Chapter

Clinical Futile Cycles: Systematic Microeconomic Reform of Health Care by Reform of the Traditional Hierarchical Referral Model of Care

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Abstract

The incidence of adverse patient events in hospitals has not improved over the last two decades despite enormous efforts in the area of Quality and Safety. Notably, the same errors are often repeated, even though previous reviews of these events have resulted in learnings, guidelines and policy. The traditional review of a Hospital Adverse Event (HAE) is most commonly a Root Cause Analysis (RCA) to find factors and conditions that caused or contributed to the HAE. The basis for the RCA is the James Reason Swiss Cheese model of adverse events developed from analysis of large-scale industrial accidents. In this model the HAE occurs when a patient deteriorating clinical trajectory broaches the hospital's organisational and professional defences. The learnings from the RCA typically result in new or changed policies and procedures, and occasionally professional disciplinary review of the involved health care workers. Clinical Futile Cycles (CFC) is clinical action or intervention (or lack thereof) that has no patient benefit. Analysis of HAE by looking for CFC creates learnings that focus on the human factors of the involved health care workers, and more importantly the socio, politico, and fiscal cultural hospital environment at the time of the HAE. As such, the learnings focus not on limitations of the individual practitioners but rather, the greater environment that has them often ignoring, broaching or being oblivious to professional standards, and the already existent policy procedure and guidelines.

Keywords: Clinical Futile Cycles, hospital adverse events, Root Cause Analysis, hierarchical model of care

1. Introduction

When unexpected clinical deterioration results in patient harm (death or permanent disability), healthcare in an attempt to learn from its mistakes, uses Quality Improvement tools from other industries, principally Root Cause Analysis (RCA). RCA methodology takes a structured template of criteria that is applied objectively to the timeframe of the adverse event in question. The outcome of this process is a set of learnings for practice improvement. The purpose of this article is not to detract from

the process of RCA, rather to question why all too often despite, a RCA, the same mistakes are repeated often again and again. Indeed, overall, the incidence and outcomes from hospital adverse events (HAE), has not improved over the last two decades [1–6]. This is despite widespread recognition of the problem, extensive epidemiological research, and billions of dollars of investment into quality and safety programs [2, 3].

Clinical Futile Cycles is defined as clinical activity that has no nett benefit to the patient. Across all spheres of medical practice clinical activity is undertaken with no actual benefit to the patient but also that does no harm apart from cost. In the case of a patient's condition deteriorating clinical activity is needed to cure or at least improve the clinical situation. In the critically unstable patient, failure to improve the patient condition is equivalent to deterioration, due to the underlying principles of pathophysiology. Cellular homeostasis is dependent on adequate delivery of oxygen to mitochondria to sustain aerobic metabolism. Anaerobic metabolism due to blood loss, hypoxia, sepsis, cardiopulmonary pathology has to be reversed or the cell, and then an organ and eventually the body will die. As such it is imperative that in this type of clinical situation the clinical activity is productive in the restoration of homeostasis, not futile, to prevent the downward spiral to death or permanent disability.

In this article, the case for the examination of HAE, through a process of looking for and then examining the Clinical Futile Cycles that inevitably occur throughout patient deterioration is made [7, 8]. In doing so, the pandoras box of what really goes on at the interface between the deteriorating patient, the individual frontline health care workers, and finally and just as importantly, the socio, cultural, political nature of involved health care system and or hospital, is opened. Thus, the learnings are focused on changes that are needed to create productive clinical activity that improves patient outcomes. Finally using this model, some fundamental reforms for the prevention of these adverse events are proposed.

2. Limitations of RCA and the traditional "Swiss Cheese" model of healthcare and hospital setting adverse events

Attempts to reduce the incidence of adverse events and make hospitals safer have been largely unsuccessful [2, 4–6]. Like other diseases and conditions, an understanding of the underlying aetiology or "pathophysiology" of adverse events is important for the development of preventative strategies. To date the predominant theory to explain adverse events in health has been the "Swiss Cheese" model developed by James Reason from his analysis of large scale industrial and organisational accidents [9].

James Reason in his book "Managing the Risks of Organizational Accidents" states that organisational accidents, as opposed to individual accidents, are predictable events [9]. An individual accident is one in which a person or group of people makes an individual slip, lapse, or error of judgement with the net result being an adverse outcome either to the person or the people who erred, or to the person or people in the immediate vicinity. As such there is usually a relatively tight, simple explanation for cause and effect in an individual accident. On the other hand, organisational accidents have "multiple causes involving many people at different levels of an organization" [9]. These events, whilst usually infrequent, are often catastrophic. Analyses of such organisational accidents often reveal that the defences an organisation has to prevent such catastrophes are breached by a unique series of sequential hazards that play out in an environment of latent conditions, the so called "Swiss Cheese". It follows that,

one can decrease the incidence of these organisational accidents by increasing the number of defences (more cheese slices) and/or by shrinking the size of the holes in each of the defences (**Figure 1**). This is the basis for the RCA investigation of a HAE.

In 2008, Palmieri et al. published their "Health Care Error Proliferation Model" of adverse healthcare events [10]. This model takes the "Swiss Cheese Model" and specifically adapts the various factors that exist in healthcare (**Figure 2**). Most notably, they place clinician vigilance as a key defence at the sharp end of the actual adverse event, in the form of clinical improvisation and localised workarounds. This clinician vigilance repairs gaps produced by actions, changes and adjustments that are made at the blunt end of the healthcare organisation with its administrative and therefore higher level, layers of defence. A good example of this is the use of high-definition mobile telephone devices in rural and regional settings that allow almost immediate transfer of clinical information to an appropriate clinician at a referral centre. However, this clinical workaround and improvisation is clearly at odds with most organisations' patient privacy policies that have been developed at the blunt administrative end of the organisation.

Having for the most part accepted the Reason "Swiss Cheese" model of adverse events and adapted variations, most hospitals response to adverse events has been to increase defences at the blunt end of the healthcare organisation's administration [3]. These defences, in the hospital, take the form of dedicated quality and safety units and committees, electronic event reporting systems, and the development of appropriate standards linked to hospital accreditation [3]. The aim of each of these blunt end defence layers is to continually decrease the size of the holes in each defence layer, by more audits, meetings, and RCA analysis projects combined with the use of the quality improvement cycle. Inevitably what is generated is recommendations, guidelines and more policy and procedure.

