**10 March session: Dr Carl Horsley and Dr Mary Seddon**

Tēnā koutou katoa.

Ngā mihi maioha ki a koutou katoa. Nau mai, haere mai, haere mai, tēnā tatou katoa. Nō reira, he karakia tīmatanga.

E te huinga

Whāia te mātauranga, kia mārama

Unuhia te anipā,

te nguha, kia mahea

Kia whaitake ngā mahi katoa

Tū māia, tū kaha

Aroha atu, aroha mai

Tātou i a tātou katoa

Hui e, tāiki e.

Tēnā koutou katoa

Tuarua, ki ngā mate, haere, haere, moe mai rā

E te hunga ora o te ao ora

Tēnā koutou katoa

Tuatoru, ka mihi ki te iwi kāinga

Ki a Muaupoko, ki a Ngāti Raukawa ki te Tonga

Ki a tātou e tau nei

Kua tae mai ki te kaupapa nei

Tēnā koutou katoa

Nō reira e te whānau

Tēnā koutou, tēnā koutou, tēnā tātou katoa

Welcome everybody. Ko Jane Cullen tōku ingoa, quality lead advisor, quality improvement here at the Health Quality & Safety Commission. Thank you, and I'll hand over to Gillian Bohm to start us off today.

Tēnā koutou katoa everyone. It's really fabulous to see you all joining us as you come on. And I want to give a very warm welcome to everybody on behalf of the Health Quality & Safety Commission and also on behalf of Janice – Dr Janice Wilson, our chief executive. She is unable to be with us today. We really appreciate your support and hope you will enjoy joining the sessions today. We've got two fabulous speakers for you, and we're looking forward to it. I'm Gillian Bohm, the chief advisor of quality and safety at the Commission and look forward to doing that.

So, we've got limited time, so, let's go off to our speakers so we can use them to the best advantage. The first speaker today is Dr. Carl Horsley. Carl is an intensivist in Critical Care Complex at Middlemore hospital and the clinical lead for system safety with us at the Commission.

Carl's been engaged in many national quality improvement projects and has shown great leadership in terms of this, hence why we're have him. He's recently completed a master's degree at London University and has … along with the interest he's shown and the networking he's done, become a real expert in resilient science. We really look forward to your presentation. Welcome, Carl.

[Carl Horsley] Kia ora Gillian. Thank you very much for that very kind introduction. Ko Carl Horsley tōku ingoa. It's lovely to be here today and to share a bit about the work we've been doing at the Commission. I'm just going to share. Here we go. So, today we're going to be talking a bit about the background of He Toki Ngao Matariki Aotearoa. And this is the programme that we have been working on for a while now, which is really about what does resilient health care – what does resilience engineering, these new ways and think about safety, look like for Aotearoa?

So, I'm going to give you a bit of background about how we got to this place. And some of you have seen my talks before, and hopefully there's a bit of nuance that you can understand about how we get to where we are now. So, currently, a lot of our approach in our health care system are really based around the ideas of the 1990s around health productivity and production. And so very much we see a big focus that has been put through about efficiency and effectiveness and really about how do we push more people through a straining system. And so when we have this kind of approach, this almost industrial approach, since the mid-90s is we kind of have this idea about how health care happens, which is that people turn up, they go through the system, they get treated, and off they go again.

And when you think about health care as an industrial activity, essentially about doing more for more people faster and, you know, quicker, we become very focused on certain things. We get focused on outputs. How many cases do we see? What's going on? We think industrial ways in terms of that safety becomes in about reliability. How do we make sure that everyone gets exactly the same thing every time?

Our focus becomes on bureaucratic constraint, about how do we make sure people are doing the right thing? How do we check on them? How do we have control systems to make sure that that's happening? People within the system unfortunately are therefore seen as really components or products. Staff are components within the system: we need to make sure they're well trained to do all these things, but they're sort of – we upgrade the components by doing those things.

