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When Things Go Wrong: How Health Care Organizations Deal With Major Failures

Important opportunities for improvement will be missed if we fail to investigate and learn from the "airplane crashes" of health care.

by Kieran Walshe and Stephen M. Shortell

ABSTRACT: Concern about patient safety, caused in part by high-profile major failures in which many patients have been harmed, is rising worldwide. This paper draws on examples of such failures from several countries to analyze how these events are dealt with and to identify lessons and recommendations for policy. Better systems are needed for reporting and investigating failures and for implementing the lessons learned. The culture of secrecy, professional protectionism, defensiveness, and deference to authority is central to such major failures, and preventing future failures depends on cultural as much as structural change in health care systems and organizations.

The past decade has brought a growing public realization in many countries that health care facilities are often dangerous places. Reports published in the United States, the United Kingdom, Australia, New Zealand, and Canada have focused public and policy attention on the safety of patients and have highlighted the alarmingly high incidence of errors and adverse events that lead to some kind of harm or injury.[1] Health care organizations and systems are starting to recognize and use ideas, models, and techniques from safety science, which were developed and have long been applied in other industrial and commercial settings where safety and reliability are critical concerns.[2]

The patient-safety movement has been driven in some countries by high-profile instances of major health care failure.[3] These events usually involve a breakdown in health care services or provision that does substantial harm to many patients. Such events are different from the tragic single instances of failure and harm to a patient that are sometimes widely reported in the media, such as the *Boston Globe* reporter who suffered a fatal medication error at the Dana-Farber Cancer Institute in 1994, or the more recent case of a mismatched heart-lung transplantation at

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Duke University Medical Center.[4] Here we are referring to catalogues of chronic, unremedied failure often stretching over months or years.

Perhaps the best-known recent example was the failure in pediatric cardiac surgery at the Bristol Royal Infirmary in England.[5] Between 1990 and 1995, despite repeated warnings about poor surgical quality outcomes, cardiac surgeons at the hospital continued to operate on newborns until the U.K. Department of Health forced them to stop. A subsequent public inquiry concluded that about thirty-five deaths had been avoidable.[6] Three doctors were disciplined by the General Medical Council, and two lost their licenses to practice medicine. The Bristol affair has been a powerful political lever for change in the National Health Service (NHS), which some now argue has the most comprehensive and integrated systems for health care quality assurance and improvement in the world.[7]

Events such as this are the "airplane crashes" of the health care industry—the most serious and shocking manifestations of failure, which result in the most concentrated and visible harm to patients. Every airplane crash is carefully catalogued and painstakingly analyzed to learn lessons for the future.[8] However, this does not occur in health care. If we fail to investigate and learn from major failures in care, important opportunities for improvement likely will be missed, and the chances are surely higher that similar failures will happen again.

Study Methods

This paper uses examples of major failures (defined as breakdowns in health care services or provision that do substantial harm to many patients) from six countries—the United States, the United Kingdom, Australia, New Zealand, Canada, and the Netherlands—to explore how health care systems and organizations deal with these failures. In none of these countries is there a central register or database of major failures from which we could draw a sample to study or that we could use to undertake a survey. For that reason, we used two primary sources of data in our study: documents (journal articles, news coverage, government reports, and other materials); and interviews with key informants.

We conducted searches of the usual bibliographic databases (MEDLINE, HMIC, ISI Social Sciences Index, and so forth), using broad search terms concerned with investigations or inquiries into failures of care or adverse events, and the Internet search engine Google. Finally, we conducted telephone interviews with a number of key informants in each country (generally two to three people with a national leading role in patient safety, policy making, or research) to seek their views on how major failures were identified, investigated, dealt with, and learned from in their country. We also asked them to identify instances of major failure, which we then added to our literature search, as described above.

The cases identified are not necessarily representative of all such events. They are probably the more serious, widely reported such events, and there are probably many more examples that we were not able to identify. But it appears that such

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events are occurring or at least being reported with greater frequency. For example, research in the United Kingdom identified five inquiries into failures in care during the 1980s and fifty-two during the 1990s, while more recent data from New Zealand show a rapid year-on-year rise in investigations into failures in care.[9] Yet we did not identify any instances of major health care failure in the Netherlands, where an established hospital inspectorate has operated for more than 150 years.