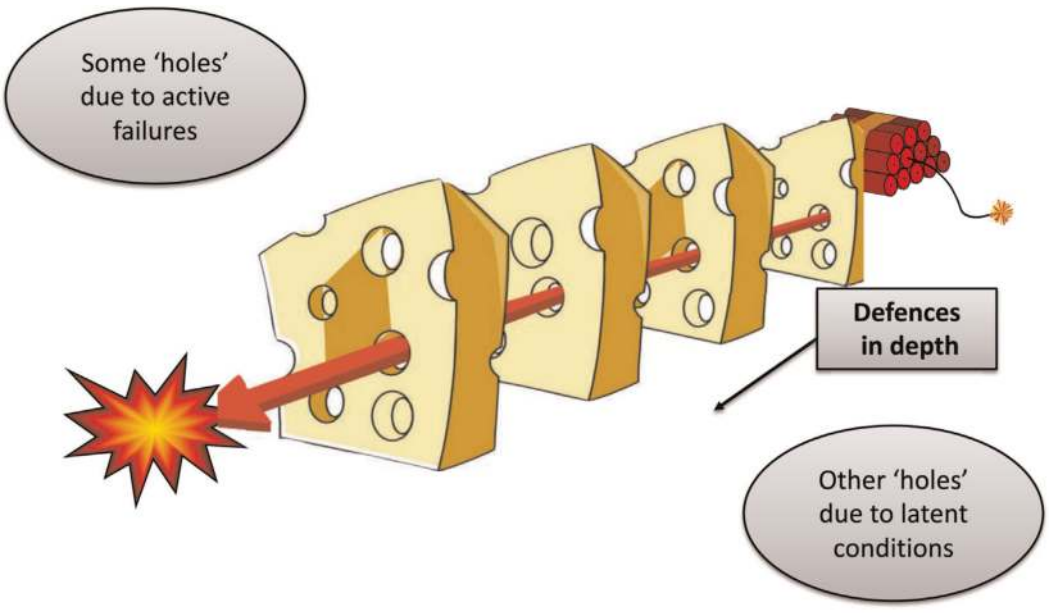

Figure 1.
The Reason "Swiss Cheese" model [22].

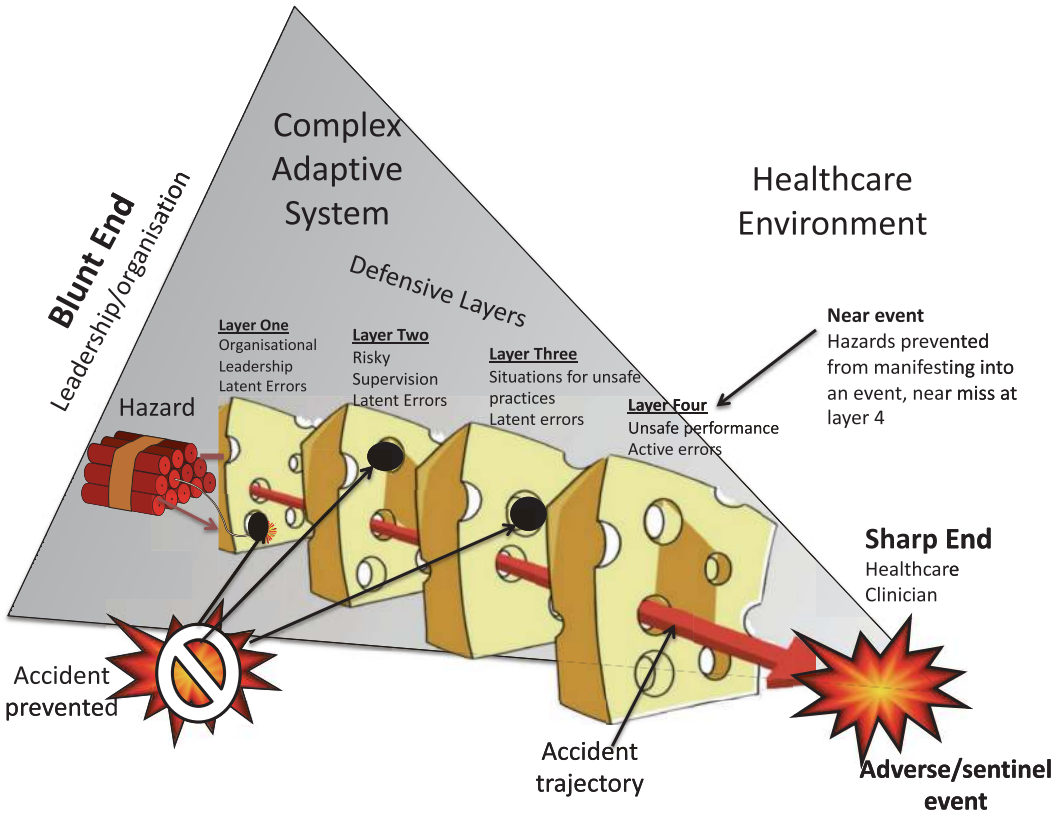

Figure 2.
Healthcare error proliferation model [25].

The "Swiss Cheese" model does explain well some types of hospital adverse events, in particular patient falls, wrong side surgery and medication errors. In the case of medication errors, root cause analysis of these events often highlights holes in the "Swiss Cheese," such as poor transcription of medication prescriptions, and failure to do appropriate checks [11]. In the case of patient falls, there is failure to identify the "at risk" patient and put in place appropriate preventative strategies. Fixing the holes or at least reducing the size of them can reduce the incidence of patient falls and medication errors. This can be done by and large with top-down policy and procedure and ensuring implementation of such [12]. The best example of this has been the reduction in incidence of wrong side surgery, with the implementation of time out, with completion of a check list before surgery [13]. The Reason "Swiss Cheese" model gives good explanation of the adverse event when there is a relatively tight temporal relationship, between the adverse event and preventative strategies. The adverse event itself in these circumstances is itself evidence that a mistake or error was made. There is usually with the "Swiss Cheese" model a series of clear errors that can be identified. This model then allows for preventative strategies to be implemented, and with the increasing move back to professional responsibility for compliance, in theory at least the Holy Grail of the perfectly safe hospital should be attainable.

However, most adverse events in hospital, particularly the more serious ones, often do not have such clear errors with a tight temporal relationship with the adverse event and the contributing errors. When the temporal relationship between the adverse event and the preventative strategies is not so tight, hospital cultural factors

start to be more significant, and the potential for policy and procedure to help is much less so, simply because it can be and often is ignored.