And often, patients are the product of the system. They kind of – they're the widget that moves through this industrial process. And it also has implications for communication in terms of we just need to make sure that people are doing the right thing. We're sent orders from the Ministry or from the Commission or whoever it might be, and basically it's a transmissive model of communication: Here's what we need you to do.

And in this model, very much safety is then seen as something where, you know, the normal functioning of the system is that it's safe and that really the only problems that we have are really when there are unacceptable outcomes, failures, malfunctioning, people don't do what they're meant to do. And that's where we've put all our attention on for safety.

And we see that really with many aspects of adverse event learning and also with HDC and other things that are going on in the system. And the aim the safety in an industrial approach is really that as few things as possible go wrong; that we minimise things going wrong.

There's some really interesting and curious kind of side effects of this approach, which really come back down to this idea that, well, if there's no harm, there's no problem. So we pay attention to these harm events, but we're not really interested in about how risk is changing, what's going on. As long as the numbers look OK, then we're sort of blind to that kind of – what work is being done to keep the system going, the work that people are doing.

It means that because we focus on safety as being the same as reliability, we're very focused on constraining the performance of systems so we add in more and more checklist audits, whatever they might be, but ways of constraining the system. And that's palpable on the workforce –for the workforce.

And this leads, unfortunately, to quite bureaucratic approaches to safety often, where we have proceduralised approaches. And this drives the [INAUDIBLE] phenomenon which is really that we kind of focus on bureaucratic closure sometimes. Have we done the report? Have we sent the Part B? And have we done all these things? Rather than what have we learned and what have we changed? And as part of this, we also see that there's a big emphasis on rituals of verification. Audits. Can we fix the problem?

And the trouble with this is that really we then end up with this – when we're looking at events from this model is that we also have a problem where we have an illusion of learning, where when we think about what's going on for this person here – a clinician who's navigating a system of making decisions – when they make the decision, their aim is to get the patient through the system to achieve the goals, keep them safe, and they make the best decisions that they think they can at the time.

But in hindsight, what we see is the choices people make and how that led to an outcome, and we are blinded somewhat by hindsight bias, this understanding of looking back and telling a story that leads to an outcome and also the judgement that comes from knowing the outcome – the poor outcome – of how we judge people's actions in the moment. So, we're subject to outcome and hindsight bias.

And so the problem here is really one of simplification after an incident, which doesn't reflect the complexity and the realities of people who are doing the work. But because we have this approach when we've written a report and we find something, we have this illusion that we have learned something, that we have fixed something. And very often this means we end up discussing what didn't happen, what the staff should, would or could have done rather than trying to explain what they did, trying to explain what actually did happen.

And the other thing we see is that often there's some faulty assumptions built into this. If you have a perfect system that's working really well, then you assume the system will function into the future if we just keep doing the same thing, that the past is the same as the future.

It also implies that sometimes that we can do pilot and scale. We can do one thing one place and we can just roll it out and it'll be the same place everywhere else; that everywhere is the same; that context doesn't quite matter. It's just the industrial process will flick it through. And that the people within the system, the patients, have the same things.

And one of the things we've really seen is that this approach also makes them brittle. When we don't understand the adaptability, and we suppress innovation through, you know, this focus on constraint is that when things change, when conditions change, then suddenly we've got a system that's really set up to not deal with that adaptability and innovation. And we've seen this with COVID whereby what was required was this massive reconfiguring of the system, and actually, that was something that was not how the system was set up before that.

The other bit that we have in this approach is really that we don't meet the needs of those harmed. And reports from the ACC on adverse events, when you talk to families, that often their needs aren't being met by our current approaches when we just go back and say, what did people do wrong? Here's what they did wrong. Write a letter. You know, write a new policy. We're not really meeting their needs; we're not hearing what the harm was.

So, it's not really that surprising that we have problems with staff burnout and patient disengagement. We have systems designed around churning more and more people through in our system. We're blind to the risk that's happening. And we're not really understanding the needs of the people within the system.

