Chapter 11
When Things Go Wrong

No matter how hard we work, how well trained and committed we are mistakes do happen, and on occasions things do go wrong. Often it is not an individual but the underlying system to blame, the underlying processes or lack of them.

The ability to respond appropriately when things go wrong and the ability to investigate and address such events, to minimise the chance of them occurring again, are important skills to develop. An approach for dealing with adverse events is initially presented. The root cause analysis methodology is then introduced with the five Whys and cause-effect methods discussed. The skills of learning from mistakes, encouraging a no blame structure, and recognising error prone situations, are explored. Ways of dealing with complaints, malpractise or medicolegal action, are also presented.

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Once I chop this little wheat the hospital garden will be just perfect
HOSPITAL

Managing Adverse Events

As a clinician you may encounter or be involved in a medical error or adverse event. The World Health Organisation defines adverse events as "an injury related to medical management, in contrast to complications of disease. Medical management includes all aspects of care, including diagnosis and treatment, failure to diagnose or treat, and the systems and equipment used to deliver care" [1].

Administration of the wrong medication, transfusion of incompatible blood or blood products, pressure ulcers due to inadequate hydration and skin care, wrong site surgery, infection due to failure of antibiotic prophylaxis, clostridium colitis due to unnecessary prolonged antibiotic treatment, failure to pick an early tumour on a mammogram, not recognising malignancy on a skin biopsy, are only some of potential adverse events that may be encountered in clinical practise.

About 10 % of patients in acute hospitals in the developed world may experience one or more adverse events, with about 50 % of these being potentially preventable (Table 11.1) [2–5]. A study evaluating hospital patients in Portugal, reported that 10.8 % died and 5.4 % experienced permanent disability as a result of an adverse event. In the USA the total national costs due to adverse events are estimated at 4–6 % of national health spending [6].

Being able to deal with an adverse event is an important skill to develop. You may have to deal with such an event in the acute setting, when this is first recognised, or you may contribute to investigating the event and determining what went wrong and the reasons behind it.

An approach used by the author and described using the acronym SAFEST (Stop, Antidote, Find, Explain, Sorry, Transform), may help you deal acutely with a harmful event. This is summarised below:

Table 11.1 Incidence of adverse events in hospitals in developed countries, and proportion of these considered to be preventable

Country	Incidence (%)	Preventable (%)
UK [2]	10.8	52
New Zealand [3]	11.3	61.6
Portugal [4]	11.1	53.2
Denmark [5]	9	40.4

S-top any further harm from occurring, discontinue the inappropriate medication, inappropriate fluid administration or blood transfusion.

A-ntidote any harm that already took place. Reverse any damage that has been done. Treat the venous thrombosis that occurred due to failure to prescribe thromboprophylaxis, reverse with fresh frozen plasma the anticoagulation effect of inappropriate anticoagulant administration, reverse the opioid overdose.

F-ind why this happened. Root cause analysis. Why did the error happen? What is the underlying cause? What system failures allowed this to happen?

E-xplain the event to the patient or relatives as needed. Be open and transparent.

S-orry. Sympathise to the patient for what went wrong and apologise if there is any specific regret, oversight or mistake.

T-ranform your practise to ensure the harmful event is un-likely to happen again. Learn from the event and introduce long lasting prevention changes. Make plans as how to deal with such an event if it were to reoccur.

Find the Real Cause

> To make no mistakes is not in the power of man; but from their errors and mistakes the wise and good learn wisdom for the future
>
> Plutarch [7]

In analysing what went wrong try and get to the bottom of things. If you do not identify the real underlying cause, then you will only be addressing its manifestations. As in Medicine, you will be treating the symptom rather the underlying disorder. Root cause analysis is a term used to describe this approach. It does not concentrate on the most apparent cause of an adverse event, but explores what lies beneath. It has been used extensively in the engineering and aviation industry and more recently in healthcare.

