Why healthcare needs to operate as a safety management system: In conversation with Keith Conradi

On his last day in office at the Healthcare Safety Investigation Branch (HSIB), outgoing Chief Investigator Keith Conradi wrote to the Secretary of State for Health and Social Care reflecting on his time at HSIB. He outlined concerns about the approach of the Department of Health and Social Care (DHSC) and NHS England to patient safety work carried out by HSIB and the need to introduce a safety management system approach at all levels of healthcare.

Patient Safety Learning also shared our thoughts on the issues raised in this letter and we were keen to explore these issues, and Keith's experience as HSIB's first Chief Investigator, in greater depth.

Hi Keith. Thanks for joining me. People will know you from your role at HSIB, but can you tell us a little more about your background, what lead you into healthcare and did you expect to end up where you ended up?

No, absolutely not! I'm a career pilot: an ex-military pilot and then civilian pilot. Then 9/11 came along and I ended up joining the air accident investigation branch as an investigator. I did several years just investigating aircraft accidents and learning the culture and the way that aviation accidents are investigated. Although I'd been involved in aviation I hadn't really understood or been involved (thank goodness) in an investigation up to that point. Whilst I was there, I ended up becoming the chief investigator, which was a very interesting role in an international organisation, as is the nature of aviation because it has to be joined up globally, and I investigated many fascinating and big-ticket events.

I was then asked to participate in a Health Select Committee inquiry about why there's so little learning in healthcare and why the same mistakes keep happening. It was a parliamentary inquiry triggered by a paper from Professor Carl McCrae and Professor Charles Vincent. I think they wanted perspective from an industry where we investigated professionally and routinely identified system learning. So, I gave some evidence and it made me aware for the very first time what went on in healthcare. I was quite surprised by how little professional safety investigation went on, and certainly not on a national scale.

One of the recommendations from that inquiry was that there was a state organisation to investigate safety from a pure learning perspective, which is exactly what happens in the aviation world. I was involved with the expert advisory group that made recommendations regarding this new organisation and successfully applied for the role of chief investigator of HSIB in 2016.

What was the Department of Health and Social Care or NHS England's response to the inquiry and recommendations?

I think they were curious. Jeremey Hunt was very interested and committed to patient safety, there's absolutely no doubt about that. I think in terms of the specifics, in terms of doing safety investigations, I think there was a lot to learn and there was a curiosity but a lack of understanding of what it really meant. I think there had been such a punitive culture of blame it was hard for some to understand how investigations that avoided blame or liability could

be achieved. I had a number of conversations with Jeremy Hunt explaining how it would work. There was some reluctance on whether people would accept it – not the investigation itself but the end results and what would they do with the outputs of a safety investigation and how could this make a difference.

Do you think there was a recognition at that time that the quality of the investigations being undertaken, with every organisation doing its own investigations locally, that there was a problem and that we weren't getting the outcome?

Absolutely. Yes, everyone I spoke to recognised that it wasn't being done well. Root cause analysis wasn't really the answer. And in fairness, people weren't given enough time to do it. People weren't doing it as a day job but as part of another job, often in a line management chain in which they were investigating, and they weren't necessarily trained on investigation techniques. There were also some pretty strict time constraints in producing the final report with little system thinking involved. All wasted opportunities.

The move was seamless from inquiry recommendation to the adoption and creation of HSIB. I don't recall anyone particularly disagreeing with the recommendations.

Yes, an expert advisory group was set up after the inquiry to discuss how HSIB could operate, which I was part of. It was a diverse group, with good conversations that took place to get some consensus in what was to follow. It included patient representatives and people involved with patient safety within the NHS; it was a real mix. The recommendations were accepted by the Department and a tender went out for roles within HSIB. It all moved rapidly.

You must have got the bug in terms of healthcare to move completely into a different sector and to make a substantial career change. What was the pull and appeal?