What Goes Wrong: The Nature Of Major Failures

Some common themes run through many of the instances of major failure we identified and found across the countries studied.

■ **Longstanding problems.** First, these failures are often longstanding problems, which have been present—and known about—in health care organizations for years or even decades before they are brought to light. For example, doctors at the National Women's Hospital in New Zealand left women with cervical cancer untreated to follow the progress of the disease for two decades until the late 1980s, despite widespread unease about and opposition to what they were doing.[10] Physician Harold Shipman murdered more than 200 patients during twenty-three years in general practice in England, even though many people were concerned about the number and pattern of the deaths and raised those concerns with, among others, the police.[11] Surgeon Robert Brewer continued in practice in Virginia for more than a decade, even though gross errors and startling instances of incompetence were known about by the hospitals where he worked.[12]

■ **Well-known but not handled.** Second, it is often evident with hindsight that many key people and stakeholders knew that something was seriously wrong and did nothing about it. In the Bristol Royal Infirmary case, for example, poor clinical practices and outcomes in pediatric cardiac surgery were well known within the hospital, among referring consultants at other hospitals and general practitioners (GPs) in the region, and even among professional leaders at the Royal College of Surgeons and civil servants at the Department of Health. Similar behavior was observed in a similar failure in pediatric cardiac surgery in Winnipeg, Manitoba, in 1994.[13] In the same way, when serious problems in obstetric services at the King Edward Memorial Hospital in Perth, Australia, were investigated in 2001, a long history of dissent, concern, and repeated complaints and a trail of litigation stretching back many years were revealed.[14] In the recent case of Redding Medical Center in California, where physicians undertook large volumes of inappropriate and unnecessary procedures on largely healthy patients, it is already evident that many hospital staff were aware of what was going on.[15] It seems that often the only people who don't know about the problems are the unsuspecting patients and their families.

■ **Cause of immense harm.** Third, the harm caused by these failures can be immense—for example, failures in the blood service in Canada left almost 30,000 patients injured and caused huge additional health care costs.[16] These failures can also result in huge malpractice claims by individuals or groups of patients, and they do

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great damage to health care organizations' reputations.

■ **Lack of management systems.** Fourth, these failures often happen in very dysfunctional organizations. On the face of it, the problems often center on an individual clinician or a small team and seem to contradict the conventional belief that most threats to patient safety result from systems failure rather than from the individuals' behavior.[17] However, the organizations where these failures occur usually lack fundamental management systems for quality review, incident reporting, and performance management, or those systems have been bypassed with ease. They frequently show little collaboration between managers and clinicians and a lack of coherent clinical leadership. They are often isolated and inward-looking organizations, unwilling to learn from elsewhere. Their staff and patients are likely to be disempowered, vulnerable, and poorly placed to raise concerns.[18]

■ **Repeated incidences.** Fifth, some kinds of failure occur again and again, suggesting that lessons are not being learned. For example, during the past two decades repeated major failures in cervical cytology laboratories have occurred in several countries, which have led both to widespread alarm for thousands of women who have to be rescreened and to harm for smaller numbers of women whose positive Pap smears are missed and who end up with cervical cancer. Lab failures of this kind are sufficiently routine for the U.S. Centers for Disease Control and Prevention (CDC) to have produced written guidance on how to deal with the closure of a failing cervical cytology laboratory and its aftermath.[19] There have also been many cases of health care professionals in various countries who have deliberately harmed a sizable number of patients.[20] In each case, it seems that little or nothing has been learned from similar events elsewhere. Rather, health care organizations have been complacent in the face of outright evidence that patients were being harmed, slow to suspect wrongdoing, and reluctant to address the problem.[21]

Barriers To Disclosure And Investigation

Major failures appear difficult to expose and investigate, and chance plays a large part.[22] For example, in the Bristol case, if anesthesiologist Stephen Bolsin had not been so dogged in his pursuit of some kind of action by hospital authorities, or if the two surgeons involved had been willing to cease operating on newborns earlier, or even if they had not undertaken a final operation in early 1995 that precipitated the first external review, the subsequent inquiries would not have happened. It seems likely that the major failures we know about are just a proportion—perhaps only a small one—of those that actually happen.

