QI Boxset: Why do we need checklists?

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RCVS Knowledge:

Welcome to the Quality Improvement Boxset by RCVS Knowledge, a series of webinars, podcasts, and video interviews for practices and practitioners.

Pam Mosedale:

Hi everyone. Today I'm talking to Laura Playforth. Laura is Group Quality Improvement Director at IVC Evidensia. Hi Laura.

Laura Playforth:

Hi Pam.

Pam Mosedale:

So today we're going to talk about checklists, about safety checklists specifically. And Laura's going to hopefully give us some insights into why we all need safety checklists.

Laura Playforth:

Thank you very much. So we are going to talk about what safety checklists are, why we need them, and why we would want to use them, and also some of the principles and attributes of what makes an effective safety checklist. So we're going to start off with a story that some of you may be familiar with, which is generally known as the 'Miracle on the Hudson.' So on the 15th of January, 2009, US Airways flight 1549 set off on a routine flight. And unfortunately, shortly after take-off, five minutes into the flight, they struggled with bird strike. So they hit a big flock of Canada geese, which took out both of the engines. So they tried to turn back and realised that they weren't going to be able to get back to the airport in time and realised that they needed to do an emergency landing.

Laura Playforth:

There weren't too many options, and the one they decided was the best and safest was to land on the Hudson River. Clearly, this was hugely risky and because they hadn't been flying very long, they didn't have a lot of altitude. So they literally had seconds to make all these decisions and then prepare the craft for an emergency landing and all the crew and the passengers as well. So the landing was eventually successful with no loss of life and only minor injuries. And this is why it's been widely talked about as a miracle because nobody has done such a successful aviation ditching, as it were, onto water in the same way. So the pilot Chesley Sullenberger, often known as 'Sully', was described as a hero and given lots of awards. And the question I suppose, was this a miracle, or were there other contributory factors that led to the success of this ditching?

Laura Playforth:

So there were lots of reasons. Clearly, there was an investigation. Aviation is very, very good at looking into safety incidents in a lot of detail. They've got lots of information from black boxes, et cetera, to look through. And the things that they came up with as contributing to the success definitely involved the leadership and the calm and focus of the team, their combined experience. But a really significant factor that they highlighted was the fact that they were very familiar with their emergency checklists, and they followed them immediately that the problem was identified. So they checked off each task in turn in the correct sequence, which allowed Sully to have the information at his disposal to make an informed decision on the best option with the few seconds that they had. So they'd practice these emergency scenarios and really challenge themselves to rehearse using these checklists. And even though it can be tempting to have an attitude that it's insignificant and it's a waste of time because nothing like this ever happens, as we can see in certain situations, if it does happen, these rehearsals and what can be perceived as minor tasks can really make the difference between life and death.

Pam Mosedale:

I think that's really interesting; I mean, this is an amazing example of the success of a checklist, isn't it? But really interesting how they rehearse these things and I think something we could learn from, isn't it?

Laura Playforth:

Yes, definitely. They were clearly very, very well prepared. And it's worth mentioning as well, we've talked before about having power hierarchies within a team, which can make people afraid to speak up. And that's definitely true in aviation. If the other members of the team and the co-pilot are afraid to speak up and speak to the pilot, then that can lead to things getting missed or not getting brought up in a timely manner, which again, can have a critical impact. So there were lots of things, but the thing that the investigation and the team felt was really critical was the checklist. And interestingly, Sully actually deviated from the checklist at one point. And the subsequent investigation, they deemed this to be vital in the success of the landing. So in an emerging situation such as this one, experience and judgment are also really vital. And this highlighted a weakness in the checklist, that it wasn't suitable for all situations of this nature. So the review actually led to an additional checklist being developed for dual failure, engine failure at low altitude because the one they had was designed for high altitude, it hadn't happened at low altitude previously. So I thought that was very interesting.

Pam Mosedale:

That is really interesting and I suppose shows us that a checklist isn't set in stone, that you don't have a checklist and then that's it for forever. It has to be modified according to situations that have happened and improved.

Laura Playforth:

Yes, definitely. Regular review and feedback from the teams that use these or rehearse with them is really vital to see what can be changed, what needs to be added, what needs to be taken away quite often, or what needs to be adapted. Deviating in an emerging situation or an emergency because your judgment deems that that's necessary is a really good thing to do, as we can see in this situation. Deviating from more routine checklists, however, can introduce risk if we're not careful. So if we've got a checklist and we find we're always skipping a step or a couple of steps, then that indicates it's time for a review. Are those steps really necessary? Can we take them out? And if so, good, it makes the checklist shorter, which is always a bonus, but if we still think they're necessary, then by skipping them we are introducing unnecessary risk. So we need to think about when and where it's good to deviate.

