledge about the world that is abstracted from actual experience and retained in long-term memory on the basis of a hierarchy of concepts),¹² making these concepts more readily used in cognitive processes and thus increasing their influence on decision making and attributional judgement formation in social situations. The upshot is that, like victims of unacceptable behaviour, witnesses are also likely to automatically (ie, without conscious awareness) frame ambiguous stimuli (eg, an affectively neutral utterance) from an innocent third party as offensive or threatening, and thus respond to the third party's seemingly unacceptable behaviour by engaging in hostile behaviour towards them.^{10 13}

Finally, research indicates that the effects of unacceptable behaviour experienced or witnessed by

HCWs additionally affect collaborative processes such as information and workload sharing, thus limiting the ability of HCW teams to perform effectively.¹ More specifically, our findings indicate that by placing demands on the working memory of team member victims or witnesses, HCWs' unacceptable behaviour may debilitate team members' ability to be socially mindful.¹⁴ Such social mindfulness is critical to synergistic team processes and implicit coordination as it underlies team members' awareness of a teammate's need for help or information, as well their ability to properly time the provision of such assistance or information.¹⁴ Thus, while in theory HCW teams may make fewer errors than individual HCWs, teams whose members are exposed (vs unexposed) to unacceptable behaviour have been shown to manifest poorer clinical performance and may pose a significant risk to patient safety.^{5 15}

In sum, research suggests that when taking these collateral effects into account, the consequences of HCWs' unacceptable behaviour may go even further than those captured in Guo and colleagues'⁴ systematic review.

EFFECTS OF PATIENTS' AND FAMILIES' UNACCEPTABLE BEHAVIOUR ON HCWS

The patient safety and clinical consequences of the unacceptable behaviour to which HCWs are exposed may also go beyond those noted in the Guo *et al*⁴ review in that HCWs are routinely exposed to unacceptable behaviour enacted by non-HCWs, such as patients and patient families. Our research and that of our colleagues indicate that the impact of unacceptable behaviours on HCWs' clinical performance (and victim behaviour more generally) is not contingent on the source of the unacceptable behaviour.^{5 6 9} Rather, the performance of those on the receiving end of such behaviour suffers regardless of whether that behaviour is enacted by another HCW or others, such as a patient or a family member.^{6 9} This is particularly concerning in that the latter is suggested by studies as being among the most prevalent source of incivility experienced by nurses, physicians and trainees.¹⁶

IMPLICATIONS FOR PREVENTION AND MITIGATION

Given the prevalence of unacceptable behaviours to which HCWs are subjected, Guo and colleagues⁴ call for research aimed at assessing the efficacy of mitigation-oriented and prevention-oriented interventions. Recognising the magnitude of this problem, we concur with the need for intervention research, including research examining the efficacy of mitigation interventions, such as those involving feedback and follow-up for clinicians engaging in such behaviour.

However, as suggested above, unacceptable behaviours and their performance-related consequences

may often be more automatic than reflective in nature. That is, they may be unintentional, unconscious and quick, and driven by what is commonly referred to as 'System 1' thinking. Accordingly, we are sceptical about the efficacy of efforts aimed strictly at making HCWs more sensitive and/or aware of their behaviour and its consequences. This is because, at least in terms of impact mitigation, research has demonstrated that cognitive science interventions aimed at recalibrating individuals' unconscious perceptions of social stimuli as less threatening may be more effective than interventions based on conscious reflection.⁶ For example, Riskin *et al*⁶ demonstrated that postbehaviour reflection in the form of narrative writing had no significant mitigation effect with respect to the consequences of experienced incivility among HCWs. In contrast, attention bias modification, a computer-based, psychological intervention which reduces attention bias to threat, was found to essentially neutralise the effect of incivility on HCWs' clinical performance. The findings suggest that by applying attention bias modification *prior* to HCWs' exposure to unacceptable behaviour, the researchers were able to elicit the unconscious recalibration of ambiguous stimuli as less threatening on the part of those experiencing or witnessing incivility.⁶

As for prevention, more research is needed to assess the efficacy of TeamSTEPPS (a teamwork training intervention developed by the US Department of Health and Human Services' Agency for Healthcare Research and Quality and the Department of Defense to improve collaboration, communication and other teamwork skills essential to the delivery of high-quality healthcare and to the prevention of medical errors, patient injury and harm), and sensitivity and conflict management training. Evaluation research is also needed with respect to prevention-oriented behavioural feedback interventions, such as team reflexivity and coworker accountability interventions which give HCWs real-time feedback when their behaviour significantly deviates from normative behaviour.^{15 17 18} Yet, as healthcare settings may themselves serve as the primary drivers of such behaviour among both clinicians and patients/patient families, the efficacy of such preventative interventions may be limited. Indeed, given the contagious nature of unacceptable behaviour, such efforts—focusing largely on clinician mindfulness and aimed at having HCWs consciously avoid engaging in such behaviour—may be insufficient when these same individuals witness or are subject to unacceptable behaviours enacted by patients and family members.

Instead, it is likely to be necessary to nip unacceptable behaviours in the bud, stopping contagion by addressing the root causes of unacceptable behaviour in healthcare settings in the first place. This is likely to be challenging, particularly as healthcare settings are often characterised by significant stress that can

deplete the psychological resources of those providing and receiving care. Such psychological resource depletion diminishes individuals' ability to self-regulate and thus control otherwise unintentional displays of unacceptable behaviour. Accordingly, we may need to shift our attention to understanding and addressing what it is about contemporary healthcare service provision that drains participants' psychological resources.¹⁹ Specifically, research is needed to identify the drivers of psychological resource depletion among patients and their families, such as high uncertainty, lack of control and lack of psychosocial support.²⁰ Research is also needed to examine the efficacy of initiatives aimed at addressing these drivers. For example, researchers might examine the extent to which emotional intelligence screening of candidates for careers in healthcare generates a higher minimal threshold for behavioural norms among HCWs.^{21 22} Finally, recent studies indicate that expressions of gratitude may have motivational and automatic effects that work in the opposite direction of unacceptable behaviours, enhancing (rather than debilitating) diagnostic and clinical performance.^{23 24} Here too, further research is needed to understand whether, when and how these more positive interpersonal behaviours may attenuate the iatrogenic risks posed by unacceptable behaviour.

CONCLUSION

Guo and colleagues⁴ review represents an important milestone in research on the role of HCWs' interpersonal behaviour as an iatrogenic threat to patient safety. Their findings highlight just how robust unacceptable behaviour among HCWs can be in explaining outcomes associated with clinical performance and patient safety. However, as suggested above, the research reviewed in their article presents just the tip of a large and potentially menacing patient safety iceberg.

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