Multiple investigation systems have been described to help examine adverse events. The five Whys (Fig. 11.1) [8] and the cause-effect analysis (Fig. 11.2) [9] are two of these. These try to put structure into the investigation of the underlying problems. Both suggest that, when things go wrong, it is often not due to an individual's fault, but due to absent or poorly performing underlying processes or systems.

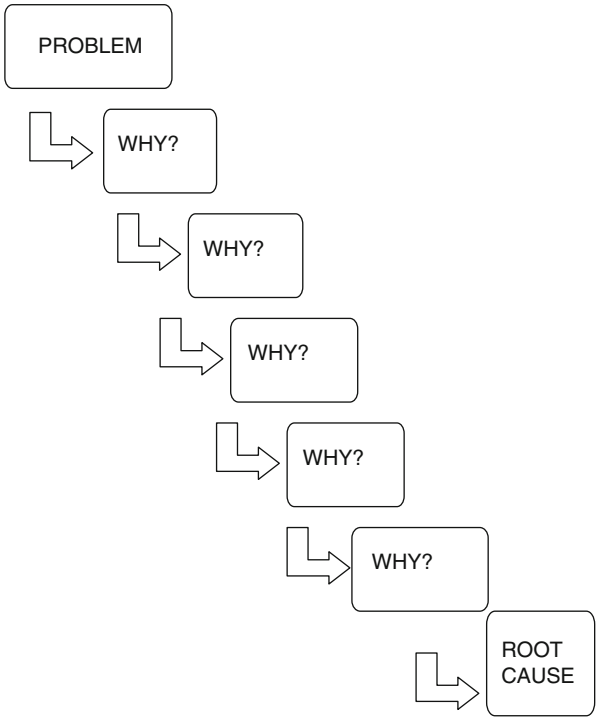

Fig. 11.1 The five whys approach for root analysis (Based on Taiichi [8])

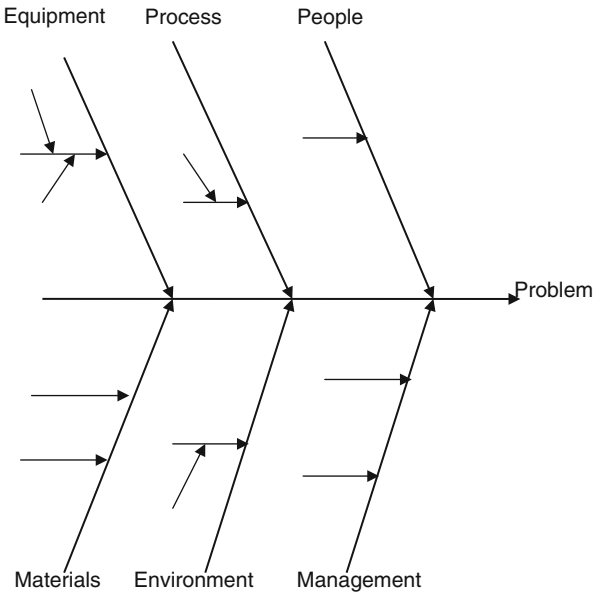

Fig. 11.2 Fishbone diagram used in root analysis of an error or adverse event (Based on Ishikawa [9])

The Five Whys

The five Whys was initially described by Taiichi Ohno, pioneer of the Toyota Production System, to help identify problems in the manufacturer's production line [8]. In this method, you keep asking "why?", until you get to the root of the problem, and identify the process that needs rectifying, to ensure similar events are not repeated. The answer to one "why?" usually leads to a further "why?" until the bottom cause is reached. The number 5 is only arbitrary and a smaller or larger number of "why?"s may be needed to get to the real cause, depending on the problem examined.

An example of the five Whys approach may be:

- Patients are waiting too long in the emergency room – Why?
- Junior doctors take too long to see them – Why?
- Not enough juniors doctors roistered – Why?
- New doctors not recruited on time – Why?
- Advertisement for new doctors delayed – Why?
- Advert posted rather than emailed to advertising journal.

The root problem in this situation was that traditional posting was used for setting up an advert for junior doctors. An upcoming post-office strike was not taken into account. Unless prompt advertising and appointment of juniors occurs in the future, the same problem is likely to reoccur.