Laura Playforth:

So this is all very interesting, but how does it apply in healthcare? So in human-centred healthcare, the need for checklists is really recognised, they are very, very commonplace. And in the UK, an NHS study showed around 10% of patients admitted to NHS hospitals experience a patient safety incident of some kind and analysis indicates that around half of these could actually be prevented, which is a lot and many of them would be prevented by having the use of a checklist. And actually, 72,000 of these incidents may contribute to the death of the patient.

Pam Mosedale:

Wow, that's an amazing figure, and where something fairly simple like a checklist could make a difference.

Laura Playforth:

It certainly can. And there's lots of evidence coming up in the veterinary field as well that indicates that the gains we can have in terms of patient safety are very similar. So we've talked previously about root cause analysis and when we look at a significant event like the 'Miracle on the Hudson', it is important to understand all the contributory factors involved and that way we can work out which one of our Quality Improvement tools can help us prevent them from happening again or at least reduce the risk as much as we possibly can. So if you're interested in the process of root cause analysis, there are a few different ways of doing this. We've got other resources on that, so do please look into them. And the root cause analysis of many errors shows that we quite often leave out critical steps in a process, particularly when we're busy, if we are distracted, if we're tired, there are lots of things going on.

Laura Playforth:

And we know that working in veterinary healthcare there's a very complex system and we can easily get cognitive overload when we've got lots of patients and lots of things going on and lots of things to remember. So we need to try and reduce that cognitive noise and things that our brain is getting bombarded with. Studies show that we can only hold around seven things on our mental scratch pad at one time, plus or minus two depending on how we're feeling and how we're doing. Some of these will be taken up with other things, you'll be thinking about other patients, and different things you've got to remember, you might have things going on at home that are very important. So where a checklist can really help is with that loss of situational awareness we can have when we're getting overloaded with everything that's going on.

Laura Playforth:

And there are some really important parts of a checklist as well as just checking through what we should be doing and making sure it's done. It's really important when we've got a checklist such as for surgery, where it's got different pauses built into it, so before surgery and there may be a pause during surgery and after surgery and these are really vital to make sure that we are completing the checklist at the appropriate time. It's not great doing your post-op swab count once the animals woken up, for example, and then if you realise that there's one missing, that is a whole different level of stress to if the animal is still anesthetised on the table. So the pause can really help everyone to focus as well and make sure that the relevant members of the team are involved and they're working together to make sure it's completed properly and accurately.

Laura Playforth:

So there is another example of the importance of checklists, particularly in situational awareness failure, and also another example of the contribution of hierarchy to some patient safety incidents.

And you can find that on YouTube if you're interested. It's called 'Just a Routine Operation' and that is about a pilot named Martin Bromley and his wife, who went in for a routine operation and there were some complications and unfortunately his wife passed away. Being a pilot, he had a really strong knowledge of how to do these investigations, and how to look at root causes, and again, he found things like a checklist and things like other members of the team feeling empowered to speak up would've prevented this tragedy. So that is worth checking out, if you want another example. It is also detailed in an excellent book by Matthew Syed, which is called 'Black Box Thinking', which again talks about the type of information you would get from a black box in an airplane and how you can unpick that information to make changes.

Pam Mosedale:

Yeah, I'd agree Laura. I think 'Just a Routine Operation' is an amazingly powerful video. I think it needs to come with a trigger warning, doesn't it? That it can be quite upsetting because it's about the death of a patient at the end of the day. But it does illustrate so many different things around, as you say, situational awareness and hierarchies and all the things that can happen in the operating theatre and losing situational awareness and just going down a tunnel.

Laura Playforth:

Definitely. It is a very hard-hitting story and I know Martin Bromley was very keen for it to be shared very widely to make a difference for other patients.

Pam Mosedale:

And now you've got one of my other heroes on the next slide.

Laura Playforth:

Yes, yes. So this is another great book specifically about checklists by Atul Gawande, who's a surgeon and a very famous author on all things Quality Improvement and how to make things better and safer for patients and also for healthcare teams. And this is a brilliant book that really explains why checklists are important and the impact that they can have. As we can see from this quote up on the slide, his very firm belief with all his experience and evidence is that under conditions of complexity, such as in healthcare, checklists are not just to help, they're actually really required for success. So he feels very, very strongly about the benefits that we get from them. So he also discussed how checklists are great for preparing for emergencies as we've seen, but also it's really important to think about the use of preventing them in our more routine processes and procedures.

