

**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 two of a four-part series on Listen up for Safety. This segment is War on error: Cognitive bias work.

In this conversation, George describes the War on error and emphasises how rather than try and eliminate errors we can focus on eliminating harm from errors. George uses practical examples systems thinking and highlights the importance of approaching clinicians with humble curiosity to fully understand the systems they work in. we can change the systems we work in to try and accommodate for those biases in what's called 'nudges and fail safes. George gives examples of how we cannot prevent errors but can redesign the systems to accommodate for errors to ensure that there's no harm.

**Dr George Douros:** Yes, well I think one of the things that happens is that when Patient Safety First came along, it was because of an article that was called *to err is human* and that framed it as a human error problem rather than a patient safety problem. So, we've been on this war on error ever since, and the whole cognitive bias thing, which probably came out about 10 years ago with Pat Croskerry, and, once again, medicine grabbed the wrong end of the stick. What most places do is they'll have a PowerPoint presentation or an online module to say these are the various types of cognitive biases, remember them and don't fall prey to them. But it hasn't actually worked and the whole reason why it hasn't worked is that you can only apply cognitive bias in hindsight. As you're doing it, you don't know what's going on and I'll give you an example: If you make a misdiagnosis, someone would say "ha, premature closure you didn't think about it" but if you had thought that it could be this and you did a test and that test ended up being negative, someone could say "ha, you didn't choose wisely, you should have made up your mind, it's obvious it was never going to be that".

So, unless you land directly on the diagnosis every single time, someone could accuse you of not thinking enough or thinking too much about it. And that's what we focus on and that's the personal approach to cognitive bias but that's not how other safety critical incidents think about it and I'll give you an example which is just your car. If you've got a modern car - and I'll give you two examples - One is your blind spot. In the olden days they will tell you to check your side mirror and check your blind spot and you tend to forget your blind spot and there'd be accidents and the old teaching was "remember to check your blind spot" and you can say that was premature closure, try harder next time. And the car industry realised that they'd been telling people to think about it harder for so many years, and they weren't doing it and weren't going to change so why don't we put in some sensors to figure out whether there's something in your blind spot, and then they put a little flashing light in the side mirror because we know that 100% of people check their side mirror but only 50% go on to check their blind spot.

So, if you actually give people what's called a nudge - which is giving them the right information at the right time - they're going to make the right decision so you can still make the error of not completing the blind spot check, but it doesn't actually affect patient safety. So that's how you figure out what the cognitive biases are, but then you change the system to accommodate for a known cognitive bias.

And another example in the car is the old thing of when you open the door and a cyclist rides straight into it. They used to tell the drivers to be more aware and they used to tell the cyclists to also be more aware, but it would still happen, and you could use a cognitive bias which is called creating a counterfactual - failure to check for cyclists - and there's the cause of your problem which was a failure to do something. But, again, that doesn't stop it from recurring.

What the car company did is accept the fact that people have done this and will continue to do this. What they thought is, well, we've got sensors that know when you're sitting in your car. We have sensors that show when something's coming up beside you and we have sensors that can lock your door automatically. So, they came up with a computer program that detects when someone's sitting in the car seat and the car is stationary and when something's coming up behind you, the doors will automatically lock. So, with this scenario, you still can have the error of trying to open the door, but the door won't open, and the person won't be hit. So, the error happens but patient harm doesn't happen, and that one's called a fail-safe, and those two things - nudges and fail-safes - they're systems thinking.

And that's not trying to change the error, it's trying to prevent harm from happening. What we think in medicine is a safe system is if people are 100% right 100% of the time (because that's how we got through Medical school), but that's not actually a safe system and we're really a long way off from designing systems that help us. Right now, if you ask anyone that uses, for example Cerner, Cerner doesn't really compensate for human failings, people are compensating for it most of the time and it would be great if we could turn that around.

**Debbie:** Absolutely. They are fantastic examples and what you're describing there is we have a really good understanding of errors. But now it's around redesigning the systems to not prevent those errors, because we know that they are inevitable and that's natural to make mistakes, but it's more around how does the system support those errors to ensure that there's no harm?

**George:** Yes, and with pilots - as part of their ongoing accreditation - every now and then there's a pilot who's just sitting behind them and they're just watching them. At the end of their session, they'll write down how many errors they made - according to policy and procedures - and, on average, they make six errors an hour, but their systems are so well designed that none of it matters because they're all caught or mitigated. Whereas we don't have that.