3. Problems with RCA and the "Swiss Cheese" model: why are hospitals different from other industries?

There are three fundamental problems with the application of the "Swiss Cheese" model to adverse events in hospitals. First, in the hospital, the distinction between individual and organisational accidents is not clear. The entire premise of the "Swiss Cheese" model was the investigation of causation factors of large industrial accidents as opposed to individual accidents. In the hospital we do not have large scale accidents but, instead, multiple little accidents or adverse events daily, if not hourly, and in almost every setting. The literature on causation of adverse events in hospitals overwhelmingly points to failures at the sharp end of care delivery to the patient by frontline staff. Analysis of the causative factors associated with the adverse events in The Quality in Australian Health Care Study found that cognitive failure was a factor in 57% of these adverse events [14]. In this analysis, cognitive failure included such errors as: failure to synthesise, decide and act on available information; failure to request or arrange an investigation, procedure or consultation; lack of care or attention; failure to attend; misapplication of, or failure to apply, a rule, or use of a bad or inadequate rule [14]. In a two-hospital study from the United Kingdom that looked at 100 sequential admissions to the intensive care unit (ICU) from ward areas, it was found that 54 had sub-optimal care on the ward prior to transfer [15]. This group of patients had a mortality rate of 56%. Some of the sub-optimal treatment factors included failure to seek advice, lack of knowledge, failure to appreciate clinical urgency, and lack of supervision [15].

Adoption of the Reason "Swiss Cheese" model for organisational accidents has led the whole Quality and Safety industry, and in particular hospitals, looking for system solutions to what can be explained by individual competency and micro environment cultural issues at the patient interface. In particular, a major rationale of Reason's philosophy is to avoid individual accountability for errors and the culture of blame and shame. Nearly 20 years ago Reason himself noted the folly of this approach in medicine when he stated, "*It is curious that such a bastion of discretionary action as medicine should be moving towards a 'Feed Forward' mode of control when many other hitherto rule dominated domains – notably railways and oil exploration and production – are shifting towards performance-based controls and away from prescriptive ones*" [9]. When Reason talks about human contribution to organisational accidents, he describes two schemas of control [9]. A "Feed Forward" control system is one where human performance is determined by rules and procedures as determined by an organisational standards and objectives. In this schema occasional accidents and incidents are analysed and then fed back into either an alteration of an existing rule or procedure or the creation of a new one (**Figure 3**). At the other end of the control spectrum there is the model where organisational output is largely determined by individual human performance. The basis for this model is that, in the first instance, the humans are generally highly trained and that performance is controlled by continual performance reinforcement against a known or standard comparator (**Figure 4**). The best example of this, in hospitals, is specialist medical practice. To even start specialist training there have been many years of training and experience (medical school, house officer jobs, and pre specialty registrar placements) followed by a period of mentoring

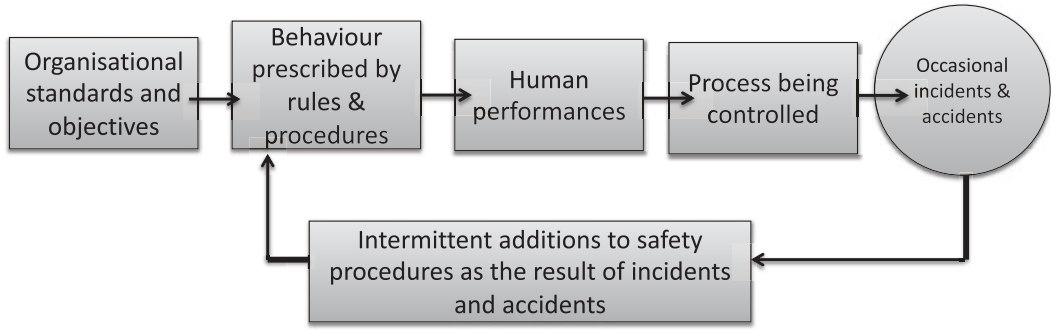

Figure 3.
The Reason Feedforward process control system [22].

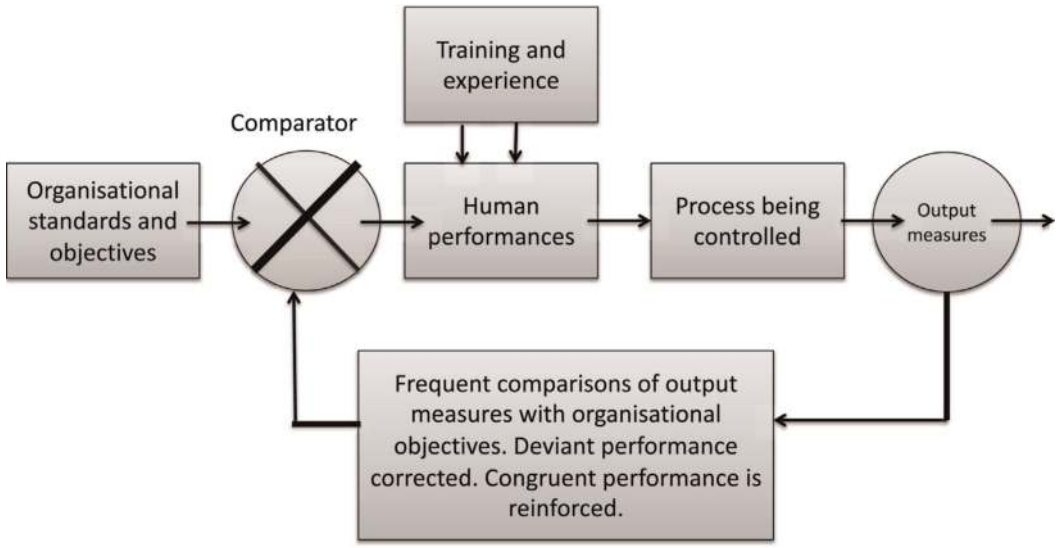

Figure 4.
The Reason feedback process control system [22].

and in essence apprenticeship to learn the specialty to the known standard of the comparator, the standard of practice as maintained by the specialty colleges. Taking these two schemata one can immediately see the trouble with health care in hospitals. It is a large industry with community and political expectations that are more congruent with the "Feed Forward" schema, but yet with most of the actual clinical activity being undertaken by the "Human Performance" schema.

