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Challenging the Systems Approach: Why Adverse Event Rates Are Not Improving

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The Viewpoint by Dekker and Leveson, "The Systems Approach to Medicine: Controversy and Misconceptions" [1] is in large part a rebuttal to an op-ed piece I wrote in the Los Angeles Times. [2] Therefore, I wish to reply.

The systems approach in medicine has come to include a multiplicity of standardization techniques to correct defects--checklists, protocols, rules and data collection routines. In practice the systems approach is inseparable from these. It is exclusively the systems approach that has guided the medical profession in its efforts to improve the death and injury statistics since the publication of To Err Is Human in 1999. [3]

Despite its successes in other industries, the systems approach is not working well in medicine. There have been small, measurable triumphs in niches of medical practice—anesthesia, preventing blood stream infections associated with central lines, and resident hand-offs. However, systems tactics have not decreased the overall number of patient harms. The Editor of this journal last year [4] and two prominent researchers, Peter Pronovost from Johns Hopkins University and Ashish Jha had Harvard, appearing before the US Senate this year, have gone on record saying that adverse events have not decreased since 1999. [5]

However, the foregoing is not the main thrust of what I wish to impart. In the LA Times I wrote that based on a 20 plus year record of malpractice judgments in the National Practitioner Data Bank, 2% of the doctors commit 50% of the harmful medical errors in the US. An estimate based on patient complaints about doctors in Australia is that the hard core of bad doctors is 3% of the total. [6] It is likely that we could retire those two groups on a handsome stipend without increasing the cost of medicine in either country and this would sharply reduce the number of needless harms from medical mistakes. The other 97 or 98% of physicians, working in the same environments, individually make harmful mistakes at only one-fiftieth the rate of their less competent colleagues. The exclusion of blame is a blindfold against this common source of harmful error.

I spent 30 years in clinical medicine, five of them as a hospital chief of staff. The vast majority of clinical disasters I encountered resulted from individual physicians' errors which were not amenable to modification or prevention by any known systems inspired maneuver. The errors reported in the Harvard Medical Practice Studies were mostly of that type, either technical errors or missed diagnoses. [7] The surgeons at the University of South Florida found a 4% rate of systems problems among their surgical complications when they studied thousands of operative cases. [8]

I fear that another fifteen years will go by before the medical establishment admits it was wrong and focuses on the real cause of the problem. During that interval, at least a million and a half patients will die in the US from preventable errors.

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