And when we think about this, then we start to see that issues such as safety and equity and productivity and quality improvement, you know, the limitations that we have with trying to effect real change, the burnout issues we face, the staff engagement problems we face, and patient experience, we kind of face with all these problems all at once. And these are creating a lot of stress in the system at the moment.

And I guess what I want to talk about today is really about why is that? What is the thing that links these problems together? And this comes from Brené Brown. ‘When we fix the wrong thing for the wrong reasons, the problems continue to happen.’ And I guess that's one of the things – let's think about with some of the problems we're really struggling with, what is it that holds them in that way? What is it that keeps making it so?

So, let's just take a step back. When we think about simple systems, even complicated systems, they're decomposable. A car is complicated. We can take it to pieces. We can fix the broken component. We can put it back in, and that's fine. That's a complicated system. You can fix just the component or one little piece of it, and it has no impact on the rest of the system.

But health care is not complicated. It is complex. And it really depends on where we look at it. And I understand there are some parts that are less complex, but all parts of the system at times will go through change and dynamic shifts of risk and interactions. And so at all stages and all parts, health care is at times complex because it's massive, big heaving system.

And when we think about complexity, what we focus on here is not about just the components but about the interactions between those components. We don't focus on just the person, we think about how is the person informed by their context, their environment, the task, the tools they get to use, the organisational culture.

And when we do that, we have to focus then – thinking more away from – moving away from thinking about components of systems. It's much about the relationships of the system between the people who co-create care, between the people and their work systems, about how are people shaped by their environment and thinking also about the relationships between different institutions in different parts of the system.

When we think about complex systems, we have to understand that the whole is other than the parts. It is different to the parts. So, for example, describing all these different parts of the human doesn't explain who I am as a person. They are – there is something other than. And that's the same when we think about systems.

When we take a particular component and we add another component, that doesn't tell us about what is achieved as a whole. So the emergency department is quite different from just putting nurses and doctors and other people in a room. There's something other than. And so we can't explain things just by looking at components alone.

And this really means that when we're thinking about how we want to look at a problem, we need to be thinking about the system as a whole. And we'll talk about system boundaries, but essentially, we need to understand the way these things all come together in relationships because we can't just understand the components in isolation.

And health care is really – and this has been really seen in the last sort of few years. We're operating in this volatile, uncertain, complex and ambiguous world where the problems we faced in the past about health spending and efficiency gains and productivity and stuff really were sideswiped by a massive pandemic that changed so much of the work that we had to do. And the future was certainly not a good – was not represented well by the past at all.

And so, when we see this, we start to see that, actually, in this dynamic and uncertain and complex world that the messiness of everyday work, the work as done by people who are doing the work, is quite different from how we imagine it in the policy procedures guidelines or by people who don't do the work.

And really, when we think about this is the way that people navigate complexity, the way they cope is by making trade-offs; they have to navigate what is the risk that we see here? What is it we're trying to achieve? How do I do that? And they're constantly making efficiency and thoroughness trade-offs to keep the system going to; keep it safe enough.

The other thing with complex systems is that outcomes are not resultant. It's not this leads to this leads to this. It's more – it's not the Swiss cheese of the holes lining up – it's more like the perfect storm of all these conditions coming together and creating an outcome. And this really comes back to the idea that there are emergent behaviours; there are complex behaviours that arise from the interactions within the system that are not predicted by just looking at the relationships that we normally do with the linear things. And so, we really need to stop thinking about the five whys and really think about the five hows. How did this happen? How did these things come together at this time to lead to this outcome?

So, when we move to this model, we start to see the safety is more about the fact that people are constantly creating safety as they navigate complexity: they're making decisions to try and get the best outcomes they can. And that most of the time, that works otherwise we wouldn't do it, but sometimes it doesn't. So, we need to think then less about how do we restrain people and more about how do we dampen down unwanted source of variability, and how do we enhance the ability for the system to adapt under changing conditions? So, the new aim of safety is really that as many things as possible go right. How do we create the conditions for good work?