What we have seen in the construction of hospital adverse event defences is an over reliance on the administrative blunt end of the organisation, in terms of policy and procedures, with the assumption that the health care professionals at the patient end are competent and will be compliant. The shift to looking for hospital wide problems has come at the cost of avoiding the issue of individual professional accountability and associated issues, most notably the education and certification of health care professionals. In Australia and the United Kingdom, several studies indicate that the medical undergraduate syllabus does not provide graduates with the basic knowledge, skills, and judgement to manage acute life-threatening emergencies [16–18]. These studies identified deficiencies in cognitive abilities, procedural skills,

and communication. Despite this, undergraduate and postgraduate curricula have been slow to embrace a patient safety culture [19–21].

The second fundamental problem with the "Swiss Cheese" model and the Palmieri variation of this are, that they are overly simplistic and do not take into account the complexity of the patient and the hospital system. When a patient enters a hospital system, they enter a system where they will be exposed to a variety of hazards which, in turn, have numerous defences in place to prevent an adverse patient outcome. Operations, anaesthesia, medical interventions and procedures, drugs and fluids and even oxygen therapy constitute the hazards. Most defences in health care are reliant on the competence of the health care professional and as such are "soft." "Hard" defences are those that are impossible to overcome, for example in anaesthesia where the administration of hypoxic gas mixtures is physically prevented. The soft defences, in health care include treatment policies and procedures, manual alarm systems, and ad hoc hierarchical and lateral human checking systems. Soft defences are very reliant on the training and education that healthcare workers receive and the culture of compliance. Superimposed on these layers of hazards and defences that confront a patient, there are the latent conditions that exist, most obviously within the patient, but more insidiously within the hospital as an organisation. A patient's past medical history, family history, social history, associated co-morbidities, drug regimen and allergies largely constitute their latent conditions. These conditions and their relation to the current presenting complaint that brings the patient into the hospital system, is territory that individual healthcare workers are usually extremely well trained in and familiar with. Hospital latent conditions are not so explicit, particularly to the patient or the frontline healthcare worker. They are made up of a complex matrix of production and cultural imperatives such as the financial operating environment, political and societal imperatives, medico-legal and insurance concerns, compliance issues imposed by various regulatory bodies (often with associated financial incentives or disincentives) and workforce and work-practice issues. Thus, in the hospital system, unlike any other industry we have a high degree of ever-changing complexity; complex patients and a complex system where adverse events are essentially prevented by a whole host of predominantly soft defences [22]. The "Swiss Cheese" model is a static model with fixed defences in terms of the layers and the size of holes in each layer. This translates well into most industries, but in health care, the complexity is dynamic and ever changing, the number of holes and layers change with every patient and each and every different healthcare professional.

The third problem with the "Swiss Cheese" model is that adverse events in hospitals occur so insidiously that they become normalised into the operating behaviour and practice of the organisation. This is distinct from large scale industrial accidents, where the impact of the event has a high degree of face validity, primarily due to the immediacy and scale of the event. Therefore, in terms of numbers, patient adverse events may constitute a crisis. However, to the individual practitioner or even hospital these events may not appear to be a problem. On the whole, such events are infrequent and occur, over a long-time frame. For example, The Quality in Australian Healthcare Study looked at a random sample of 14,179 admissions to 28 hospitals in two states of Australia in 1992 and documented 112 deaths (0.79%) and 109 cases where the adverse event caused greater than 50% disability (0.77%) [14]. Seventy percent of the deaths and 58% of the cases of significant disability were considered to have had a high degree of preventability [14]. Thus, for the individual clinicians, treating departments and units, and even the 28 study hospitals themselves, their actual experience of these outcomes, over the year would be minimal (one or two cases) [14].

The "Swiss Cheese" model and RCA gives a poor explanation of the multitude of insidious individual accidents that occur in hospitals and is too simplistic for the complexity of most patients and the complex matrix of healthcare that is provided in a hospital. Most importantly, the focus on system issues whilst valid and important, has detracted from what is really needed; focussed attention on clinical competence and accountability at the patient interface.

4. Clinical Futile Cycles and the traditional hierarchical referral model of care

The term "Futile Cycle" is a term used in cell biology and biochemistry to explain the conversion of one substance to another and back to the original substance by two always on enzymatic pathways. However, despite the enzymatic activity and energy utilisation there is no net output or gain from this energy consuming and active process. This is exactly what we see with hospital patient adverse events, and in particular the deteriorating patient; a lot of clinical activity, none of which effectively alters the trajectory of the patient in the downward spiral to the HAE. The clinical activity occurs in a traditional hierarchal referral model of care that by its very nature is often either unresponsive or slowly responsive and where the exhaustive policy and procedures are often ignored.

In the hospital, the "Clinical Futile Cycle" usually starts with the most junior level of the "traditional hierarchical referral model of care," at the bedside with the interaction between the junior nurse and the patient (**Figure 5**). With a clinical abnormality, be it an observation, a wrong drug order, or a procedural failure, the junior nurse must make a decision as to the significance of the abnormality and the importance of

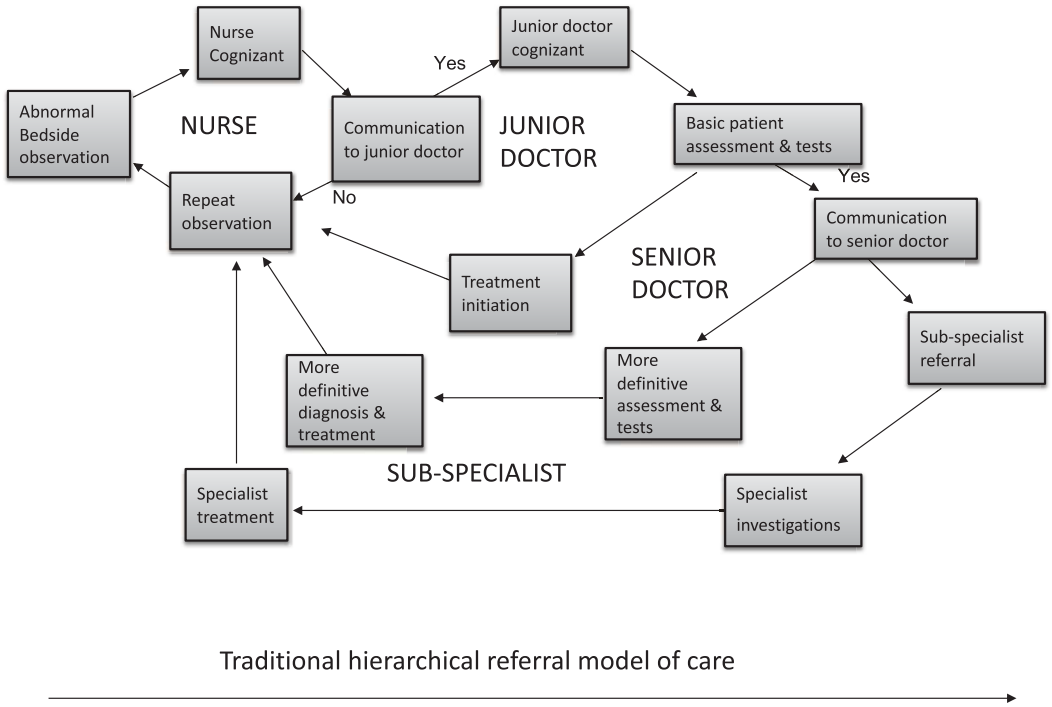

Figure 5.
Clinical Futile Cycles [23, 24].