Cause: Effect Analysis

The cause and effect diagram (also known as Fishbone diagram due to its shape or Ishikawa diagram as credit to its initial descriptor) provides a structured way of assessing the underlying causes of a problem.

This was originally described by Professor Ishikawa at the University of Tokyo [9]. It looks at the problem, and classifies its potential causes into groups of factors, that may account for the problem occurring. Such factors may be:

- Available resources (materials).
- Surrounding environment and context.
- Management and supervision.
- Equipment.
- Processes, pathways and protocols.
- People involved.

The cause and effect diagram is presented as a horizontal line pointing to the problem (the hard backbone of the fish!) with branches or sub-branches (lesser bones!) arising from this, and pointing to potential causes. Just dealing with the obvious hard backbone is not enough. One must find and remove the small, but sharp tiny bones, to avoid further choking trouble!!

The initial step is to write down the problem, and then brainstorm, to gather information as to the possible real causes. The five Whys method can be used alongside Ishikawa's cause-effect diagram to get to the bottom of each contributing factor.

Learning from Mistakes

> From the errors of others, a wise man corrects his own
>
> Publilius Syrus [7]

Developing the skill of encouraging a no blame structure and learning from mistakes, may help avoid further similar adverse events or errors. Being able to recognise error prone situations, and hence approach these appropriately, may also minimise the risk of adverse events.

Encouraging a No-Blame Culture

Accept that mistakes will happen, things will go wrong, even in healthcare. James Reason, Professor of psychology at the University of Manchester, UK, and author of the book, "Human Error" [10], stresses the importance of acknowledging the role of both individual and systemic failures due to an error or accident occurrence.

James Reason suggests that, normally, there are several layers, or barriers, that protect against an error. Each of these barriers may have potential holes or weaknesses. If one barrier fails, the next barrier may provide protection. However, if the weaknesses of several barriers coincide, then an error may occur. This is known as the Swiss cheese model (Fig. 11.3), whereby each barrier acts like a slice of Swiss cheese, each slice having one or more holes (inherent weaknesses). Catastrophic

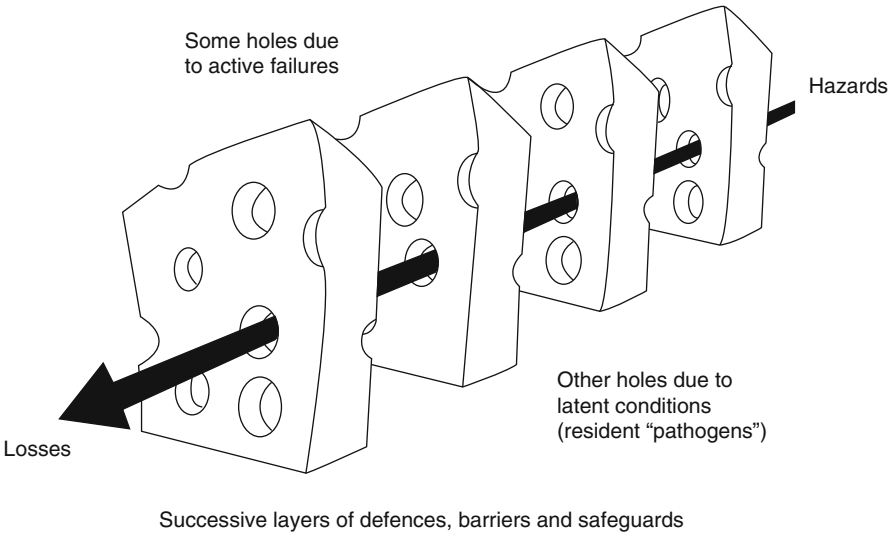

Fig. 11.3 The Swiss cheese model or error causation (From Reason et al. [11]. Reprinted with permission)

failure may occur, when the holes of multiple adjacent slices align, and thus nothing can stop the error passing through [11, 12].