It was a push and a pull. It felt to me that the air accident investigation branch was ticking over but mostly accidents didn't happen. There have been very few commercial aviation accidents in the UK over the last years – which is testament to the safety systems that are in place. I looked at healthcare and thought wow it was almost like the aviation industry 30/40 years ago and I thought it was a huge opportunity to introduce into healthcare some of the culture and safety professionalism that work in the aviation system. And it's not very often you get the chance to set up something from scratch, which could potentially make a big difference. That was the pull. I could draw on the expertise that the aviation world had given me and see how well that may have fitted into healthcare. In my own naive brain at the time!

You talk about the air accident investigation branch as being one part of the safety management system in aviation. If you had to describe simply what that safety management system in aviation looked like how would you describe, both in terms of structure but also in terms of culture and values?

It was embedded in all parts of the system – into the national safety system and also in every airline as well. It has to be legally embedded. There was an understanding that we could not afford to have an accident. Driven not just by the human impact obviously, but also partly driven by a commercial aspect. If you lose an aircraft it could potentially mean the airline going under. It concentrates the mind to ensure this didn't happen. The system was joined up enough at the top end so safety objectives were set by the regulator, the Civil Aviation Authority, risks were understood and they were mitigated and worked on at all levels – national level and airline level.

The safety investigation part was just a part of that system. When an investigation took place everyone in industry understood this was there for safety and learning for the benefit of everyone for the future. It wasn't punitive; by law it couldn't apportion blame or liability, that was well understood. Everyone knows this when they join the industry, they join fully knowing that if things went wrong a professional safety investigation would occur. I'm not saying that people didn't get blamed, that still happens and is an important part, but investigations were generally done well, outputs were understood, they were accepted and fed into the system. Big circle of improvement that just continued and that had been there for many, many, years. Part of the culture – very different to what I subsequently experienced in healthcare.

You describe what happens in aviation the UK but is this also modelled in other countries? Is this a global framework for a safety management system?

Aviation is an international business. It is difficult to have rules in one country that are very different to another country. The International Civil Aviation Organisation (ICAO), part of the UN, sets up standards and recommended practices. All signatory UN states are expected to abide by these standards and practices and put them into their own national law or file a difference to say they are not going to accept this and then that's made public, so everyone knows. But, by and large, everyone follows these practices. This means if you fly your aircraft from New York to the Philippines with a stop off at London you can expect the same standards in safety, in carriage of dangerous goods, in the way you process passengers or documentation. It's incredible just how well this actually works. Some countries are at different levels of development to others but there's a lot of pressure that ICAO puts on governments to make necessary changes. It really does work.

Governments recognise the legitimacy of this authority. Representatives from most signatory countries sit on the different working groups and panels. The templates for standards and recommended practices have been worked on for 60/70 years and so every word is scrutinised to ensure they meet the needs of the different countries. Annex 13 'how to do safety investigation', is a thin document, no more than 20-30 pages, and is the bible to for doing accident investigations anywhere over the world. If a UK aircraft had an incident in Buenos Aires, for instance, we could send an investigation team over and they would work with the Argentinian team and it would be almost seamless.
In practise, this lifts the standards across the world to a high level. Something to strive for in many industries.

Being part of the Health Care Select committee, you knew a little about healthcare but what were you expecting in terms of our overall approach to safety management system and how HSIB was going to be a significant part of it. What was your sense of what you were coming into?

I didn't have too many expectations. Apart from knowing that we could bring a professional element to the safety investigation. I didn't know how this would fit in with everything else or what sort of frameworks were in place in trusts or nationally. It opened my eyes to the fact that there was no structure in place at any particular level that was part of a foundation for a safety system. My experience was that some trusts did it well and that other trusts didn't. It seemed to be down to the people who worked there and their experience or enthusiasm for patient safety that made the difference, rather than a specific organisational structure.

Do you think there was then and is now a recognition that this a deficiency in healthcare and its approach to safety.

Yes, people who have seen safety systems work elsewhere absolutely recognise that this is what is needed. There needs to be a system in place that every organisation has to sign up to. This will drive up standards. I'll stress again the importance that this has to be done at several different levels – nationally and organisationally – and neither were obvious in healthcare compared to what I'd been used to.