reporting it to a more senior team member, either a senior nurse or the most available (usually junior) doctor. However, that decision to escalate the issue can be influenced the workplace culture that exists in the particular micro environment of that bedside and that ward at that time [23]. If the concern or abnormality is escalated, it is to the next person in the care hierarchy of the team looking after that patient. This is often the junior doctor who then needs to attend, assess and then also make a decision about whether or not to escalate the issue to the next person in the hierarchy. This is important because, for the most, the junior doctor does not have the skills or emotional intelligence to appropriately manage a lot of these clinical abnormalities [32–35]. If the issue is escalated, it is often to a middle grade doctor, one who is often a specialist in training and who as such may be difficult to find. Unlike their juniors, usually this grade of doctor does have the technical and clinical abilities to deal with the particular issue. However, they are often over committed with clinics, operating theatre, and ward rounds. Additionally, this grade of doctor is diagnosis focused and often we see them giving instructions to their juniors (usually appropriately) to organise specialised investigations and other speciality consultations. There is nothing wrong with this, except for the fact that it is time consuming (**Figure 6**) [24].

In support of the "Clinical Futile Cycles" model is the literature that has looked at the causation of adverse events in hospitals [14, 15, 25, 26]. All these studies can assign almost all causation to three human factor issues at the patient interface; competency, cognition (or failure thereof) and culture. Perhaps the most disturbing example of this was described in the MERIT study; a randomised cluster control study of Medical Emergency Teams (MET) [27] in 23 Australian hospitals (including private and rural hospitals) in 2002. In the nearly 500 cardiac arrests that occurred during the study, in more than a third of instances staff took abnormal (that broached MET activation criteria) patient observations in the 15 min prior to the cardiac arrest, but did not activate an emergency response. The first thing of note with this phenomenon was that the incidence of not calling for help in an abnormal patient situation was high at 30% in the intervention hospitals, and 40% in the control hospitals. Put another way,

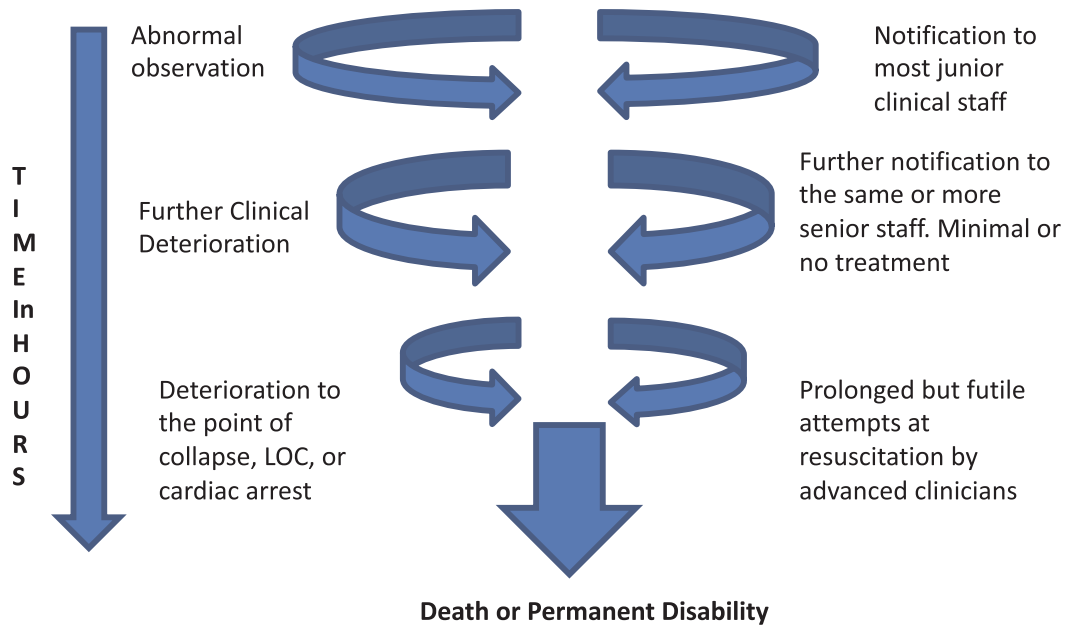

Figure 6.
The downward spiral of Clinical Futile Cycles in the deteriorating patient.

in the average Australian hospital in 2002, if a patient had documented abnormal signs, in the 15 min before a cardiac arrest, in up to 40% of the time the staff did nothing about this. Another thing of note with these findings is that in intervention hospitals that had had an intense education process on the new MET activation policy and procedure, the incidence of calling for help was only 10% greater than the control hospitals [27]. It is here at the bedside with the pre cardiac arrest patient that the staff are trapped in a clinical futile cycle, unable to get out of it due to either clinical incompetency (not able to recognise and act for the pre arrest patient) and/or culture whereby calling for help maybe considered not the norm in that ward, on that shift at that time [28–30].

The "Swiss Cheese" response when RRS fail at the sharp end, or afferent limb failure (ALF), the response is to assume policy and procedure failure, with hospital administrations, all too often, is just to alter the policy and procedure and make the activation criteria mandatory for the bedside staff [31]. This is done without areal understanding of what actually is going on at the bedside, the various heath care worker interactions and the overall socio-cultural environment of the hospital. Despite the intuitive appeal of Rapid Response Systems [32] their potential benefits [33] have been limited by this phenomenon of ALF [34]. In essence the RRS resuscitation teams cannot benefit the deteriorating patient if they are not notified about them. The incidence of bedside staff failure to activate the RRS has been measured at between 17 and 68% albeit that the various studies have used different criteria, definitions and methodologies [29, 34, 35]. What may be going on is that here may be problem with the face validity of RRS due to the very low specificity of the activation criteria [36–38]. Furthermore, there may be problems around staff competency, or cultural issues around staff losing face by calling for help. As a result, rather than trying to understand or deal with this very real issue of face validity, possible competency issues and probable cultural issues, the administrative response, is usually simplistic.