When an error occurs, the tendency is to immediately blame frontline staff or an individual, blame their specific actions (active failures). However, it is important to recognise that usually there are underlying weaknesses in the system (latent conditions) that must be identified and addressed [13–15]. Hence in root analysis, one must look at both the actions of individuals but also the effectiveness of the underlying barriers, the underlying systems, processes, pathways.

Use adverse events as stimulators for addressing system defects, rather than opportunities for blaming individuals. Reason challenges as myths the concepts that bad things (errors) happen only to bad people, that people freely choose to behave and act in unsafe ways, and that errors occur randomly. Reason stresses that errors can happen even to the best individuals, that choosing between safe and unsafe behaviours is not simply a matter of an individual's free choice but is often influenced by the context in which events occur, and that errors often follow certain, anticipatable patterns.

Reporting of adverse events, or near misses, can help us learn from each other's experiences and has reduced errors in the aviation industry. In the preface to the World Health Organisation's draft guidelines on adverse event reporting, Sir Liam Donaldson, Chair of the World Alliance for Patient Safety, raises the orange wire-test as a way for promoting safety in healthcare [1] and questions:

> Imagine a jet aircraft which contains an orange coloured wire essential for its safe functioning. An airline engineer in one part of the world doing a pre-flight inspection spots that the wire is frayed in a way that suggests a critical fault rather than routine wear and tear. What would happen next? I think we know the answer. It is likely that – probably within days – most similar jet engines in the world would be inspected and the orange wire, if faulty, would be renewed. When will health-care pass the orange-wire test?

The recent problems encountered with Boeing's Dreamliners' lithium batteries and the grounding of the planes shortly after launch, until technical issues were resolved [16], help remind how accurate Sir Donaldson's words are.

Learning from the experiences and encounters of other individuals, departments or organisations is invaluable. We all learn from our mistakes, but we may not afford to learn solely from our own mistakes.

A no-blame culture where the individual does not feel threatened, may encourage disclosure of adverse events, errors and near misses, and help encourage dissemination of such experiences. Heard et al. [17] surveyed anaesthetist consultants and residents in Victoria, Australia. Amongst 433 respondents, the statement "doctors who make errors are blamed by their colleagues" was the one that most respondents considered vital in discouraging the reporting of adverse events due to error. Fear of litigation, blame, fear of getting into trouble, disciplinary action, not wanting the case discussed in meetings and unsupportive colleagues, were also perceived as barriers to reporting adverse events. Having senior colleagues who openly encouraged reporting was considered one of the most favoured factors promoting disclosure of adverse events.

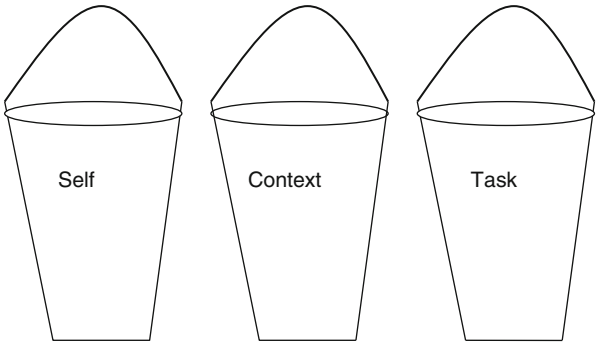

Fig. 11.4 The three bucket model for recognition of error prone situations (Based on Reason [18])

Aim for a no blame culture, where individuals are encouraged to come out and report what went wrong, viewing this as a learning lesson rather than trying to hide their mistakes. Learning from mistakes and putting systems in place to minimise the chances of mistakes recurring should be the main priority.

James Reason stresses the importance of:

- Accepting that errors can occur and will occur.
- Assessing potential hazards before commencing a task.
- Have plans to deal with any encountered problems.
- Seek help as needed.
- Checking the experience and knowledge of colleagues or other staff, especially if they are strangers to you.
- Avoid false assumptions.

