

How to harness all your resources

The airline industry has been described as the safest industry in the world. It was one of the first to adopt a system of error reporting, which was later taken up by pharmacy. In this article, Chris Seal describes another aviation practice that may be useful to pharmacists



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Most early aviation accidents were attributed to mechanical and structural problems but as engineering science progressed, most accidents became attributable to human error. Following a number of high profile accidents in the 1970s and 80s, focus was put on why crews occasionally made poor decisions and mistakes. It was noted that, although most pilots were skilful aviators, some did not get the best out of their crews. In fact, some captains were so uncompromising that crews would not intervene, even when the captain made obvious and preventable mistakes. As a result, “crew resource management” (CRM) was developed.

What is CRM?

In 1980, a Lockheed Tristar airliner carrying over 300 passengers and crew, landed at Riyadh airport, Saudi Arabia, after smoke was detected in its rear cargo hold. Unfortunately, a breakdown of communication and co-operation between the flight crew, the cabin crew, air traffic control and the fire services caused the Tristar to delay its landing. By the time the aircraft came to a halt at the end of the two-mile runway, it had been engulfed in flames, and all on board were killed. In contrast, in 1989, a DC10 with 296 people on board suffered explosive engine failure and loss of all hydraulic pressure to its controls. Theoretically, the aircraft should have plummeted to earth, out of control, but the crew showed a high level of co-operation and initiative, using everyone and everything that could help them. The cabin crew discovered that an experienced instructor was travelling as a passenger; he helped them control the aircraft's erratic flight path. The crew also used air traffic control to alert nearby airfields, ground services and other aircraft, while seeking advice from engineers by satellite telephone. Eventually, they managed to crash-land on a nearby airfield. Although the aircraft caught fire, 184 people walked away from the wreckage and the crew's actions are often held up as exemplary CRM.

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Identify knowledge gaps

1. Could your team improve its output?
2. Are you aware of the impact you make within your team?
3. Have you ever not admitted to making a mistake?

Before reading on, think about how this article may help you to do your job better. The Royal Pharmaceutical Society's areas of competence for pharmacists are listed in “Plan and record”, (available at: www.rpsgb.org/education). This article relates to “being a manager” and “upholding quality and continuous improvement”.

CRM is a non-technical skill. The Royal Air Force defines it as the effective use of all available resources to ensure flight safety and operational effectiveness. Although human error cannot be eradicated we can prevent mistakes becoming disasters. This is what CRM is all about and air travel is safer as a direct result. CRM training is essential for all aircrew and will soon become mandatory for air traffic control staff and aircraft engineers.

The NHS believes that such skills are viable in health care and a number of studies are being carried out in UK hospitals,¹ for example, to investigate the use of CRM in the high stress environment of operating theatres.

Applying the definition to pharmacy, “flight safety” can be replaced by “medical safety”, and “operational effectiveness” by “health care effectiveness”, but the important words are “effective use” and “all available resources” — everything that could help should be considered, including people, equipment and procedures.

In terms of health care, people from nursing auxiliaries to the health minister have a part to play and the cleaner, delivery men and company director can all contribute.

Practising CRM means considering the following six factors:

- Personality and stress
- Error management
- Situational awareness
- Decision making
- Leadership
- Communication

Understanding personality and stress

Practising CRM means dealing effectively with your people and getting the best out of them. Anyone or anything not functioning properly can be detrimental to a team or mission. To get the best out of people, you need to appreciate all the personalities involved, including your own. Slight changes to personality occur at puberty, early adulthood and early middle age but psychologists are adamant that we are how we are by the age of seven years.

Some pharmacists will have completed "personality tests" but it is probable that no one ever explained them fully. A detailed explanation of such tests is outside the scope of this article but, basically, they quantify how we interact with the world, become aware of our surroundings, reach decisions and implement them. For example, such a test can distinguish between people who are happier working with detail and those who prefer to look at the big picture. You should also consider the impact of your behaviour on others. Behaviours can be modified but personalities are set in stone. Personality tests also give insight to our behaviour in normal circumstances and under stress. When people who, in normal circumstances, are introvert are put under intense stress they will often change their behaviour and become highly vocal. Conversely, people who are normally extrovert can, under stress, become quiet and introverted. It can be difficult to notice these changes in behaviour in ourselves but our peers will immediately see them.