5. Using Clinical Futile Cycles to safety proof health from the sharp end back

If we accept the model of clinical futile cycles, it becomes immediately apparent that no amount of activity away from the sharp end of the healthcare adverse event will help, least of all the generation of more policy and procedure. Instead, we need to focus attention on the healthcare professional and the immediate socio-cultural environment in which they work [39]. Dealing first with the health care worker; the selection of these individuals to undertake their chosen vocation is invariably done by consideration of various personal attributes, in the case of medicine academic achievement and individual performance in tests [40–43]. This process and subsequent education take no account of the fact that as soon as these people graduate, they will be working in a team environment.

The clinical care we deliver (and receive) is a function of the education and capability of our students who will eventually be our doctors and ultimately clinical leaders and decision makers. What we teach and practise best is point of care medicine and clinical interventions. Therefore, it is no surprise that what we examine and, and what students focus on, is specific point of care clinical assessments and interventions [44]. This is best represented by the objective, structured, clinical, examination system (OSCE) that is now a widespread and common form of summative assessment

[45]. In the OSCE, candidates undertake clinical assessment tasks at a number of specific stations for 5–8 min. Each station has a structured "score card" that students must address to get the points. This system of examination in no way gives any indication on a student's ability and competency to comprehensively take a history, do a physical examination, synthesise these findings into a meaningful problem list and finally and actually least importantly come up with a diagnosis [46]. It has got to the point now in the undergraduate curriculum, that the clinical process of whole patient assessment is variably taught and certainly not examined, in a sufficiently stringent manner to motivate students to spend long hours doing patient histories and examinations. Having competent health care professionals spend time with and understanding our patients is the single biggest step to making health care safe.

Second, priority needs to be given to the core business of hospital care; the interaction at the bedside and clinic between the patient and the various healthcare professionals [28–30]. Clinical Futile Cycles gives a practical platform to understand this culture. We need to accept that an abnormal or inappropriate workplace culture is at the heart of every major inquiry into poor hospital care [47–52]. Every report into these enquiries recommends change. Yet 30 years on from Bristol [51] we have mid-Staffordshire [50]. So, what have we really learned from the reports and thousands of pages of recommendations? Nothing. We need a different strategy; one that puts the patient and their wellbeing first. This should be followed by the implicit understanding that our core business is that of interaction with the patient from the most basic and junior levels. The bedside healthcare team needs to be trained, credentialed and supported to deliver better healthcare, not as individual players, but as members of a team (**Table 1**).

	RCA	**CFC**
Scope	Limited to timeline of patient episode of care	As for RCA, but examines workplace culture, interaction between healthcare staff, in the hierarchical hospital system and takes account of socio, cultural, fiscal and political factors
Causation	Broken into categories of, Communication, Task, Equipment, Patient and Care team and organisation	As above plus, human factors, education, and administration
Recommendations	Attempts to fill in the holes in the "Swiss Cheese" model of causation	Assumes that either the holes in the "Swiss Cheese" will reoccur or that new ones will be made. Aims to address issues of competence with individual practitioners, culture of practice between practitioners, and the influence of the organisations fiscal political and social environment
Outcomes	Changes to Policy and Procedure Professional disciplinary action against the bedside practitioners	Addresses limitations in Human Factors at an individual practitioner level Monitors addresses abnormal cultural practices at a ward and department level Assumption of responsibility for socio, politico, fiscal factors by organisation administration and government

Table 1.
Hospital adverse events; review by root cause analysis (RCA) versus clinical futile cycles (CFC).

5.1 Two typical cases

References

https://www.abc.net.au/news/2021-05-17/aishwarya-aswath-perth-childrens-hospital-death-report-released/100144052 (last viewed 22/07/2021)

On April the 3rd 2021 at 1722 a 7-year-old child girl presented to the Emergency Department at Perth Children's Hospital (PCH). Prior to death the family made multiple attempts to get help, which did not occur, despite continuing and deteriorating signs of sepsis. At 2122 after more than an hour of resuscitation she was deceased. The following morning a blood culture grew Strep A. In the ensuing days weeks and months, several of the frontline clinical staff have been referred to APHRA, in retaliation the Nurses union have referred several middle level nurse managers to APHRA. The Chairperson of the PCH resigned, the CEO offered his resignation, and there have been calls for the State Health minister to resign. An initial confidential RCA report into the death highlighted many short comings and made 11 recommendations that were tabled in Parliament. The family rejected the findings as contradictory. They have insisted that such a death should never occur again. Reportedly morale amongst staff at the hospital and in particular the Emergency department is at a "rock bottom low."

WA's Child and Adolescent Health Service (CAHS) will not endorse its own report into a 7-year-old's death at Perth Children's Hospital until an independent investigation has been completed.

Key points

- Health executives say further investigations are needed
- The 7-year-old died after waiting for treatment at PCH
- An independent review into her death is being prepared

The report, which was released by Aishwarya Aswath's family, detailed what happened the night Aishwarya died, including the response from staff, as she waited around 2 h to be treated before being declared dead just after 9:00 pm on Saturday, April 3.

The CAHS review was conducted by a panel that was made up of a mix of health department employees and external experts.

"The panel found there were a cascade of missed opportunities to address parental concerns and incomplete assessments, with a delay in escalation which may have contributed to the patient's outcome," the report found.

Aishwarya's parents Aswath Chavittupara and Prasitha Sasidharan released the report to the public.*(ABC News: West Matteeussen).*

Eleven recommendations were made, including improvement to the triage process policy at PCH, a clear pathway for parents to escalate concerns to staff, a review of cultural awareness for staff and development of an established sepsis recognition diagnostic tool in the emergency department.

The state government has promised there will also be an independent inquiry into the hospital's emergency department, and a coronial inquest into Aishwarya's death.

More investigations needed: CAHS

CAHS chief executive Aresh Anwar said he agreed with Aishwarya's family that she was not shown compassion and care.

Aishwarya Aswath died after waiting for treatment at Perth Children's Hospital's emergency department. *(Supplied: Family).*

But he said the report would not be endorsed until further investigations were completed.

"The CAHS Executive acknowledge the findings of the panel," Dr. Anwar said in a statement provided to the ABC.