With that proviso, these examples of major failures show that such problems can be brought to light by a number of mechanisms or routes—often operating together rather than separately. First, an egregious event may happen—something so wholly unacceptable that it forces the organization to face up to the problem and to act. Second, a staff member may raise his or her concerns within and perhaps outside the organization. Such so-called whistle-blowing can leave the indi-

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"The causes and characteristics of major failures in countries with different ways of organizing health care are remarkably similar."

vidual exposed to victimization, disciplinary action, or even dismissal, even though some countries provide them with statutory protection.[23] Third, a persistent complainant or group of complainants may emerge who are sufficiently motivated and well informed to make the system or the authorities take notice of their concerns. Fourth, media attention often contributes to or aids discovery, and some major failures are uncovered through journalistic investigations.

It is striking that major failures are not usually brought to light by the systems for quality assurance or improvement that are now found in most health care organizations in developed countries, such as incident reporting, clinical profiling, mortality and morbidity review, credentialing, risk and claims management, and the external arrangements for regulation, inspection, accreditation, and oversight. In the Bristol affair, systems for clinical audit were effectively bypassed and ignored. In the case of Virginia surgeon Robert Brewer, hospitals credentialed him and allowed him to continue to practice despite overwhelming evidence from many sources of his poor performance and the risk to patients. At Vermillion County Hospital in Indiana, where Orville Lynn Majors worked in intensive care and murdered patients, there were twenty-four deaths in the intensive care unit (ICU) in 1991; twenty-five in 1992; thirty-one in 1993; and 101 in 1994, but the quality management systems did not identify a problem.[24] The institutions and clinical services where these failures happened were mostly accredited by accreditation programs and approved by governmental licensing authorities.

Perhaps the most important barrier to disclosure and discovery is the endemic culture of secrecy and protectionism in health care facilities in every country. There is a pervasive "club culture" in which at least some doctors and other health care professionals prioritize their own self-interest above the interests of patients, and some health care organization leaders act defensively to protect the institution rather than its patients.[25]

A second barrier is that knowledge about these problems and responsibility for acting to tackle them are often fragmented across many people, who all know something about the problem or failure but don't necessarily know the full picture or have the authority or incentive to act.

Third, the capacity of individuals and organizations for self-deception and post hoc rationalization in the face of unwelcome information often plays a part in their inaction. It is easier to disbelieve the data than to believe the unwelcome truth, and so problems go unaddressed until the evidence is quite incontrovertible.

A fourth barrier to disclosure is presented by the informal mechanisms that organizations use to deal with problems of poor performance or failure, such as finding a way for a problem individual to exit the organization without a fuss and

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without any formal action.[26] The result is that problems get moved around the health care system rather than being tackled and resolved.

Fifth, in some countries the civil actions for medical negligence that may signal a major failure are often settled with binding nondisclosure agreements, which prevent the issues at hand from being aired as widely as they should be. Such sealed settlements are a Faustian bargain, which benefit the individual patient who has been injured but potentially expose future patients to the same risk.

Finally, duplication of effort among multiple investigative agencies and authorities can result in confusion, and some evidence suggests that inquiries can reach mistaken conclusions.[27] Also, high-quality investigations into major failure are costly and often lengthy undertakings. For example, the Bristol Royal Infirmary inquiry took almost three years and cost more than £14 million (US$23.7 million).

Policy Implications And Recommendations

Based on this review, we can identify some common policy implications and recommendations that affect clinicians, health care organizations, health systems, and potentially the general public.[28] It is striking that the causes and characteristics of major failures in different countries with different ways of organizing and funding health care are remarkably similar. This may suggest that the problems—and their potential solutions—are deeply embedded in the nature of clinical practice, the health care professions, and the culture of health care organizations.

■ **Recommendations.** First, action is needed to make the systems for identifying and highlighting failures work more effectively, mainly by creating strong incentives to report and by removing or reducing disincentives and barriers to reporting. In particular, health care organizations should do all they can to make it easy and straightforward for clinical staff to report their concerns about quality issues at the earliest stage and to show that such reporting is a valued asset to the organization. These systems have to be embedded at the clinical front line—for example, through safety reports during clinical rounds; flagging error and safety issues as patient care shifts change; holding regular, multidisciplinary team safety meetings; and giving immediate feedback to clinical staff on errors and safety reports. Organizations should also have explicit, properly resourced internal systems for investigating and triaging quality concerns to ensure that serious problems get rapid, high-level attention. All should have a clear policy on the circumstances in which external agencies need to be notified of a problem or called in to advise or investigate.

