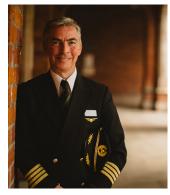CLINICAL NEGLIGENCE: FROM RISK TO RESOLUTION

THE SKY'S THE LIMIT

Prior to his post as an airline pilot, Captain Niall Downey qualified as a doctor from Trinity College, Dublin, in 1993, and trained as a surgeon in Belfast. Now, he explains to NIHR why taking on-board the lessons garnered from aviation can reduce the number of patients being inadvertently harmed by simple human error in our health services.

Niall Downey

Have you ever made a mistake? Yeah, me too.... all the time! The problem is that when you work in a safety critical industry such as healthcare or aviation, mistakes are very expensive, in terms of lives lost, harm to both patients and staff, and ultimately, financially.

A UK study published in the BMJ in 2001 (and borne out in subsequent studies in many countries before and since) show unintended harm rates at approximately 10 per cent of all hospital admissions. Mortality rates are disputed, but can be estimated to be over 1,000 per week in the UK alone. So, what to do?

Do we perhaps turn to other industries to see how they deal with error? Aviation is one of the leaders in this field after 40 years of development and improvement following several high-profile accidents in the 70s, culminating with the Tenerife disaster in 1977.

AVIATION HAS A THREE-STAGE APPROACH TO THIS PROBLEM:

1. Firstly, and crucially, aviation accepts that error is inevitable, no matter how good we are, and no matter how hard we work. We operate a 'just culture' system in which we can put our hands up and admit an error in the knowledge that we will not be disciplined (unless it was grossly negligent or deliberate – it's not a 'get out of jail free' card).
This open reporting system is the foundation on which the rest of the Safety Management System is built on.
2. Secondly, we adapt and refine our systems in light of what we find from analysing the information we gather by our reporting procedures. Put simply, we look at how each error arose and try to find the 'tripwire' the crew member fell over and replace it with a 'safety net', reducing the chance of a repeat and adding a failsafe in case it does happen again. An example would be keeping vials of concentrated Potassium Chloride in a different cupboard to vials of saline, and also adding a red label to the KCl, to avoid inadvertent boluses of potassium causing cardiac arrest. It's very simple, very cheap, but very effective.

3. Lastly, we need to train staff to think like pilots! We use an error management framework called Crew Resource Management (CRM) which gives staff a structured approach to issues, such as situational awareness and decision-making.
This system is often misunderstood in healthcare as team training. Although this is a component of CRM, it greatly undersells its usefulness. We use it in conjunction with our culture and systems thinking to complete a comprehensive error management training package.

The crux of CRM involves a broad view of who the 'crew' are and being aware of the 'resources' available.
In a healthcare environment, the crew includes the patient and their family who have probably spent more time reading about their particular ailment than you, so can provide useful information and specifically on how it affects them given that it'll probably exist with other co-morbidities.

Secondly, resources extend well beyond your own knowledge, however extensive that might be. In aviation, we are not expected to know everything. but we are expected to know where to look for it. We are encouraged to go into the manuals while trying to resolve an issue and to contact staff on the ground for input if necessary. Our long-haul fleet even has a satellite telephone on the flight-deck to facilitate this.
Critics of the approach often cite patients as being more complex than aeroplanes. This is of course true – patients are infinitely more complex, but it misses the fundamental point. As an airline captain, flying the aeroplane is one component of my role, but my main function is to manage a rapidly-changing, complex, high-stakes environment, and to use all the staff (and passengers if necessary) at my disposal to ensure the safety of the flight.

Very few critics of our error management framework's relevance to healthcare have actually sat in the flight-deck during a flight to witness what is involved in the operation – those that have accepted the invitation usually leave armed with ideas they translate to their own workplace to the benefit of both staff and patients alike. In short, they leave thinking like

a pilot – anticipating where plans may go awry and preparing Plan B (and Plan C and maybe Plan D) for when it does! Communication and situational awareness are two of our most valuable tools and are very transferable to healthcare.

Aviation has faced similar problems to healthcare. By letting us share what we have learned, we can hopefully enable healthcare to transform much faster than we did. Our error management system is transferable to the healthcare environment if tailored to the unique needs of that industry.

Preliminary research in America suggests adverse event reduction in the range of 40 to 70 per cent – that's maybe 25 lives per week saved in Northern Ireland alone! When did you last see a medication achieve that sort of improvement in mortality rate?

For more information, visit www.frameworkhealth.net.