Pam Mosedale:

And it's such an easy book to read, isn't it? That 'Checklist Manifesto', and so is 'Black Box Thinking', they're all great books to read. You could read them on your holidays. They're not heavy, are they?

Laura Playforth:

No. Really interesting and engaging. And again, they've got lots of really powerful and relevant stories in there which really brings the points to life.

Pam Mosedale:

I think they'd be top of the list for a QI book club, wouldn't they?

Laura Playforth:

They'll definitely be up there. Definitely. So a good example of a safety checklist, which many people have heard of is a surgical safety checklist. This is one of the most commonly used that we find. And

the first one that was certainly used in a wider sense was developed by the World Health Organisation. And again, you can find that online and have a look at the information around that and what it looks like. The evidence when that first got introduced is some of the most compelling evidence that we've seen. So the impact was it had a 47% reduction in surgical deaths, 36% reduction in postoperative complications, 48% reduction in infections, and 78% of the teams that used it said it has definitely prevented an error, which is really, really compelling. And an interesting aside to that is initially some of the human surgeons were not always keen to use them. There was concern about how much time they were going to take, more paperwork to be doing, and can't we just get on and do the surgery without all this messing about as some of them saw it. But interestingly, when they were asked if they had surgery themselves, would they want it used on them personally? 93% of them said they definitely did.

Pam Mosedale:

That's such a compelling statistic, isn't it? I mean all those statistics are amazingly compelling, I think. If a practice could buy a piece of kit that would reduce deaths by that amount, or there was a new medicine that would reduce infections by that amount, everybody would get it, wouldn't they? So why not? Why not use a checklist? There are very few reasons against using it, aren't they?

Laura Playforth:

Definitely, definitely. And so interesting that the same people that weren't that keen on using them to start with actually really understood the benefits. And we've got another quote on here from Atul Gawande, and he is of the opinion that you can't make a recipe for something as complicated as surgery, which we all know, but what you can make a recipe for is how to have a team that's prepared for the unexpected. And when we say unexpected, there are some complications that we can have a reasonable expectation may occur and they're the things that we can look to put something in the checklist to check for or to prevent. And we've got an example up on the screen of a veterinary safety checklist. This one's actually from Vets Now, but there are lots of examples of real-life safety checklists and other checklists in our section on checklists. So it's well worth having a look at those. And it highlights a really important point with Quality Improvement generally, that it's really important to make sure that tools and processes are adapted to the way that you work in your specific clinical setting and not just adopt something that's already built without thinking about whether it works for your team.

Pam Mosedale:

Yes, Laura's right, on the RCVS Knowledge website, we've got a Surgical Safety Checklist Manual, which is about help with implementing it as well as lots of examples from different practices including equine practices and big and small animal practices. So I think that would be really interesting for you to look at.

Laura Playforth:

So safety checklist, how we define safety checklists is that they contain only those steps which are likely to be omitted or done in the wrong order and which are safety-critical, the really important points that we need to make sure get done and that we might forget. So it's definitely not a full step-by-step guide of how to do something. And these are some really important points to consider when you're writing checklists or looking to adapt them to what is safety-critical, don't forget to do X, Y, and Z, which we know may get forgotten or have been forgotten, and are we prepared for this emergency, this complication, this outcome which we know has got a reasonable possibility of happening? Did we consider all the other factors that are important? When you're making a checklist, if you're writing your own, you actually might want to start with a full step-by-step guide of

the process, but then go through and cross out everything that doesn't meet these criteria until you've just got the very essentials detailed on there.

Laura Playforth:

So my final quote of Atul Gawande, when asked what is a safety checklist and how do they work, he says "good checklists are precise, they're efficient to the point and easy to use even in the most difficult situations." Again, they don't try to spell everything out, a checklist can't fly a plane, it can't spay a bitch, it can't go out and do a health check on a herd of cows. But instead, what they can do is provide reminders of only the most critical and important steps, the ones that even the highly skilled professional using them could miss. And good checklists are above all practical. We want to have something that we can use in practice that's going to help us, not something that's going to hinder us or we're going to think is a waste of time, so we've really got to engage with the fact that this is going to improve the safety for our patients. When we talk about being concise and short, we are looking for something that would take between 90 and 60 seconds in an ideal world for each point of pause in going through the checklist. And it would be difficult to argue in any situation that that is not time that's worth taking when we know what the impact of not doing it can be.

Pam Mosedale:

Thanks Laura. That was amazing. It so often, isn’t it, that it's just one little step missed out that's the cause of an error? Everything else has been done absolutely as it should be, but just one small step and I think that's where checklists can really help and you know, even in everyday life, I need to have checklists for various things. I don't know about you.

