

Episode one - Building understanding around error

Debbie Draybi: I'm Debbie Draybi from the Clinical Excellence Commission and I am pleased you can join us for this four-part podcast series with George Douros.

This podcast is part one of a four-part series on Listen up for Safety In this segment Building understanding around error: This conversation includes an introduction into the Human Factors and George's journey in understanding the importance of human factors science to complement his medical training.

George talks about the limitations of clinical knowledge to understand clinical errors and emphasises the importance of engaging with safety sciences, in terms of improving and enhancing the role of M&Ms in supporting changes and enhancing staff capacity to make good decisions. He uses practical examples from both healthcare and manufacturing industries to explain how systems can be set up to support and enhance better and safer decision making.

Debbie: So, your experience with simulation is what sparked your interest initially in terms of learning more about human factors and how it relates to your work and your experiences of M&Ms?

Dr George Douros: Well, my simulation stuff, like most medicine, started off with "here's a dummy, do some chest compressions" and then "here's how to do a couple of procedures".

My interest in Human Factors actually came another way. When I started working at the coroner's court I was basically employed there because I work in a tertiary centre and urgent care centre and do retrieval medicine. I had a broad clinical experience and that's what they wanted there. They've also got geriatricians, paediatricians and people who have a broad experience and can bring their clinical knowledge to cases. I sort of realised that that wasn't enough so I went and did a Safer Care Incident Investigation program and, while that was good, it was all just wedged into one day and I could sense there was just so much more there.

So, I started sniffing around incident investigation and you come across certain names in the literature - Sidney Dekker being one and in the safety sciences there's Jens Rasmussen, Richard Cook and Eric Hollnagel - and then I ended up doing a course through Monash Uni on clinical human factors.

And that's when it all started coming together and you realise how in medicine, and particularly in the safety sphere, medicine is just looking at the medical journals and then not actually looking at the safety journals. And we tend to grasp phrases and we think we know what it means, but if you actually go to the base literature where it all came from, it's much further developed.

It's a little bit like what simulation was like 20 years ago compared to what simulation is now, that's how far behind we are in all manner of things, because we've just been reading our own literature and navel gazing a little bit, rather than actually engaging with the safety sciences.

Episode one - Building understanding around error

But that's how I started getting into it and then I got a sabbatical at Safer Care Victoria for six months with the goal of trying to come up with an M&M process. Unlike your process, there wasn't 100 people around. It was just me at a desk which, in a way, was good because I just ended up going down rabbit holes rather than needing to convince 100 people to go down the rabbit hole with me and you end up coming up with some interesting stuff when you do it that way.

Debbie: Absolutely. So, you were getting a sense in your journey that your medical training really wasn't enough. What was giving you that sense that it wasn't enough? What were some of the things that were telling you that you needed to develop this safety pathway?

George: If you think about every M&M that you've been to in the last 20 years, what's actually changed? And it's nothing. The same errors keep on happening over and over again. And when the take home message is "Can everyone please be more aware..., please remember not to forget... and don't forget to remember...." It just didn't seem like it was going anywhere. So that's why I was delving into it now and, also with what you're doing with the coroners, you don't want to adversely judge someone.

And the other thing I notice is that there were these silos of patient safety: you've got the hospitals doing their thing with the formal investigation, then you've got M&M doing their thing, then you have safer care doing their thing and you've got the coroners doing their thing. And all these silos are sort of speaking at each other, and no one's actually speaking with each other. And I thought there's got to be a way to try and get all of this together and bring in the safety sciences as well. I've got a 'take home' to gauge how effective you are at the end of your M&M and this is a great quote: "Learning implies changing. What's changed?"

So, if you think you've done something, you've actually achieved some change, just stop and think what it is. Was it literally a change to your system, or have you just told people to try harder? Because if that's all you've done, you've done nothing. And sometimes the cause of the problem and the solution of the problem can be different.

I can give you an example of one that we had, and this is the aortic dissection again: the safety department concluded again that it was cognitive bias and to redo the training program. This is a patient who had a known aortic route dilation. The cardiologist had told the patient that if you get chest pain, go to the hospital, tell him you've got this, and she dutifully did. She told the ambulance officer, she told the triage nurse, she told the registrar.

And she got two troponins, got sent home, and actually came back a second time and again told an ambulance officer, told a triage nurse and told a doctor. It was only the second doctor that actually noticed how unwell she looked, and it ended up being an aortic dissection and everybody she told that she had aortic dilation wrote it down but they didn't actually think of it like an aortic aneurysm.

It didn't have the cognitive resonance and when we looked back at the aortic dissections that we'd missed, 40% of them over the last 15 years had either aortic route dilatation or aortic dilation as a risk factor, and that phrase isn't actually in the teaching in those specific words.

Episode one - Building understanding around error

It's something the cardiologists monitor as a precursor to an aneurysm, but they don't call it an aneurysm, because technically it's not, and they don't want to scare their patients and have their patients Google it, and so the information was given but it wasn't understood by multiple parties.