"The report represents a significant volume of investigation," however, it is the opinion of the CAHS executive that there are a number of elements that require further exploration.

"The additional independent external review must be completed before we can, in good conscience," consider this investigation to be finalised.

"This additional targeted review will ensure" we fully understand the opportunities for systemic change.

"While we await the additional independent external review," we are not in a position to endorse this root cause analysis report.

"However, we remain committed and are urgently implementing all 11 recommendations."

Health Minister Roger Cook warned against making conclusions about the circumstances surrounding Aishwarya's death before additional investigations were carried out.

"We need to make sure that as individuals we don't try to play judge and jury in relation to what happened in the ED on the night Aishwarya passed away," he said.

"We weren't there, we don't know, so it's important that we leave it up to the experts and make sure they get the opportunity to investigate this properly."

Health Minister Roger Cook says he wants to ensure nurses feel "heard and supported". *(ABC News: Eliza Laschon).*

The Minister met with doctors and nurses at PCH's emergency department this afternoon.

"This will be my opportunity to tell them that I support them in the difficult work they do," he said.

"I want them to know that we will continue to work hard to make sure they have the resources they need to do the job that they are committed to."

"I'm committed to work with them closely, to come back as often as they feel necessary to make sure they feel heard and supported."

Staff 'upset' with Minister at meeting

The meeting was also attended by the Australian Nursing Federation WA chief executive Mark Olson and Australian Medical Association WA president Andrew Miller.

Emerging from the meeting, Dr. Miller said it had become emotional, with staff taking the opportunity to "call it how it is" in front of the Health Minister.

"He was received, I would say, poorly," he said.

"I've never heard staff quite so upset with anyone in a meeting before that they would speak out in that way."

AMA WA president Andrew Miller (left) says staff took the opportunity to "call it how it is". *(ABC News: Eliza Laschon).*

Dr. Miller said staff were particularly upset by reports some of their colleagues would be referred to the medical regulator, the Australian Health Practitioner Regulation Agency (AHPRA).

In response, he said he intended to make his own referrals to the watchdog.

"It's pretty clear from the evasion that we heard from management that they are intending [to], or have, reported very junior members of the staff to AHPRA," Dr. Miller said.

"We have expressed our dismay and disgust over that."

"If that if that proceeds, [I intend to] report the registered managers, executives and the director-general involved in setting up the system within which these junior staff work, so that AHPRA has the opportunity to consider everyone's actions in this."

Mr. Olson said during the meeting, nurses again raised concerns about staffing levels in the emergency department, both on the night Aishwarya died and since.

"There is this disconnect between those who are running the hospital and those who are working in the hospital," he said.

"[The nurses] have no faith in the executive at the moment. They have no trust that the executive can rebuild the reputation and rebuild the trust that the community needs in this hospital, and it's taking a toll."

Posted 20 May 2021 20 May 2021, updated 20 May 2021 20 May 2021.

Box 1.
Death of Aishwarya Aswath at Perth Children's Hospital, Australia, April 2021.

References

https://www.pulsetoday.co.uk/analysis/regulation/bawa-garba-timeline-of-a-case-that-has-rocked-medicine/ (last viewed 28/07/2021)

18 February 2011

A 6 year old boy is admitted to the Children's Assessment Unit (CAU) at Leicester Royal Infirmary following a referral from his GP. Jack Adcock, who had Down's Syndrome and a known heart condition, had been suffering from diarrhoea, vomiting and had difficulty breathing.

Dr. Hadiza Bawa-Garba was a specialist registrar in year six of her postgraduate training (ST6) with an 'impeccable' record. She had recently returned from maternity leave and this was her first shift in an acute setting. She was the most senior doctor covering the CAU, the emergency department and the ward CAU that day. She saw Jack at about 10.30 am.

Jack was receiving supplementary oxygen and Dr. Bawa-Garba prescribed a fluid bolus and arranged for blood tests and a chest x-ray. At 10.44 am the first blood gas test was available and showed a worryingly high lactate reading. The x-ray became available from around 12.30 pm and showed evidence of a chest infection.

Dr. Bawa-Garba was heavily involved in treating other children between 12 and 3 pm, including a baby that needed a lumbar puncture. At 3 pm Dr. Bawa-Garba reviewed Jack's X-ray (she was not informed before then that it was available) and prescribed a dose of antibiotics immediately, which Jack received an hour later from the nurses.

A failure in the hospital's electronic computer system that day meant that although she had ordered blood tests at about 10.45 am, Dr. Bawa-Garba did not receive them until about 4.15 pm. It also meant her senior house office was unavailable.

During a handover meeting with a consultant which took place about 4.30 pm, Dr. Bawa-Garba raised the high level of CRP in Jack's blood test results and a diagnosis of pneumonia, but she did not ask the consultant to review the patient. She said Jack had been much improved and was bouncing about. At 6.30 pm, she spoke to the consultant a second time, but again did not raise any concerns.

When she wrote up the initial notes, she did not specify that Jack's enalapril (for his heart condition) should be discontinued. Jack was subsequently given his evening dose of enalapril by his mother after he was transferred to the ward around 7 pm.

At 8 pm a 'crash call' went out and Dr. Bawa-Garba was one of the doctors who responded to it. On entering the room she mistakenly confused Jack with another patient and called off the resuscitation. Her mistake was identified within 30 s to 2 min and resuscitation continued.

This hiatus did not contribute to Jack's death, as his condition was already too far advanced. At 9.20 pm, Jack died.

2 November 2015

Portuguese agency nurse, 47-year-old Isabel Amaro, of Manchester is given a 2-year suspended gaol sentence for manslaughter on the grounds of gross negligence.

4 November 2015

At Nottingham Crown Court Dr. Bawa-Garba is convicted of manslaughter on the grounds of gross negligence.

14 December 2015

Dr. Bawa-Garba is given a 24 month suspended sentence.

8 December 2016

Dr. Bawa-Garba's appeal against her sentence is quashed at the Court of Appeal.

13 June 2017

The Medical Practitioners Tribunal service says Dr. Bawa-Garba should be suspended for 12 months and rejects an application from the GMC to strike her off the register. It says: 'In the circumstances of this case, balancing the mitigating and aggravating factors, the tribunal concluded that erasure would be disproportionate.'

8 December 2017

GMC takes the MPTS to the High Court and argues its own tribunal was 'wrong' to allow Dr Bawa-Garba to continue to practise.