It is important to watch out for our colleagues, and recognise stress and deal with it, because stress can lead to errors. In addition, the unexpected behaviour displayed by a stressed team member is likely to affect other team members. In other words, stress can spread. If you notice a colleague under stress, you should get them to use the behaviours they display when they are more relaxed. For example, if an extrovert goes quiet, he or she might benefit from talking things through. Help is more likely to be accepted from a peer than from a superior so managers should try to enlist the help of the person's friends or colleagues rather than getting involved directly. There are many other ways to deal with stress. I have found the most effective techniques to be yoga-type relaxation, deep-breathing exercises, massage and physical exercise (eg, jogging or going to the gym). It may be useful to take a personality test in order to become more self-aware because there are many more considerations than just the introvert-extrovert scale.

Error management

It is a simple fact that humans make mistakes, regardless of profession. In one study, airline pilots (selected because they were in good

Panel 1: Layers of defence against errors

- Standard operating procedures (both for normal operations and emergencies)
- Annual medicals and proficiency checks (ie, a system of revalidation)
- Working hours directives
- National rules (legislation)
- Training (all skills at all levels)
- Keeping up to date and in practice for emergencies or difficult procedures
- Company rules
- Open and honest reporting procedures (within companies and nationally)

health and free of stress and fatigue) were asked to perform a routine simulator task under ideal conditions. Even though they should have performed near perfectly, the pilots made small, easily correctable but significant errors about 10 per cent of the time. Add fatigue, extreme environmental conditions, jet lag, personal stress, poor weather and mechanical problems, and one can see why people can easily get things wrong in the heat of the moment.

Mistakes can be classed as errors or violations. An error is a genuine mistake whereas a violation is a conscious decision to do something that is not normal practice. Violations are often committed to cut corners or to achieve a result. Take driving through town at 40mph. This is a violation but many do it because they weigh up the risks of being caught against the time saved. Europeans are more inclined to take such risks than those people of Middle or Far Eastern origins. On the other hand, non-Europeans are less likely to question the authority of their managers or to accept question if they are the managers. There is no right or wrong, but understanding that different perspectives and cultural norms exist makes you aware of what you can expect from your team. If we can appreciate that mistakes happen because we are not perfect, then it is likely that we will politely question our superiors and, in turn, invite honest feedback from our staff.

Accepting that errors are inevitable, we want to reduce their likelihood and mitigate the possible damage. In aviation, this is done by having as many "layers of defence" as possible. Panel 1 gives examples, many of which can be applied to pharmacy. However, all these layers can have holes in them. James Reason, a human error psychologist, has likened defence layers to slices of Swiss cheese.² Each slice prevents errors resulting in an incident but if all the holes line up, the defensive line is broken (see Figure 1). Errors cause financial loss as well as putting lives at risk. You may have to spend on layers (generally, the more layers the better) to save, but that is what airlines do even though, like pharmacies, they operate on small margins.

Situational awareness

Being situationally aware is when perception matches reality. In other words you are where you think you are and you are doing what you think you are doing. Many aviation accidents have happened because pilots lost situational awareness. For example, in 1995, American Airlines flight 965 crashed into a mountain on approach into Cali Airport, Colombia, because the fatigued crew got confused, did not realise the closeness of the mountains and descended below a safe altitude. Thinking in three dimensions is difficult at the best of times — it can be hard enough to navigate to friends' new house, guided only by their hand-drawn map — but imagine this at 300mph, considering altitude as well. Even if you have a global positioning system, nothing is infallible. If, for example, the system

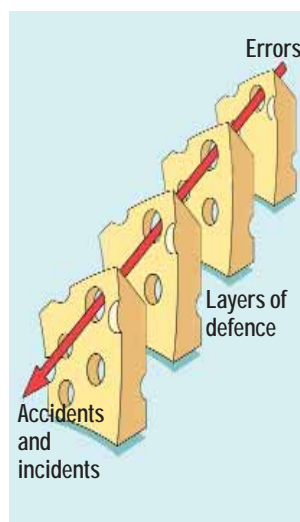


Figure 1: Swiss cheese diagram

Panel 2: How "situationally aware" is your workplace?

- Are all out-of-date publications discarded?
- Are reference materials up to date and unambiguous? (Are patients being given the most up-to-date information about their medicines?)
- Does the computer access to data work and run smoothly?
- Are staff up to date with their continuing professional development?
- Are the computers, patient records and operating systems easy to use? (Are they likely to cause confusion and could they be better?)
- Is there a culture of open feedback and do the staff use it?
- What are the other possibilities and solutions to our problems?

were to fail and direct you to turn onto the wrong carriageway of the M5, you would not normally do it because you are situationally aware — but you might if it was dark, raining and a sign had been blocked by a lorry on the hard-shoulder. Under difficult conditions, everyone can lose situational awareness. The answer is to have all the support systems in place to minimise the risks of losing it and to get rid of anything that could make you take the wrong route. In terms of pharmacy, this includes having the most up-to-date information at your fingertips. Half the battle is to think ahead and to predict problems. Panel 2 lists questions for assessing your workplace. Locum pharmacists will also find this useful.