So, when you change your perspective, you start to see very different things. And a move to system safety is really this idea that the Commission is now moving to this focus on system safety, and a system is really an interconnected set of elements that is coherently organised to achieve something. So, there must be elements, connections and functional purpose.

And it's not about people *or* systems, it's about people *in* systems – so, seeing people within the situated context in which they work. That means we need to be thinking about the work systems that people work in – the technology, organisation, tasks and environments they work with. But also, we need to start thinking about the social systems in which people work; and not just looking down here at the staff and management but also the way that regulators and funding affects and creates the context for work.

It means we need to be supporting the conditions for success and quality improvement, this is vital. How do we make success more likely? And that means understanding the realities of work and the different contexts. So, what works in a busy, you know, minimal ICU is not going to work the same way in a community provider. And so, we need to understand the realities of that work situation.

And this really comes down to the idea about bringing in human factors and ergonomics, about this focus on both human wellbeing and system performance. And we're starting to do this with the Commission now, working with the WorkSafe and the Human Factors Society to bring in human factors training into heath care.

And with WorkSafe, this really is their focus now on better work – how do we design good workplaces? Understanding that really the provider satisfaction, the provider sense of the work they do, is the underpinning of the other three parts of the triple aim. It means we need to be learning different lessons. Rather than sitting back and judging people in retrospect, we need to be understanding how did what people do make sense to them at the time?

And really this is about putting ourselves in a situation that occurs and asking ourselves, why did that make sense? Could someone else in that same situation make that same choice? And it means that we need to move from just focusing on the incident to much more understanding about the way that is shaped by the context – government regulation, media, all those things.

And we need to focus on meeting the needs of those harmed. And that’s something that we're not doing now, but it's the work that's going on with the Diana Unwin Chair, with Jo Wailing and restorative practise. And this work is also ongoing in our Adverse Events Policy Review, and I hope that all of you will have a say on that.

The other bit is about really how do we build resilient systems. This is not about individualism: it's more pizza, more yoga. This is about the capacity of our system to adapt to challenges and changes and opportunities at different system levels to maintain high-quality care. And we saw this particularly in community providers – Māori, Pasifika, particularly where I work – as they responded to really adapting to how they normally work to respond to this unheralded event.

And what was prominent in this was that it's all about relationships, learning from each other, seeing value in the different viewpoints, the different ways of seeing and working together on the shared problems, and enhancing the mana of all those involved in those relationships.

For leadership, this means this is a real challenge. We have to move away from market control to really think about what is it we're trying to achieve? How do we create the space for people to contribute to that work? And how do we balance creativity and constraint?

And when we think about data, which is a really big part of the Commission's work, is about what do we measure? And who is it for? Data is for what? And are we using it to build an understanding of our system? And for us in the Commission, we're now starting to work out how do we build these relationships across the sector, so working with ACC, HDC, WorkSafe, all these organisations, to try and put together a more coherent understanding of the work that we all do together.

So He Toki Ngao Matariki Aotearoa is really – He Toki is an adze, a chisel, an adze to cut away, to form, to make. And Ngao Matariki is the finest work, the most important work, and the things that we do. And really this is about the idea that this is an overarching framework when we think about how does complexity change the work that we do and system safety? And we are the new builders of the waka; and this is a name that was gifted to us by Huataki Whareaitu from Ahuahu Kaunuku within the Commission.

And so, when we think about this industrial approach now, we're thinking about this idea that's focused on outcomes, safety as the ability to match conditions, balancing creativity and constraint, the people as the purpose and communication as co construction. It is human-centred; it meets the needs of the people within the system rather than just the needs of the system.

It's built on understanding the different contexts and the different solutions. And it's about the relationships between Māori and the government and the Crown but also across the sector between different parts of the system and bringing together these multiple viewpoints to better understand, to see different things and to answer the question what is this care that we build together?