We haven't designed our systems that well and part of the problem is that when the patient safety movement came up, rather than engaging all the psychologists and engineers to redesign our systems, we just thought that we'd do it ourselves and we haven't really changed too much in the last 20 years from a patient perspective.

We've made some small changes, but it's not like the airline industry or the car industry where they've made massive changes and massive improvements because we've been trying to fix the driver rather than trying to fix the car.

**Debbie:** Yes, so there's been a really strong emphasis still in healthcare around the individuals rather than the environment that they're working in. I know you've done a lot of work in supporting and developed a lot of resources to support M&M and M&M discussions to make them a safe space for learning and to use this lens that you're describing. Would you mind telling us a little bit about that in terms of how you think this all relates to M&Ms and how it can support M&M discussions?

**George:** Yes, I'm hoping you'll pop my videos up because I think showing the examples is the easiest way to explain what's going on. The College of Emergency Medicine wants to set up an M&M process after viewing the videos that I sent you.

**Debbie:** Yes, they were fantastic and a great resource with really strong messaging around the importance of not blaming and understanding the context of error which you have really good examples of and where we often do get it wrong and get caught up in that blame game.

**George:** I guess we have to change our mindset about what M&Ms are. The guy who invented M&Ms - Ernest Codman - was a US surgeon who used to review other surgeons' notes and declare them incompetent for the errors that they made. That was his way of trying to decrease harm but ended up being booted out of his hospital because everyone else hated him. So, we've got to try and do it in a non-blaming way.

One of the big problems is that we don't realise that we're blaming. Before we were talking about the cognitive biases of clinical decision making and now, I'm switching over to the cognitive biases of review. Much like every bias, we are unaware of it when we're doing it: we're unaware of hindsight bias, outcome bias, counterfactualism, we just look at the case and say "that guy should have zipped instead of zagged so can everyone please zip instead of zagging? OK, thank you, Let's get back to work." And that's really what most M&Ms have been - focused on the individual rather than the system. Quite often you're just told that the system can't change, but you have to change. So, even when people don't mean to blame, if the take home message is 'can everyone try harder', it implies that people aren't trying hard enough and that leaves a bit of an uncomfortable feeling at the end of an M&M. Even if it wasn't about you, you feel for the person involved, whoever they may be.

What we have to do differently is we have to realise that merely saying, 'I'm aware of hindsight bias' doesn't actually make you immune to it. You actually have to do something differently. By the way, if you ever hear someone saying, "I'm aware of hindsight bias, but..." that's right up there with "I'm not racist but..." and they then launch into a tirade which is 100% hindsight bias. So, what you have to do is something different to just looking at the notes and deciding what the problem is and that is based on something called *the local rationality principle* and that is that people come to work to do the right thing by the patient and by the institution. The decisions that people make have to make sense to them, otherwise they wouldn't have made them.

When you're looking back on an incident where you know the outcome, you can see when they zipped instead of zagged. What you have to figure out is why it made more sense to zag at that time, and so you actually have to go and have a chat with the people involved

and - this is the biggest thing - you actually have to speak to all of the people involved in an incident with humble inquiry and genuine curiosity of how it was that someone, who's appropriately trained and wanted to do the right thing, did the wrong thing. So, you chat to them and you keep on asking questions until you understand why what they did made sense.

If you stop short of understanding why they did what they did, that's when your fundamental attribution bias jumps in and you think, "well, they're just stupid, they're just lazy, they're just sloppy" and the chances are they're not. So, if you go in and you actually ask those questions with genuine humility, that's when you'll see all the systems issues pop up. You will find out that that person was junior and didn't know about that particular thing or that they didn't escalate because the consultant that was on, had shouted at them before, or that the electronic medical record on the scan medical record don't work together or they never saw the paper ambulance notes.

And that's the stuff that bubbles up when you actually speak to people, and that's the key thing to go in there with the attitude of less than that of a detective trying to solve a crime - because no one was trying to do anything criminal here - but more like a simulation debriefer handling a difficult debrief, trying to figure out why one of your comrades/work colleagues - who know knows their stuff - made the error. 'What am I missing here?' is the attitude you've got to go in with.

**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.

**Debbie:** 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.