Now you could say "we need an education campaign". Education doesn't work that well because of the massive staff turnover. What we decided to do was based on something I saw that was happening in Canada where, for some reason, they were missing a lot of febrile neutropenics. The oncologist would say "go to the emergency department, tell them you got cancer, tell them that you've got a temperature and they'll fix it". Yet these patients would just die of febrile neutropenic sepsis in the waiting room so the oncologist came up with a little fever card which they could present, and the card would say "this could be an oncological emergency. Please notify the consultant. This could be febrile neutropenia" So, on speaking to the cardiologist, what we decided to do was a multi-tiered approach.

One was to put an alert on Cerner or the patients that they're actually keeping an eye on all their aortas for. Another option is a medical word bracelet. Also, a little card that says "This patient has been instructed to come to the hospital if they've got sudden onset chest pain. This could be an acute aortic syndrome. Please notify the consultant and get a CTA." Now this card can be presented to an ambulance officer, to a triage nurse or to a doctor and, like the little flashing light in your mirror, it's just a nudge to help you do the right thing where you accept that people may not have the knowledge to put things together, but if you give them a little flashing light, they'll do the right thing.

Debbie: Absolutely. This is a really good example in terms of a creative solution. Generally, we do tend to go down the path of training and, as you pointed out there, that is limited, whereas this is much more innovative in a sense where you're able to give people that reminder and it isn't the expectation that they're going to remember everything about every single condition. We're here to support them and give them those nudges.

George: And interestingly, the cardiologist was reminded of a previous practice back in the days when cardiology patients would have a little book with them, which would have all their problems and an ECG written in them. They disappeared about 10 years ago when the electronic medical record came about. But the cardiologist just jumped on the idea because it reminded them of something that used to be very, very helpful that we just lost when the electronic medical record came in.

And one of them just said (whose patient it was) "I'm starting this system tomorrow!" It's still untested but is a little bit like the Reach program where you are getting the patient to help make the diagnosis. This is the same sort of concept.

Debbie: Absolutely, and they've become partners in their care and are able to really support the information that's needed to make good decisions about their diagnosis. And that's really enabling them to be part of the conversation.

George: So, with this question - and learning involves changing what's changed - there's a change.

Episode one - Building understanding around error

Debbie: Absolutely, and it's recognising that sometimes we do lose good things that have worked in the past because of new innovations that we think will improve things, but they sometimes create gaps, don't they?

George: Yes, there's a saying: "In a complex system, nothing remains solved forever."

Debbie: Yes, absolutely especially when you introduce big changes like eMR. Thanks for that. It's a really good example and really gives that opportunity to engage with the system and to really support and enhance staff's capacity to be able to make good decisions and involve the patient as well.

George: Yes, basically you want to change your system, so it sets your staff up for success.

Debbie: Yes, and quite often we do the opposite, don't we, where we're setting them up for failure

George: And then blaming them for failure.

Debbie: So, it's around how to re-engineer that and ensure that they're supported, and the system enables their success rather than them feeling quite paralysed in a very complex system.

George: Yes and, using the car analogy, you are far safer now compared to the car you had 20 years ago. That's not because you, as an individual, have become a better driver. It's you and your car together are safer.

Debbie: That's a really good example when I think about it and we've talked about this before, where you feel that, as a driver, you're more empowered because you know that there are better systems in place to support you and make you safer.

George: Yeah, and the solution to complexity is transparency. Having the right information at the right time to make the right decision - whether it's the flashing light in your side mirror or whether it's your reversing camera and these things need to be put into your workflow.

For example, every time you put your car in reverse, the reversing camera automatically goes on, and it's right in your field of vision. If you had to do 27 clicks and tap-ons and right clicks and all those sorts of things, you wouldn't do it. This is, again, just the way that we unfortunately think. We don't analyse how people work to begin with before we change the system to put in our improvements.

You've got to make it easier to do the right thing. If people have to go out of their way to do the right thing and they're under time pressure, they're not going to do the right thing.

Debbie: Yes, the solutions really have to be accessible and connected to the way they work right now. With a lot of the solutions and the recommendations for change, there's a disconnect isn't there with how they're working?

George: Absolutely.

Debbie: Thank you for listening to this podcast with Dr George Douros and Listening up for safety I hope you enjoyed it. Please note this is one of a four-part series and I hope you listen to the other three segments as George continues takes us on a journey exploring his passion for patient safety and how Human Factors science has supported his work as an emergency physician in improving M&Ms. Listen in as we discuss their insight and lessons learnt from experience of supporting the leadership in M&Ms.

I'm Debbie Draybi from the Clinical Excellence Commission and am pleased you can join us in this conversation with senior leaders on Guiding principles of effective Morbidity and Mortality in action.

This podcast series aims to explore the experiences and insight from leading M&M meeting. Look out for more podcasts as we continue this conversation and clinicians share their journey and learning. I hope you find it useful and if you would like to contribute to this conversation please contact me.