

The bad apple theory won't work: response to 'Challenging the systems approach: why adverse event rates are not improving' by Dr Levitt

There is no doubt about Dr Levitt's genuine concern for patient safety.¹ His experience, like that of others, must indeed have led him to hospital staff he'd rather do without. One can understand the seduction of sanctioning non-compliant doctors² or getting rid of the deficient practitioners—the system's bad apples—altogether,³ as also proposed by Levitt. In 1925, German and British psychologists were convinced they had cracked the safety problem in exactly this way. Their statistical analysis of five decades had led them to *accident-prone workers*; misfits whose personal characteristics predisposed them to making errors and having accidents.⁴ Their data told the same stories flagged by Levitt: if only a small percentage of people is responsible for a large percentage of accidents, then removing those bad apples will make the system drastically safer.

It didn't work. The reason was a major statistical flaw in the argument. For the accident-prone thesis (or bad apple theory) to work, the probability of error and accident must be equal across every worker or doctor. Of course it isn't. Because they engage with vastly different problems and patient groups, not all doctors are equally likely to harm or kill patients, or get complaints. Personal characteristics do not carry as much explanatory load for why things go wrong as context does.⁵ Getting rid of Levitt's 3% bad doctors (as measured by complaints and adverse events) may simply get rid of a group of doctors who do the really difficult, tricky work (eg, some oncological cases with a negative prognosis). The accident-prone thesis lived until

World War II, when the complexity of systems we made people work with—together with its fatal statistical flaw—did it in. As concluded in 1951:

the evidence so far available does not enable one to make categorical statements in regard to accident-proneness, either one way or the other, and as long as we choose to deceive ourselves that they do, just so long will we stagnate in our abysmal ignorance of the real factors involved in the personal liability to accidents.⁶

In 2014, there seems little point in reinvoking a failed approach to safety that was debunked in 1951. Instead, we have realised that errors are not the flaws of morally, technically or mentally deficient 'bad apples,' but the often predictable actions and omissions that are systematically connected to features of people's tools and tasks.⁷ Ever since, the systems approach has been developing ways to identify and correct those vulnerabilities to which everyone is exposed. Levitt continues to define the systems approach as simply standardisation. We tried earlier to clarify the systems approach, saying it is not just a bunch of rules and protocols. But Levitt insists that "in practice the systems approach is inseparable from these." One of the reasons we wrote our viewpoint is our impatience with this narrow view of the systems approach in medicine. Careers spent in safety have shown what a true systems approach can achieve. The question it pursues is not why bad operators make mistakes, but why good ones do. There is much more improvement to be gleaned from that.

Bad apples might still be a concern—even the European Union has taken initiatives towards the creation of a 'black list' for deficient medical practitioners. Of course some practitioners should not be allowed to treat patients. But who let them in? Who recruited them, trained them? Who mentored them,

promoted them, employed them, supervised them? Who gave them students to work with, residents to educate? Who let them stay? If we first start to worry about incompetent practice once such practitioners are comfortably ensconced and have been doing things wrong for years or decades, we are *way* behind the curve. The question is *not how we get rid of bad apples*, but what *our responsibilities are in creating them* in the first place—and that includes the responsibility of hospital staff chiefs like Dr Levitt. As we noted before, the solution to this problem is to improve the system that identifies and deals with professional incompetence—from pre-medical education onwards. We already cited studies that showed current structures to oversee and eliminate incompetent medical practice are not effective—these are systems that need to be improved. This oversight is a system responsibility. Getting rid of putatively incompetent doctors at the back end is akin to treating a symptom, not a complex set of deep causes.

Ultimately, we need to let go of the dichotomy—that it is either people *or* systems. It does nothing to further the debate or indeed improve safety. Instead, we should think about people *in* systems. That is what the systems approach does: help us understand the relationships and roles of individuals *in* systems. Systems cannot substitute the responsibility borne by individuals with professional discretion to make consequential decisions. Of course not. But systems or organisations (again including hospital staff chiefs like Dr Levitt) can, and must, create a discretionary space for those individuals that is not framed by fear of sanction or dismissal, but by opportunity, empowerment and an appropriate match between individual characteristics and professional demands.

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