For quality improvement work and safety work, it's about meeting the conditions, understanding where we can use reliability, about where we need to start thinking quite differently about work and really moving from this loading up the adaptive capacity of the front line to much more thinking about how does the system, as a whole, recognise changing conditions and respond as a whole system?

And I think one of the really big things I want to stress to you guys is that really this focus – that I think that the secret weapon for Aotearoa is really that we live in a Māori world. And Māori have been dealing with issues of navigating complexity and relational ways of working and interconnectedness. That that’s central to mātauranga Māori. And so this is something I think that we have is a real benefit here. And the question is not to say resilient health care is the same as mātauranga Māori. It's to say we have these different kaupapa; how do we bring them together to create something better? How do we lead the way on this? And I really believe that, in New Zealand, we can take some of these modern safety ideas about coping with complexity, and we can see and use mātauranga Māori to really lead the way internationally. This is my hope for a lot of this programme.

Finally, I'd like to say no work ever occurs in isolation. This work has been led by the System Safety team of the Commission, the Ahuahu Kaunuku are partners in that, but also participants of the Resilient Healthcare Aotearoa hui that we held last year and many more across the motu. So, my thanks to all of you. Thank you very much.

Thank you, Carl. That was fantastic. So, we'll allow questions. If anyone wants to type into the chat their questions or raise their hands, we'll go to those questions. Just while we wait for people to type in their questions, I was just wondering, you were talking about the different approaches and how we have all these tools for complicated systems, and we need to move to these tools for complex systems; I wondered if you could maybe describe how we would know which is the right tool for the right problem?

It's one of those things where very often we – you know, like a simple model of something which is a fairly linear system, it's going to work really well. So, you know, that works well enough. I guess the things are when you're having problems that keep repeatedly happening despite the interventions, well you reach a threshold and they stop working in the way you would hope for improvement, then I guess that's the time I start saying are we using the right model? And force is a really good example of that. The initial work was focused on how to apply checklists and help. And we got some really good improvement. But now we're facing the problem of trade-offs with safe staffing and the availability of HDAs and the trade-offs between how do we get people out of hospital faster by encouraging their autonomy and movement and mobilisation versus the risk of falls? And how do we do that with settings that are really not designed for rehabilitation? And so I think that those are – when we're having problems, particularly the ones that we're struggling to face, then those are the ones that I think we need to be thinking quite differently about a system approach rather than just taking things in isolation. It doesn't mean you can't do that: we don't have to abandon previous QI tools. It means we have to think about which context, which problem are we dealing with here.

Thank you. I did see someone with their hand up. Had a sort of cryptic name under it. So F-Tin, or something along those lines … had their hand up? F Mitten? If F-M-I-T-N-N had their hand up? Where have they gone? Can you highlight them please? How much?

It's like a name and shame.

No. OK. Right, in the meantime, what do you think is holding us back from working in this way more often? I think, you know, we've been working in the constraining approach for quite some time. What's holding us back from moving to this way?

In the history of safety, I mean, where we are is, you know, where safety thinking was that in the 1990s. You know, and that's entirely appropriate; that's where we started; that's what informed a lot of our systems. The HDC was formed in the mid '90s reforms. The … Some of our thinking about RCAs and things was formed in the late '90s based on [INAUDIBLE], so, you know, it makes sense that we're in that space. That's fine. And it's very common in many other industries.

But I guess it's a really interesting question. What is it that holds us in our current approach? And this comes down to the idea about structures that hold us. If we assume that everything we're seeing at the moment – equity, if we see equity, if we see stuff burnout, if we see patient experience, that the problems that we're having with that and the problems of learning is the outputs of the system as it's currently designed, then one of the really interesting questions is what holds us in a system that does those things? What is it that we pay attention to and value that holds us in that way of seeing things? And without making those trade-offs visible, it's very hard to fix them. So, I think that there are many things both in the way that our safety leading systems are set up and the way the HDC is set up and the way that we think about funding models and the reforms – sorry, in the structural elements, the DHB and the Ministry relationships. There's lots of things that do that. And I think the reforms are a really unique chance for us to think much more coherently about what does it look like across the whole system? How does information flow up and down? How do those making decisions about funding or policy understand the realities of work in different contexts, not just the DHBs or the hospitals but in all across? And how do we put those two together in a coherent way? Which problems are best solved at which level? And that's something that's quite tricky, but we're only a five-million-person country. We should be able to do this. And this is the move that places like NHS and Scotland are moving towards and other places around the world.