Many poor managers do not invite feedback and are, therefore, are not fully aware of the situation. Accordingly, CRM requires managers always to invite feedback. Also of great help in keeping situationally aware is a well-thought-out and publicised set of standard operating procedures (SOPs). All airlines have these and primary care trusts expect pharmacies to have SOPs in place for all their essential services. SOPs ensure that everyone has a contract to remain involved and to provide the right information to the decision makers. Procedures like these may become more important if the role of the "responsible pharmacist" is introduced under the Health Act and as the role of the pharmacy technician expands.

Decision making

If you can maintain situational awareness, you can make an informed decision. British Airways and a whole host of other airlines use decision-making cycles and my favourite is the Royal Air Force's RAPDAR cycle (see Figure 2). Unfortunately, few people can really think in such a circuitous fashion and an alternative is to remember the most important words in the cycle, namely "prioritise" and "review". The most important aspect must be addressed first — focusing on unimportant details could mean that priority tasks are missed. However, continuously reviewing the situation and the outcome of decisions is also important because if we do not we may not realise whether the initial decision was wrong. Managers should insist that their team members continuously and constructively review all decisions and situations.

Being able to accept that an initial decision was flawed is also important. I am sure you

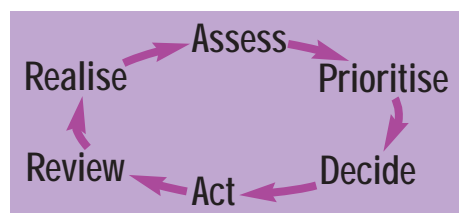


Figure 2: RAF decision-making cycle

have seen people refuse to accept that a decision was wrong, despite evidence to the contrary. Fear of loss of face or being risk averse leads also to poor decision-making whereas teams that are bold are more likely to succeed.

Ultimately, good decisions are a result of a coming-together of minds. The manager gets ideas from the group and the individual gets acknowledged. The manager changes the plan accordingly while taking ownership and responsibility for the change. It is only when these things happen that a manager becomes a leader and a group becomes a team.

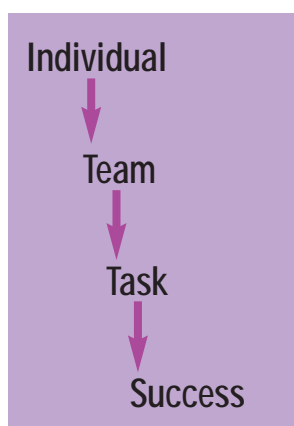
Leadership

Effective leadership is vital to good CRM. A group of people, especially the crew of an aircraft, cannot operate with no one in charge. Even an effective committee has to have a chairman. Successful teams and companies excel because they get the best from their people, despite financial constraints, and this can only be achieved by good leadership.

So, what is the difference between a manager and a leader? Field Marshall Lord Slim of Burma said: "Leaders and the people that follow them represent the oldest, most natural and most effective of all human relationships. Managers and those they manage, are a later product with neither so romantic or so inspiring a history. Leadership is of the spirit, compounded by personality and vision. Its practice is an art. Management is of the mind, more of a matter of calculations, statistics, methods, timetables and routines. Its practice is a science. Managers are necessary but leaders are essential."

A good leader will often display many of the leadership behaviours listed in Panel 3 (p596) but team members do not always appreciate that they are an integral part of the equation. A good leader should ensure that his or her team is aware of their part of the contract, for example by keeping the team fully informed at all times. A good leader encourages the team to continuously review situations and readily give feedback — they might spot something the leader has missed. This will build loyalty and trust. A good leader is also aware that although trust and loyalty can take a long time to form, these bonds can be lost forever in a second.

Everyone can aspire to lead and use CRM skills. If you want to become less of a manager and more of a leader, begin with yourself and start to chip away your rough edges. Learn to understand your own behaviour and work on any weak points. For example, you may have poor situational awareness because you do not invite feedback. Try to enjoy accepting the re-



How to think about leadership

sponsibility of delegating tasks and watching your team excel. Basically, leadership can be thought of in terms of individuals, teams and tasks. As one of my instructors once told me: "If you don't look after your individuals, you don't have a team. If you don't have a team, you might as well forget the task."