There needs to be a willingness to learn from other industries. In fairness, taking a leap by bringing me in was a willingness to learn, but I don't see this happening more widely. There are examples where people reach out and see how other industries are doing it, but this isn't done structurally. I did make some introductions with my old colleagues in aviation and I took some of the patient safety team to safety meetings I went to at the Department of Transport. I think having people see examples of how things are done elsewhere, accepting that there are huge differences in the way the operation takes place, is incredibly valuable.

Taking what you now know, what would you have done differently? How did you apply your insight, knowledge and expertise?

I think if we had the opportunity, it would have been useful to take more time to have established the foundation of not only the investigation process, but importantly, how the outputs would work and how the safety recommendations would be acted on. I started in September 2016 and there was pressure to get the first investigation commenced in April 2017, which meant recruiting and training people and getting the methodology completed in 6 months, which really squeezed us. Having longer to establish ourselves and more time explaining to people the concept and what would happen to the output would have been beneficial. In a perfect world we would have had the legislation before we kicked off. Those are the key things.

Most people were very accepting and wanting to help but didn't understand what role they were going to play. For instance, some of the big organisational bodies when they received a safety recommendation, they weren't sure what to do with it. They hadn't received them before.

We were pleasantly surprised that many recommendations were accepted and acted upon – without a system in place and without legislation. But the next bit – have you done it, what difference does that make, what further needs to be done next – needs to be addressed. And I guess the new Patient Safety Committee will try to do this. That's my hope and expectation.

If you had a magic wand, what should those new structures look like? What would you expect to see from an effective safety management system? What would you advise that Committee or governing body to be doing? What would good look like?

The foundations are the same whether it's at a national level or at a local GP surgery. The basics of any safety management system is to have safety objectives, so you set out what you want to achieve. This requires assessment of the hazards and risks and the mitigation to those risks and these need to be transparent. You need an assurance process that constantly monitors the safety performance of the organisation and investigates incidents when they occur. This in turn will drive learning which will further improve safety and crucially embed a safety culture amongst all staff. All of this needs to be recognised at Board level, continually stretching the organisation's safety objectives.

Responsibility for this must be at Board level. A safety management system allows safety to be measured and treated in the same way as performance and other targets, and consequently given the same priority. I do not see this happening at present; it sometimes appears to be an irritation or a frustration, rather than something to build on, learn from and be proud of.

You mention one it is very dependent on enthusiastic individuals, committed and responding in a transparent way and positive way irrespective of the legislation not being there. But there is inconsistency in this. Were you mindful of where there were examples of very good practice and how best to shine a light on this?

At local level, we have the maternity side of things, which is the area where we make local safety recommendations. This did improve as we made it more regional based and we were able to share the way trusts were making improvements. For example, we have this tremendous newsletter in which trusts were invited to give examples of where and how they were making improvement. This was building momentum when I left. We're not there to assess the quality of the response, but it's great for trusts to see how other trusts were responding to similar problems. That was a good way of doing it.

Nationally it's more a work in progress and came down to how they were handled in a organisation. It depends on the size of the organisation. The Royal Colleges were quite reactive, probably because there were not too many people who needed to provide approval. It seemed they really wanted to do it; almost as if our reports gave them an excuse to start the ball rolling.

With bigger organisations, and NHS England received most of our safety recommendations, it was harder to get a quick response and action started. In some organisations there just wasn't a system in place to clearly identify the process of receiving, signing off and acting on safety recommendations. I understand that HSIB safety recommendations are a relatively new concept and anticipate that organisations will improve their handling of them over time.

That came out in your letter. Your sense of frustration that those discussions about how the leadership in NHS England needed to be reflecting on the learning and the insights that you were providing with the investigations and the frustration in not being able to have these dialogues. What were the barriers you faced in what you were trying to achieve?

It was a process thing as much as anything else. Our philosophy as we went through an investigation was to grab the experts from the national organisation early on, share the evidence we were uncovering and ask them, what do you think? In this way we could jointly start to develop a safety action or recommendation that was smart and pragmatic. This often started fairly quickly but often slowed during the approval process. I accept it is a large organisation with competing pressures and necessary checks and balances, but it felt, from our side, that a higher priority to responding to recommendations would allow valuable learning to be acted on more quickly. In some cases, it felt like everyone quickly agreed about what needed to be done but the final sign off still took an extraordinarily long time.