Laura Playforth:

Yes, definitely. Having small children, even leaving the house requires a checklist quite often to make sure we've got everything that we need. It just helps to make busy practice life more manageable and more efficient and less stressful as well as a lot safer for our patients. And you're right, I think almost all of us, I would say if we're doing some sort of body cavity surgery would count our swabs and our instruments before and after. But it's very easy when you've got lots of other patients and phone calls and lots of things going on and people trying to talk to you for advice, it's very easy to forget a step and omit to do something. And, as we all know, most of the time things will be absolutely fine, there won't be an issue, but if we do enough of these surgeries and get distracted enough times, then something is, in all likelihood, going to go horribly wrong.

Pam Mosedale:

Yeah, and interestingly, I was talking to a variety of practices a little while ago about whether they use checklists or not and a couple of them came back with 'oh yeah, we use them but not in emergencies' and to me that is the time when you really need them.

Laura Playforth:

Yes, definitely. I would say having worked in small animal emergencies, that is a really critical time because that is the time when you are stressed and distracted and tired and things do and will go wrong. So like we say, 60 to 90 seconds really isn't long to just whizz through something and it will actually save you time if you forget to do something that's going to be a lot of time spent trying to put things right and fix things and in some cases deal with tragedies and we all know the impact of unexpected patient deaths, especially when there's been an error or even patient harm that isn't maybe as major, can still have a huge impact on the patient, on the owners and also really difficult for the team.

Pam Mosedale:

Absolutely, and it's not just for small animals, as I said, we've got some equine hospital surgical safety checklists. I was talking to some equine vets about this, and a single-handed equine vet told me that she had a checklist because it's even more important when you're by yourself because there's nobody to remind you if you miss a step out.

Laura Playforth:

Yes, definitely. When you're working in a team, there are several sets of eyes on the situation and quite often people will see something that you've missed or will highlight a risk that you perhaps haven't thought about, but yes, working on your own, you don't have that, so it is even more important, you're right.

Pam Mosedale:

Yeah. And I've seen farm practices with laminated checklists attached to the top of the box that's got the caesarean kit in, so there's potential for it in all sorts of practices and in other areas than surgery too, isn't there? I mean, case handover checklists are pretty important too, aren't they?

Laura Playforth:

Yes, definitely. And I think you make an important point about having checklists in the right place so that they are usable. You want them at the point of care ideally and having them laminated and being able to fill them in with a pen and take a photo and then wipe clean is really efficient. Also good for the environment instead of lots of paper and people having to scan and upload things. That's a very efficient way of doing it but having it accessible at the point of care is really helpful.

Pam Mosedale:

Yeah, and I think people worry that 'oh, we won't be able to audit it if we don't have it as a piece of paper', but you absolutely can because you just do, as Laura said, you just take a quick photo of it, and that's fine for auditing how it's being used. You don't need to keep bits of paper. And I think having them, as Laura said, maybe on the back of anaesthetic forms or just handy is the key, isn't it?

Laura Playforth:

Yes, definitely. If people don't know where they are and they've got to go and find them, they've got to download them from somewhere or pick them out of a file somewhere, it makes it much, much less likely that people are going to use them because then it does take a lot more time. It takes 60 to 90 seconds to do the checklist, but it might take them five minutes to find it and get it to the place where they need it. So then we are potentially doing things that will make us less efficient and have an impact on the patients.

Pam Mosedale:

And when it is a team like in a small situation, I think there's evidence isn't there, Laura, that if one person reads out the checklist, once they've spoken up, they're more likely to speak up if they notice something else happening during the surgery.

Laura Playforth:

Yes, definitely. The fact that checklists are very much a team effort and people need to be involved and do them together definitely helps with that feeling that everybody's voice is important and everybody's opinion counts, and people in different roles will have different perspectives and have something equally important to contribute, if not more important at various points during the care journey. So it's really vital that everybody in the team is involved and feels comfortable to be able to take part in it for a start, but also to raise concerns if they see things.

Pam Mosedale:

So really there are so many positives to using safety checklists and no negatives I can think of really.

Laura Playforth:

No, none that I can think of either. And I think if you do have a negative such as the checklist is too long and it's taking a very long time to fill in, then that's the time to go back to the drawing board and review whether you've got the checklist right or not.

Pam Mosedale:

Excellent. Well thank you very much, Laura, that was brilliant and hopefully, everyone's as enthusiastic now as you are about checklists.

Laura Playforth:

Thank you very much.

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