25 January 2018

The GMC successfully appeals at the High Court bid to have the MPTS decision overruled, leading to Dr. Bawa-Garba being struck off the medical register. Lord Justice Ouseley says: 'The Tribunal did not respect the verdict of the jury as it should have. In fact, it reached its own and less severe view of the degree of Dr Bawa-Garba's personal culpability.' Health secretary Jeremy Hunt says that he is 'deeply concerned' about its implications.

26 January 2018

Prominent GPs tell Pulse that the ruling raises serious questions about how doctor's reflections are used and recorded, and that new guidance is now needed urgently.

30 January 2018

An influential international doctors group accuses the GMC of treating black and minority ethnic doctors 'differently and harshly', following the High Court case.

In light of the Dr. Bawa-Garba case, the GMC announces a review of how gross negligence manslaughter is applied to medical practice, which was initially led by Dame Clare Marx and later taken over by Leslie Hamilton after Dame Clare was appointed the next GMC chair. Meanwhile, an influential international doctors group accuses the GMC of treating black and minority ethnic doctors 'differently and harshly', following the High Court case.

31 January 2018

Dr. Bawa-Garba's defence body releases a statement saying e-portfolio reflections were not used against her in court, despite 'wide misreporting' that they were. But Pulse uncovers that her reflections were used in court, from a document submitted as evidence by the on-call consultant on the day.

6 February 2018

Former health secretary Jeremy Hunt announces a review into the application of gross negligence manslaughter charges in medicine in light of the Dr Bawa-Garba case.

7 February 2018

Following a crowd funding campaign, which raised over £335,000, Dr. Bawa-Garba decides to appeal the ruling, and considers appealing the manslaughter conviction from 2015.

12 February 2018

The GMC refutes claims that there was discrimination in its decision to launch a High Court bid. In response to an open letter from the British Association of Physicians of Indian Origin (BAPIO), the GMC said the accusations were 'troubling and without merit'.

19 February 2018

The GMC is criticised by their regulator, the Professional Standards Authority (PSA), for striking off Dr. Bawa-Garba from the medical register. The PSA said the bid was 'without merit', according to an unpublished review of the case.

13 March 2018

GMC chair Professor Terence Stephenson says he is 'extremely sorry'for the distress caused to the medical profession by the Dr. Bawa-Garba case.

19 March 2018

University Hospitals of Leicester NHS Trust releases its serious incident report in to the death of Jack Adcock, which was completed 6 months after his death. The report says that there was no 'single root cause' behind the 6-year-old's death.

29 March 2018

Dr. Bawa-Garba is granted permission to appeal the High Court's decision to allow the GMC to strike of the junior doctor. Meanwhile, the BMA applies and is later permitted to advise the Court of Appeal in the case.

23 April 2018

The GMC announces the launch of its review into why black and minority ethnic doctors are more likely to face complaints from employers than their white colleagues, which is to be co-led by researcher Roger Kline and Dr. Doyin Atewologun.

11 June 2018

Department of Health and Social Care's 'rapid review' into medical gross negligence manslaughter concludes that the GMC should longer be able to appeal decisions made by its own tribunal regarding fitness-to-practise decisions.

27 June 2018

The BMA supports a vote of no confidence in the GMC in light of the Bawa-Garba case at its Annual Representative Meeting.

3 July 2018

Despite the conclusions of the DHSC's 'rapid review' in gross negligence manslaughter, the GMC tells Pulse it is not intending to halt appeals against its own fitness-to-practise tribunal until the law is changed.

25–26 July 2018

Dr. Bawa-Garba's appeal of the High Court decision that saw her struck off the medical register is heard in the High Court over one and a half days. Dr. Bawa-Garba said after the hearing that she is 'whole-heartedly sorry' for her mistakes, while Jack's mother Nicola Adcock says she 'will cause a public uproar' if Dr Bawa-Garba is reinstated.

13 August 2018

The Court of Appeal judges rule in favour of Dr Bawa-Garba, restoring the MPTS decision that she should be suspended from the medical register rather than erased. The judges said the matter has been passed to the MPTS 'for review of Dr Bawa-Garba's suspension'.

20 December 2018

The Medical Practitioner Tribunal Service (MPTS) decides to extend the suspension of Dr. Hadiza Bawa-Garba by a further 6 months, saying the measure is 'appropriate' to 'protect the public'.

13 March 2019

The MPTS announces a two-day review hearing for Dr. Bawa-Garba set for 8 and 9 April 2019. The hearing will decide whether her fitness to practise remains impaired and whether she is deemed fit to return to work.

8 April 2019

The MPTS rules that Dr. Bawa-Garba' the fitness to practise remains impaired, due to her lack of face-to-face patient contact while she was under suspension, agreeing that the risk of her putting another patient at an unwarranted risk of harm is low.

9 April 2019

The MPTS decides that Dr. Bawa-Garba will be able to return to practice from July 2019—under certain conditions—but she does not intend to return to work until February 2020, when her maternity leave finishes. The MPTS argues that the public interest has been served already by her cumulative suspension and that any higher sanction would be 'disproportionate and punitive'.

Sources

Mr Justice Nicol, Court of Appeal (Criminal Division), 8 December 2016

Medical Practitioner Tribunal Service Decision Dr Bawa-Garba. MPTS. 13 June 2017

High Court, December 2017—Reports from court reporter

MPTS press releases, 8–9 April 2019

For more on the Bawa-Garba case—click here

Box 2.
Death of Jack Adcock at Leicester Royal Infirmary, UK, February 2011.

6. Conclusion

After over three decades of the Quality and Safety movement two major themes are apparent. First, despite the best of efforts at an individual patient level, ward or department, hospital and organisation, the incidence of HAE has not substantively diminished. Second, the same mistakes are repeated. The traditional response to HAE has been the RCA and thence implementation of recommendations. This approach takes no or minimal account of the human factors involved or the socio, politico, fiscal and cultural circumstance that might be at play. At best this approach makes the assumption that such implementation will actually occur. At worst individual practitioners, usually junior, usually at the bedside, must take the responsibility and with it an unwieldy professional disciplinary process. There is rarely professional accountability for those further up the traditional hospital hierarchy despite their obvious engagement in setting the socio, political and fiscal arrangements for the organisation. Of greater concern they are often oblivious to particular sub optimal cultural practices that are often present when HAE's occur.

Clinical Futile Cycles gives an alternative framework to examine HAE, by directing focus at the futile clinical activity, and then trying to understand why such futile clinical activity occurred. With this understanding, interventions that target the early recognition of futile activity with the ultimate aim of learning clinical processes that are productive in circumventing clinical deterioration.

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