Communication

Underpinning all CRM skills is the art of communication. Good communication is when the receiver completely understands the sender's message and intentions. It has been estimated that body-language counts for 70 per cent of the message, the tone in which we speak for 20 per cent and the words that we use account for only 10 per cent. So watch your body-language as well as your tone.

However, to get the full depth of a message across, you must establish rapport. Unfortunately, few of us are natural communicators. We are so wrapped up in our own worlds that it is difficult to look outside our comfort zones. When was the last time you looked at your pharmacy manager, a drug company representative, the warehouseman or the cleaner and thought about their problems? It is a good place to start.

Panel 4 lists tips for building rapport. Achieving a task can be awkward with someone you do not like, especially when things go wrong, but establishing rapport is still possible. Being professional and getting on with the task at hand will help. Creating rapport is also possible over the telephone — try to imagine the other person is in the room with you and do not do anything else (eg, typing away on the keyboard or filling in the diary), because he or she will notice you are not giving him or her your full attention and rapport will be lost. One rule to remember is that what works with customers also works with our colleagues. In an aircraft, there is not a lot opportunity for body-language and the radios prevent intonation being much use, so the words we use are all important — just like in a telephone conversation. It is imperative that we use standard terminology and that clarification is sought if one party does not understand. These principles could also be applied to discussing a patient's dosage regimen on the telephone.

When giving instructions try to use the ABC mnemonic: accuracy, brevity and clarity. In addition, always give a deadline, check the person understands the task, ask if he or she has any questions and, finally, trust them to get on with it. If you have to get a message across to your team, by far the best way is in a face-to-face briefing and discussion. E-mails, notices and memos are useful (most people still like complex things on paper rather than e-mail) but these should only be used to reinforce verbal instructions.

Similarly, for new arrivals to the workplace (eg, locum pharmacists), you should explain their terms of reference to them in person, so they know where they stand and to whom they can turn. Ensure they get well-acquainted with your SOPs and, again, ask if they have any questions.

Panel 3: Leadership behaviours

- Delegate
- Set standards
- Monitor passively
- Review
- Encourage
- Coach
- Ask questions
- Keep cool
- Give praise
- Never hog the limelight and give credit where it's due
- Be honest

Panel 4: Tips for building rapport

- Try to see the other person's point of view
- Use terms that the other person understands
- Remember names
- Smile and maintain eye-contact
- Ask about others and be genuinely interested in them
- Give people your whole attention — as a result they will value your words more and will repay the compliment
- Always act honestly

Summary

CRM has been a major leap forward in aviation. Companies embrace it because it saves them money and teams work better. You cannot be perfect but you can mitigate losses caused by errors by having as many layers of defence as possible. You can also do this by:

- Being aware of different personalities and how team members react under stress — take time to find out about your team members and look at your own personality and behaviour
- Encouraging feedback from our team to ensure we maintain situational awareness and make informed and agreed decisions — take time to look at past incidents and ask questions of your team when things have gone wrong and when they have gone right
- Communicating our plans, encouraging further input and modifying decisions accordingly — take time to brief and debrief for a task
- Admitting our mistakes and gaining the trust of our team
- Giving the team the credit and asking for ways to improve

By following these rules, your team will efficiently complete tasks as a cohesive body, aware of everyone's input and worth.

CRM is not just a theory. I have seen it in practice. Some might say it is common sense, but the thing about common sense is that it is not so common. I hope I have given readers some food for thought and would like to think that CRM might find its way into pharmacy practice.

Action: practice points

Reading is only one way to undertake CPD and the Society will expect to see various approaches in a pharmacist's CPD portfolio.

1. List the "lines of defence" you have in your workplace. Could there be more?
2. Review your SOPs, perhaps with a locum or peer. Are they easy to understand and simple to use?
3. Airlines have SOPs for emergencies. Consider what emergencies could present in your workplace and prepare an SOP.

Evaluate

For your work to be presented as CPD, you need to evaluate your reading and any other activities. Answer the following questions: What have you learnt? How has it added value to your practice? (Have you applied this learning or had any feedback?) What will you do now and how will this be achieved?

References

1. NHS Modernisation Agency. Team resource management: the aviation approach to patient safety in health care. Available at www.globalaviation.com (accessed 9 November 2007).
2. Reason J. Human error. Cambridge: Cambridge University Press; 1990.

Further reading

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