Right, we have had a question come into the chat from A Bruce. Can you explain the rationale of the HQSC move to system safety?

Yeah, great. Thanks for that. That’s a really good question. So previously when we talked about patient safety, one of the worries with that was we treated the patient as object. And we talked about that. And it was blind to the problems of the system. And it also meant that we didn't – it kept everything centred very much on the patient, which is really good and how it should be. But it wasn't about meeting their needs. It was about them as the object of safety investigations. And we're also blind to the role that staff safety and staff wellbeing have in that. And we kind of – it drew all our attention into who was closest to this event when it happened? So, system safety is really trying to acknowledge the fact that it's much more about seeing this whole system, this health care system, as about what creates conditions that allow patient harm to happen but also staff harm but also waste and inefficiency and also the lack of ability to adapt as things change. So, I think, for me, the system safety, basically this is – our focus should be on this whole system and how it delivers for the patient not just in terms of safety but in terms of their experience, the way it's designed for them; understanding the differentiated needs the patients have because they're not all the same. So, to me, that's the move that we are trying to make. And I think the Commission has a key role in that level of thinking about the wider system, the architecture of the system and how that enables or impedes information flow.

So we've got a raised hand from Sarit and Sumeshni.

So if they want to just unmute. Yep.

Hey, Carl. It's yeah, both of us here.

Hi.

Hello guys. Nice to see you.

Yeah. I got the mute on because we've got a bad background. I'll put it on OK. And Carl, you've been able to articulate and put into context, you know, conditions of work and what we experience at work that's difficult to address to sort of people that have the purse strings, from the on-the-ground point of view. So, I think that – I feel like this new approach and things like that's going to need a lot of education, delivering this concept to those who need to understand it and therefore then see it trickle down to us at the grassroots level. What kind of time frame and is there a plan to roll this out from an education point of view as well as funding point of view so that we start seeing some of the benefits of this change in perspective of the health care system?

Yeah. Thanks, Sarit. And lovely to see you both. I guess Charles Vincent said safety is what happens at the bed space, you know? And I guess that's the thing is when we reopen the system to say, how do we support good care; how do all levels of system support good care, without understanding the realities of care as experienced by patients or those who seek care rather; and their whānau; and the experiences of the staff, and we can't do that.

And, at the moment, there's not a great flow of information. And remember, there's not a one-way communication channel; it's not like we just need more money and we'll be OK. We need to be having difficult conversations about the realities of how do we redesign things to help? And so staff will say, if we just have more staff, we'll be OK. What they mean is for the current way we work. And is that the right way to work, or should we be having different conversations that cross the boundaries of primary and secondary care? The system, as it is now, is very fragmented. And you know, primary care is so separate to the DHBs. And from the patient point of view, it's their health. They carry their health and needs throughout the system, but we work in a very disorganised and fragmented way. And so, I guess it's one of those things about how do we come together to have difficult conversations? And the biggest change you can make I think is that change in the mental model about how is safety created? How is good care provided? And I think that's the thing we're trying to work on first.

In terms of time frames, I think the reforms are – they come in in June, July. I anticipate several years of settling in; would that be the phrase? And I think, you know, we need to be thinking together about, well, what do we want from the system? How do we design an overarching safety framework? How does information flow? How do we make it coherent to those who have to navigate ACC, WorkSafe, HDC? How do we meet the needs of people in those system? So, I think it'll be years, I'm sorry to say, but I think culture change is years. But remember it's been stuck in this way since the mid '90s, so we've been in this way of working for a long time. It's not going to suddenly change.