The new body, the Health Services Safety Investigation Body (HSSIB), will have its own independence. HSIB was an ALB so was organisationally accountable to NHS

England as well as providing them with recommendations on how to make improvements or actions they needed to make. Do you think this makes a difference? Was this a point of tension?

In all honesty I don't think it affected how we did things. Whether from their side it made a difference, I don't know. But no, technically we wouldn't have done things differently. What will make the difference will be the legal powers that HSSIB will have and will enable them to demand response and replies. That will apply to all organisations.

In terms of the legal powers, that infers that there were investigations that you were undertaking where you were frustrated by the absence of those powers. Was there strong evidence that not having them was getting in the way?

I think the new legal powers are excellent; I'm really happy with what's happening there. There were isolated incidences where we didn't get the information we wanted in a timely enough manner to make our reports even better and this legislation should ensure that this does not happen in the future. It's really important that NHS staff think of us as an independent body. I think most people did, but there were some people out there who thought, 'hang on a minute you're part of NHS England, how can I be really comfortable that what I'm saying won't make its way back to them'. I think the complete legal independence will give everyone confidence to speak to HSSIB. I like to think we acted impartially, and we never compromised ourselves even though NHS England were our parent body.

You mention safe space Keith, but for people who weren't as close to what became quite complicated and highly charged discussions, what are the key issues and are you happy with where we've ended up?

I'm very happy in where the legislation has ended up. We have legal protection for information that has been given to us and this can only be disclosed through a High Court order, which is exactly how the transport industry operates. I understand the concerns some families may have – that certain witnesses may use this protection to tell us of wrongdoing or criminality, but that's not the case. If people tell us of something they did that is illegal we are obliged to pass that information on to the appropriate authorities. What some people don't understand is that information provided under that protected system is used to help us write the report; we just don't attribute it to a named individual. It enables us to reveal the truth rather than conceal the truth. I do think that's important. It demonstrably works in other sectors, and I have high confidence this will work in health.

How is the relationship with affected patients and families involved in healthcare investigations different to other sectors? I imagine it is a quite a different engagement, for example, to families involved in a big airline accident.

The scale of it is very different, but we would still often interview the families involved in an airline investigation; for example, we may ask them about how the pilot had spent their last 24 hours before they flew, questions for some of the documentation we needed. But we recognised from the get-go with HSIB how important witnesses the families and patients are to all our investigations. Some of the best information comes from families who may have sat by the bedside of a patient for sometimes days and weeks on end. It's extraordinary how much insight they can give us about the culture on that ward. It's a core part of any investigation and I think our family engagement has been one of the big successes to the investigation programme within HSIB.

Tell us a little bit about how your work has informed and is trying to raise the bar for high-quality investigations within NHS organisation's own investigations.

There are some really good things happening. I give credit to the Patient Safety Strategy having mandated patient safety specialists in all trusts as an excellent start, and they will be going through a significant training package, which includes understanding investigations. They would also be pivotal in introducing safety management systems in organisations if this ambition is ever realised.

We deliberately didn't start investigation training from the start as we felt we needed to build up our own experience in what works and what doesn't from our own methods, and after a few years we reached that point. Now our training courses are training base level investigators within an organisation to a certain standard, using the same methods that we do. But it's also important to recognise the practical constraints; HSIB is a full-time safety body – it's what we do – and that level cannot be replicated in a trust. So we have also been trying to get high level senior managers involved in a short course we present which allows senior decision makers in an organisation to understand what a safety investigation is trying to do and how to act on its results. Everyone onboard, at every level is key to its success.

But this needs to be part of a wider safety structure. You can have the best investigation going on at the basic level but how the learning is acted upon is crucial? It has to come from the top, to give it the necessary gravitas. Recognition of safety by the Chief Executive will drive its priority throughout the organisation. But let's not leave that to chance – introduce safety management systems and it will become part of the fabric of the whole sector.