Develop the ability to recognise situations with a high probability of error occurrence. Reason proposed the three bucket model [18] (Fig. 11.4) for recognising, and hence appropriately approaching situations, that have a high potential for error occurrence. One bucket relates to the current state of the participant (limited knowledge, inexperience, being sick or tired), the second to the context in which the task occurs (lack of time, interruptions, malfunctioning equipment), and the third to the error potential of the task per se (complex task, multiple steps). Bad stuff in each bucket should make alarm bells ring, concentrate attention and focus minds.

Complaints

> …God created the world in six days. On the seventh day, he rested. On the eighth day, he started getting complaints. And it hasn't stopped since
>
> James Scott Bell [19]

At some point in your career it is likely that a patient, relatives, other staff or someone else may complain about you. Indeed complaints in healthcare seem to be on the rise [20–22]. It may be a complaint about attitude, inadequate communication, clinical judgement, clinical management, unnecessary waits, cancellation of treatment, the list is endless. Complaints may arise, no matter how professional, clever, careful, or committed you are. Complaints may be verbal or written, informal or formal. Patients may complain asking for explanations as to what happened or an apology for what occurred. The complaint may aim at enforcing accountability or ensuring that bad experiences are not faced by others.

Receiving a complaint against you can be a difficult and stressful event. As doctors we may work hard, strive for perfection, aim to give the best we can. Yet a complaint may cause anxiety or self-doubt as there may be an implication that you did not give your best. A complaint may cause fears of personal consequences, damage of reputation, impact on time and resources.

Try and shine a bright light on a dark situation. View a complaint as feedback, as an educational learning exercise, as a positive rather than a negative event. It may be time consuming investigating and responding, but it is an opportunity to identify potential weaknesses or deficiencies in your practise. It may be an opportunity to further improve yourself and practice. Can you learn from it? Can the complaint help you gain knowledge, experience, or wisdom?

In guiding you as how to handle a complaint, try and remember, what you expected, last time you complained about a matter outside work – about that parcel that went astray, your car which broke down shortly after its annual service, the hotel room which did not meet what the advert said, the bank overcharge, the restaurant food that was not fresh, your passport application which has still to come through. In dealing with such complaints you might have expected to be listened, understood, taken seriously, be given a prompt response, a clear explanation and action that would rectify the situation. If these are the standards we may set for non health matters, should we not at least aim for similar standards when it comes to resolving complaints of healthcare issues?

You may consider the following in dealing with a complaint:

- Do not belittle the complaint, no matter how insignificant it may sound, no matter how obvious the explanation may be. It is important enough to the person complaining.
- Deal with it in a professional way. Organisations are often judged by the public in the way they deal with complaints. How can one be persuaded that an organisation or individual are doing their best, when even a complaint process is not handled to the highest standards?

- Give a prompt response. Acknowledge the complaint promptly and reply that you will investigate and give a response. If you fail to acknowledge it or give a delayed response you may give the impression, rightly or wrongly, that you are avoiding it. If you seem to be running away from the complaint someone could infer that you have something to hide. Set a target time for giving a response to the complaint and stick to it.
- Break down the complaint into specific questions that can be more easily dealt with.
- Investigate by obtaining reports of those who were involved.
- Reply to the complaint using plain language that a non medical person can easily understand.
- Resolve rather than escalating a tense situation. You may not be able to reach an agreement, your account of events may be different to the complainant's account, your messages may not be getting through, you may have different opinions as to how things should be done, and your explanations may not suffice. Do not be antagonistic, do not pick a fight. You may simply acknowledge that you disagree.
- Seek help from your seniors or other appropriate authorities of your institution (such as complaints department) to guide you in how to deal with a complaint.
- Seek emotional help from friends and colleagues if you are finding the experience too hard.

The five Es approach (Establish, Empathise, Explain, Embark, and Escalate) used by the author, may help you put a structure as to how to handle a complaint. It may help you deal with a verbal complaint in clinic or the ward, construct a written response to a formal complaint, or plan and run a complaint resolving meeting.

E-stablish: establish the exact complaint. What is the complaint about? Establish the facts. Why is the complaint happening? What went wrong? Take into account all available information and listen to the complainant's story. Their account may differ from yours. Identify the events for which you and claimant agree.