Thanks, Carl.

Thanks [INAUDIBLE}.

Thank you for that question. Ooh, you had another good question – long question – from Caroline. Patient safety is key, but the term patient limits consumers of all health care setting seeing themselves. Our focus is on the whole health sector. Oh, it's not a question. It's an answer.

That's an answer.

Right, OK. I'll let everyone read that. I'm just going to ask you, you mentioned the contribution of mātauranga Māori to our understanding of system safety, and I'm just interested to know if you see similar things happening internationally or whether that's a unique contribution that we're making here in Aotearoa New Zealand to the understanding.

I think it is – my hope is that it is something that we can embrace in Aotearoa. I think it's something that is a secret weapon in terms of it's something we have that other places don't necessarily have. But if you think about places that everyone goes to look at, like, is it [INAUDIBLE] in [INAUDIBLE] health system. Everyone goes there and says, wow, how do we replicate this? How do we do it? And it's all based on relational ways of working, about understanding what the needs of people are.

We can't then translate that back into the same Western systems that we're going to do a quality improvement model that rolls it out in a Western way because a lot of mātauranga Māori, about this idea, about the fact that we live in a world of relationships and connections, that what the Commission does has an impact on my work, that what the government does is affecting my work, that we are connected to people within whānau, with those things; that's quite a different view from this idea of the individual going through a system.

And that's a lived change; that's a lived way of working; this understanding of what do you need from me? What do I need from you? How do we work together on this problem? What do you see that's different from me? And how do we bring that difference? And we see it as a strength. That's a very – I think – a very Māori way of seeing the world. And I think that's a real strength. So, you know, I was talking to some of our colleagues and I'll be like [INAUDIBLE] And they're sort of like, oh, it's great you finally got here. We've been waiting, you know? Like we're waiting for complexity to catch up with where we've been. And it's this organic way, relational way of working.

So, I've got one more question, which would be, I imagine, the final question from A Bruce again. Thank you for your questions. How do you see quality evolving with Health New Zealand and the HQSC input into system safety for our population?

Whew. Look, I think that's a really great question. There is so much change and so many things happening. And my hope is that it provides a chance for us to think much more about, you know, how do we see the realities and the system problems that are going on in different parts of the system? And how does that information feed up? You know, there's no point the Commission knowing exactly what's going on in every emergency department around the country. That's not feasible. But it's more about how does information flow? I think there will be a need for an overarching approach to safety and quality. I think those things are still being worked through. It's probably above my level in terms of what's happening in the transition here. I know that self-organisation is a wonderful thing in complex systems and that people are already having conversations regionally about how they work together. But how do we turn that into a coherent system that means that we share and learn and understand what works for who under what conditions and how? Then I'm not quite sure how that is set up at the moment. And I don't know if Gillian or others have got some comments on that.

Oh, I'll hand over to Gillian because it's now time to go to the next speaker. If Gillian wants to slip in a comment as she leads into the next session, I'll leave that up to her. But thank you very much, Carl. It was fantastic.

Again, thank you, Carl, as well. I think the answer’s a little long for the time frame we've got now. So, thank you ever so much from all of us, and I think we'll move over to our next speaker. So, I have the absolute pleasure in introducing Dr Mary Seddon. Here she is. Welcome, Mary.

Hello.

Mary holds fellowships in medicine, public health and medical administration. And she is the director at Ko Awatea, the Centre for System Improvement and Innovation, at Counties Manukau Health. A Harkness fellowship at Harvard Medical School sparked Mary's interest in health care quality improvement. And she has mainly focused her mahi for this over the last 20 years.

We regard Mary as one of the leading thinkers on how improvements [INAUDIBLE] can best be utilised in improving safety and quality in health care in Aotearoa and especially her ability to think about how to do it now and also how to do it in the future, including the reformed health system. Mary, the warmest welcome to you, and we're really looking forward to your presentation. Thank you.

