

BEST PRACTICES: PART I

CHAOS IN MEDICAL PRACTICE: AN IMPORTANT AND REMEDIABLE CONTRIBUTOR TO PHYSICIAN BURNOUT

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“Chaos: a state of total confusion with no order”.¹

The practice of medicine traditionally comprised an encounter between a physician and a patient. That practice now occurs within healthcare systems which offer a wide range of diagnosis and care options, delivered in different settings by multidisciplinary teams. Healthcare systems are now considered “complex adaptive systems,” and with that increasing complexity comes the threat of chaos.

Chaos, Work Environment, and Burnout

Many aspects of work conditions in health care have been linked to physician burnout and patient care outcomes.^{2,3} Given the complex and unpredictable work environments⁴, it is not surprising that chaos is remarkably common in day-to-day medical practice. As examples, an ambulatory care clinic’s reliance on efficiency through tightly scheduled visits is easily derailed by a sicker-than-expected patient; anticipated emergency room flow is disrupted and overburdened during influenza season; and a glitch in the electronic health record system can paralyze care delivery. Recent research by the authors specifically supports an emerging link between chaos in medical practice and burnout.^{5,6}

An ethnographic study of almost 100 hours of in-hospital observations of internal medicine specialists provides detailed descriptions of chaos in medical practice.⁵ Physicians in this setting faced heavy workloads with intense intellectual, emotional, and physical work. Their work was frequently interrupted with waits and delays, unpredictability, and urgency; their team members had different skill sets, levels of experience, and schedules; and team members changed frequently. The physical spaces were, at times, noisy and frenzied. There

were occasions of disorganized or absent medical supplies and poorly functioning computer systems. The system was ripe for episodic failures.

A study of ambulatory healthcare settings showed that almost 40% of all participating primary care sites reported hectic or chaotic environments, with significant impacts on the physicians working there.⁶ Causes of chaos included short doctor-patient visits, a poor sense of control for the physician, and bottlenecks to patient flow for office check-in and check-out. Physicians working in these chaotic clinics were prone to stress, burnout, and leaving their practice.⁶

Dealing with Chaos

Chaos can be addressed or buffered to some extent. In the hospital-based study described above, a surprising result was the degree to which physicians worked to dampen the effect of chaos on their patients’ quality of care and to keep the system going. The physician participants demonstrated flexibility, adaptability, and creativity in overcoming road blocks to care within complex, unpredictable systems. They did so by engaging in deep and intense relationships with their co-workers, learners, and patients, generating an extended teamwork approach to making the system work. They promoted positivity and wellness behaviors such as using humor to diffuse stress.

In the ambulatory care setting, the Provider Wellness Committee and Office of Professional Worklife at Hennepin Healthcare in Minneapolis, MN, have identified specific, positive workplace factors that were linked with lower burnout rates even when chaos was present. These included a combination of successful teamwork

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and a high degree of alignment of physicians’ values with that of leadership within their respective departments. (Unpublished data, Linzer et al)

Chaos and Patients

How patients feel specifically about chaos and inefficiencies in the healthcare system is less well known, but we do find that patients are affected. In the study of chaos in the clinic described above,⁶ the patients from the chaotic clinics were more likely to experience medical errors and missed opportunities for preventative health care. Chaos may drive burnout in physicians, and physicians who are burned out are at risk for providing poorer patient care. Results of a qualitative study exploring what patients think of physician wellness exposed links between patients’ perceptions of their physician’s wellness, the care they received, and the chaos in medical practice.⁷ For example, patients judged physicians to be unwell if the physicians appeared to be pressured, tense, or working at a hectic pace. Even if the patients’ judgments were inaccurate, their perceptions affected the doctor-patient relationship. For example, they were less likely to trust a physician they viewed as unwell. Patients also felt that their care may be compromised if the physician’s office appeared disorganized and cluttered. The patients in this study also identified the chaotic work context and inefficient systems as contributing to physician burnout.⁷

Chaos and Healthcare Systems

Healthcare systems may also suffer when their patient care settings are chaotic. Many physicians, driven by burnout and frustration from flawed working environments that do not support the patient-doctor relationship, leave their practice at an enormous cost to healthcare systems (\$250,000 to \$500,000 per physi-

cian). Frustrated patients offer feedback (online and otherwise) about chaotic experiences and interruptions in the continuity of care—and in some cases, may seek care elsewhere.

Addressing the Problem of Chaos in Medical Practice

Chaos-inducing events may make physicians vulnerable to burnout, patients susceptible to lower quality care, and healthcare systems less effective in providing compassionate, safe, high-quality care. While some aspects of chaos are unavoidable, there *is* room for improvement. Complexity theory suggests that being “on the edge of chaos” may promote innovation and creativity if the individuals working within the system and the system itself have the resilience to adapt. This further supports the need to buffer physicians and other healthcare providers from work-related hazards, such as burnout, so they can be innovative and creative in their solution-building efforts. Individuals do find ways to work around the chaos and mitigate the stressful effects of chaos on doctors and patients, but the following true system-level reforms are imperative:

1. **formally address gaps in medical education where learners are not suitably taught that context affects our work, nor provided with skills to negotiate this complex, dynamic work environment.⁸ If we teach learners these skills, they may also be better able to identify chaotic elements that can be remediated in the system.**
2. **task physicians, patients, and healthcare leadership with identifying disruptions and inefficiencies within healthcare systems and give them the necessary leverage to address those findings.**
3. **apply these interventions and track our successes in reducing chaos in the clinical environment.**

While chaos is prevalent, it is not universal; this suggests that how work is organized can potentially address chaos and reduce it. Further research is needed in this area. When present, chaos may result in consequences that are common, important, and at times dangerous. Creative and innovative solutions should be encouraged so that physicians can work efficiently for their patients and thrive in healthy work environments, patients can receive better care, and healthcare systems can run more smoothly. Everyone’s health may depend upon it.

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