Second, it is also evident that in most cases of major failure, the systems for quality management in health care organizations are unable to cope with the problems. They are easily bypassed or sidetracked, and they fail to raise an alarm that something is wrong. This does not mean that these systems don't work in other circumstances, but it leads us to suggest that they should be more rigorously tested, through simulations or the equivalent of "fire drills," to check that they are capable of dealing with the circumstances of a major failure.

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Third, investigations of major failures—by organizations themselves and by external agencies—appear in most countries to be as chaotic and uncertain a process as are their discoveries. Action is needed to enable these agencies to share their information and expertise and to clarify how their different responsibilities are meant to interact. A triage process for prioritizing the most serious failures is needed. Emphasis should be placed on identifying the lessons to be learned by other organizations from each major failure. Organizations such as Britain's Commission for Healthcare Audit and Inspection or the U.S. National Quality Forum could play such a role.

Fourth, there should also be an explicit mechanism for ensuring that the lessons from major failures are translated into explicit and agreed recommendations for changes in practice, which are then implemented. This requires both better systems for disseminating and sharing those lessons and a more forceful and proactive approach to checking on implementation at the level of individual health care facilities through the existing licensing or accreditation processes.

■ **Barriers to reform.** It is easier to articulate a reform agenda than to implement the changes it demands. It is important to consider the reasons why manifestly important and worthwhile changes such as those cited above are often difficult to implement in health care organizations and systems. Why is safety taken so much more seriously, and given much greater priority, in other industries? Three main reasons come to mind.

First, serious performance failures often have more substantial and far-reaching consequences for organizations and individuals in other settings than in health care. A major service failure in an industrial plant, airline, or oil exploration company may close down production for some time or even permanently and entails huge commercial costs to the organization and its staff. If the failure causes casualties, at least some staff are likely to be among those injured. As a result, these organizations have developed cultures that are preoccupied with the probability of failure and have embedded systems for constant diligence and awareness.[29] In contrast, health care organizations usually carry on with their work after even the most serious failures, and the staff are rarely harmed or even much affected by what happens. Patients bear nearly the entire cost of failures, and that may mean that the problems do not matter enough for health care organizations and systems to want to fix or prevent them.

Second, the health care industry is unique in that many of its customers are already or will be harmed by the disease process that brings them to a health care facility for treatment. No other industry deals with morbidity and mortality as such a routine part of the production process. This presents a unique challenge in distinguishing what might be termed disease-harm and production-harm and disentangling their causes and consequences. Moreover, as organizations and as individuals, we become inured to such harm. It is normal for patients to die and for treatments to fail, and so we become accustomed to such events. When things go

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wrong, it is then more difficult to step outside this normalizing mind-set and see the problems for what they really are: evidence of major health care failures.

Third, health care organizations and systems are controlled by powerful, producer-led vested interests. The dominant position of the health care professions and corporations enables them to block the kinds of changes outlined earlier, even in the face of pressure from government, patient, and public groups and the media. These reforms would reduce health care producers' power and make them more accountable. However rational the case for change, it is likely to be fiercely opposed by these producer interests, and change is likely only to come about through sustained and intense government and public demand.

In the final analysis, we believe that major failures in health care are, more than anything else, a product of the distinctive culture of the organizations, the health care professions, and the health system. This is an issue of great international concern. There is endemic secrecy, deference to authority, defensiveness, and protectionism. Despite much rhetoric about the primacy of patients' interests, it seems that when it matters most, those interests are too often subordinated to the needs and interests of health care organizations and professionals. Ultimately, the most effective actions we take to prevent future major failures will be those that help to create a more open, transparent, equitable, and accountable health care culture. This will require changes in medical and health professions education, greater public demand for accountability, continuing advances in the measurement and reporting of health care quality and patient outcome data, and more principled clinical and managerial leadership of health care organizations.

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