In your letter, you said you hadn't had access to the most senior levels at NHS England and the Department, particularly board and director level, and you expressed your frustrations in not being able to engage in that debate and have that discussion on the changes that were needed.

Yes, I was frustrated that some of the most senior people at NHS England did not appear to give patient safety the recognition I believe it requires. In terms of the Department, we had good working relationship at director level, but obviously the politicians are all important to this. Yes, I met Jeremy Hunt regularly, and he drove so much of the safety agenda and had great ideas on how it would work, but that has not been replicated since.

When I was in the Department of Transport, I regularly met with the Secretary of State. Just the fact that others in the organisation see you invited into the top office and having a chat sets a mark of the importance that is being set. Latterly, this didn't happen in the DHSC and, unsurprisingly, the focus then moves elsewhere. It's not personal but, as I said in my letter, you cannot delegate safety down the line. There are some key Chief Executives in the airline world and you can see the differences they made even within a safety management system. If you get someone at the highest level absolutely wedded to safety it really does motivate the workforce in that particular direction.

Earlier, you said the motivations in the airline industry was commercially driven as well as of course people wanting to avoid the devasting consequences an accident has on the crew and passengers. Latest figures from OCD showed that in developed countries, 15% of all spend relates to safety; so, there is a huge financial imperative to improve safety. It seems astonishing that this is not a higher motivation. Could you reflect on this?

A safer hospital is a cheaper one to run. It's obvious as is the fact that people die in hospitals, that's the nature of the sector. However, a large number of these deaths are

avoidable. However, unlike aviation, these avoidable deaths tend to happen individually and do not grab the headline attention that happens with a major transport disaster. This makes it difficult to galvanise leadership into seeing this as a massive problem. If 11,000 people died in one day in one hospital it would be seen as catastrophic, but it doesn't happen like this, and this is something we have to contend with. This is why I keep coming back to the need to have a structure in place that continually assesses and mitigates risks.

With HSIB, one of the opportunities but also difficulties is deciding what to investigate, but what we tried to do is to identify similar tragic events occurring throughout England and from the investigation, apply learning across organisations by putting a national policy or framework in place.

One body like HSIB is just a cog in a wider safety system in which we must all play our role. Then things don't fall through the gaps. Safety has to be seen as a fundamental requirement, not a discretionary option. I strongly believe this has to be demonstrated at Board level and a safety skillset be part of future Board recruitment.

So how to get there?

When I left there was an HSIB investigation looking at organisational ways of managing safety and it will be interesting to see where that evidence leads. HSIB are conscious not to provide solutions but to present evidence and safety recommendations that may open people's eyes to the opportunities. I don't think introducing safety management systems is difficult practically, but philosophically it may be more of a challenge.

What key messages would you give to the new Chair who comes from externally to the healthcare industry, and would you still meet with him if he invited you to have coffee?

Yes, and in fact I copied my letter to him just to give him a basic understanding. People come into the industry and are not really aware of what it is [a safety management system] and what it could look like and the fact it exists. In the airline industry it became a legal requirement for every airline to have a safety management system. I would mandate it within an organisation. All the information is out there across different industries, and it can be started in a very simple form. It's about opening people's eyes to it and that it exists and getting the commitment and engagement to make it happen amongst everything else the healthcare system is trying to do. Not just opening their eyes, it also needs lateral thinking.

With regard to the International Civil Aviation Organisation, it has published an annex for a safety management system which could serve as a starting point for healthcare. Many entities will have most of the elements already in place, but a safety management system will bring these together in a structured way and allow pragmatic action on the insight the system provides. If its embedded properly if will force you to act.

And finally, what do you think are the opportunities with the new structural changes and about the roles of ICSs and ICBs in this?

I think this is a fantastic opportunity. As I said these systems can be set up at any level. The fact is you can set these up within each ICS. You can have an overall one that that the

Board looks at and has all the data and then can see where they need to make the changes and focus.

From an investigation perspective, I think the NHS is in a much better place than it was 5 years ago, which is very exciting. As I said in my letter, I think the patient safety strategy is a good starter and I would love to see it being more ambitious to drive things forward, but it does need that attention from the highest levels.