E-mpathise: express your sorrow for what happened. Express your understanding of the complainant's concerns, of what they are going through.

E-xplain: give your explanation as to what happened and apologise for what went wrong or for what could have been done better, if applicable. Make it clear where things went right but try and explain why these were not perceived so. Explain any learning points for yourself or the organisation, and changes put in place to ensure things are not repeated.

E-mbark: on the future with a clear agreed plan with the complainant, if such a plan can be reached. This may involve an agreed acceptance that the issue has been resolved, an agreed plan for further management, or agreement that there is still disagreement.

E-scalate: inform the patient as how the complain can be taken further if still no resolution. What other avenues are available at local or higher level, how can they be accessed?

Legal Action

Fall seven times and stand up eight

Japanese proverb [7]

And if you thought that dealing with a complaint is challenging enough, what if you find yourself in the middle of legal action for medical malpractice or negligence. The chances of being in the centre of a medical malpractice action are high, being higher in some specialties and some parts of the world than others. Jena et al. [23], in the New England Journal of Medicine, looked at malpractice claims against physicians of different medical specialties in the USA and estimated a cumulative risk for being sued at least once for malpractice by a given age. Overall, each year of the study, 7.4 % of doctors had a claim and 1.6 % had a claim leading to an indemnity payment. There was variation of the risk amongst specialties, being highest in neurosurgery (19.1 %) and lowest in psychiatry (2.6 %). Thirty-six percent of physicians in low risk specialties, and 88 % of those in high risk specialties, were projected to have their first claim by the age of 45. Seventy-five percent of physicians in low risk specialties, and 99 % of those in high risk specialties were projected to have a claim by the age of 65 (Fig. 11.5).

You may be informed of a malpractise action either directly or through the legal department of the organisation or institution you are practising in. Being in the centre of such action can be a difficult and stressful event. Like complaints, malpractise actions may carry a huge burden in terms of time, and fears of damage to one's reputation. Malpractise actions may also lead to defensive Medicine.

It is important to acknowledge that legislation risks exist, no matter how careful and safe we are. Anticipating these may equip you better to deal with them when they arise:

- Maintain good documentation which you can refer to if needed.
- Practise safe but do not let the fear of ligitation guide your management.
- Seek advice from the legal department of your institution or defence union at the earliest opportunity.
- You may be asked to give your version of events. Give a factual report referring to the documentation in the patient's notes.

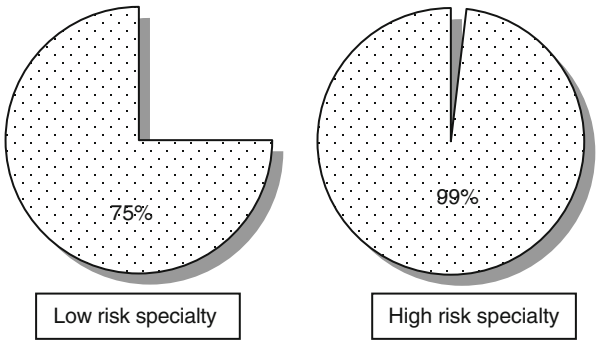

Fig. 11.5 Estimated proportion of physicians facing a claim by the age of 65, according to specialty risk (Based on Jena et al. [23])

- If you recall events which happened, but were not documented at the time, write a report of these and keep it for your own records, as you may refer to it if needed at a later stage. Under no circumstances modify or change the patient's records, as it may be viewed as an attempt to falsify those.
- Speak to family, friends and colleagues about your worries of a legal action, without disclosing details of a particular case. Emotional support and a listening ear maybe of great help in such situations.

You may want a quick resolution but in some countries, and some legal systems, such actions may take a long time to resolve, especially if the claim is to be contested. Seabury et al. [24] analyzed data from 40,916 physicians covered by an insurer in the USA, and found that the average physician spends 50.7 months (equivalent to about 11 % of an assumed 40-year career) with an unresolved, ongoing malpractice claim.

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