[Mary Seddon] Kia ora tatou. I'm presenting this, really, on behalf of the Counties radiology department and Ko Awatea. I'll leave you to decide which parts of this are complex and which are complicated. But we were really asked in to help the radiology department – go to the next – there we go – because they had a steadily increasing number of patients waiting for their MRI scans. So nearly 2,000 patients on the waiting list and more than 200 waiting in excess of six months. The Ministry of Health target was six weeks. So, we were well outside that.

Along with that, we had major stress in the staff and problems with retention, specifically of MRI technicians. And what the service thought they needed was more of these technicians. And I think that's what Carl was getting at, that, if they continued to work the way they were, they needed more technicians. But we were asked to come in and see whether there were other ways of working.

So, our aim was to reduce the waiting list to less than 500 patients within two years. And we started off by conducting a capacity and demand study to use the findings of the study to guide further action. This was done – one of our improvement advisors was embedded, if you like, in the radiology department, working very closely with them. So, it was work-as-done was what he was seeing.

So, we used six months of data and were able to show that the capacity of the unit, they had more than enough capacity to meet the demand, but that it was mismatched. And this started a completely different conversation – moved us away from we need more staff to how can we best utilise what we have at the moment.

So, in our driver diagram, we've got our aim statement, but we started to look at matching capacity to demand, segmenting the waiting list and redesigning the system. Matching capacity to demand, some years ago, in order to retain MRTs and stop them going to private, many of them were working four-day weeks and mostly having Friday or Monday off. So, we had more than enough MRTs on Tuesday, Wednesday, Thursday but not enough on Mondays and Fridays. So that was discussed, and people tried to rebalance their rosters to match the peak periods.

I won't go through all of this, but waiting list segmentation was probably, for me, the most innovative. We found that there were four groups that contributed to these very long waits – patients that needed sedation for their scan, paediatric cases that needed general anaesthetic, the need for interpreters and also prisoners. So, we actually started looking at what we could do. And I'll come to that. But what we could do to address that.

The other thing that I found really interesting in this was we also segmented by body parts. So, if you are scanning a shoulder and then your next scan is a head, you actually have to take the coil out and change it. So, these are elected MRIs, so we decided to do a whole list of shoulders, a whole list of heads.

For the interpreters, we would run a whole list in Cantonese or in [INAUDIBLE]. And for the sedation, again, we would set up actual lists for that type of case rather than letting them just wait and wait and wait. So those made big differences. And I'm happy to talk about any of the other things. A greater role for MRTs was key to this.

So at the end of 2020, we were able to significantly decrease the number on the waiting list. And even more interestingly, well for me, we were able to move the list to the left. So, the blue bars are December '18. And you can see we had 204 patients waiting more than 180 days. And the yellow is November '20. Not only have we decreased the size, but we have very small numbers now waiting excessively long times. So, that made quite a big difference. And it was really exciting to see the radiology department with the feedback of data taking this process on themselves.

So, if we just look at the stats. So, just under 2,000 – 1,950 in December down to 413. Average waiting time, 96 down to 23 – that's a big difference for a patient. We still had occasional patients waiting longer. But I think the other really important thing is the scanning hours per week went from 55 to 136.

Middlemore has three MRI scanners. When they got the third one, they thought it would decrease their waiting list, but it didn't make much of an impact because it wasn't really utilised as well as it could have been. So, with mapping that capacity to demand and working with them and showing that we could make a difference, that was really where we were.

So, the lessons we learned. I think it's really important to understand the problem at the start. Whether it's complex or a complicated, you really need to understand what is happening. And in this case, it wasn't actually a demand problem but a mismatch problem.

The other thing I think is really important is to allow data to drive the conversations. When you first start, there's a lot of beliefs and anecdotes, and they can lead you astray if you don't have good data to guide the conversations. And I think interrogating the waiting lists. As I said, we found four groups accounted for the most extreme waits, so we could proactively set up this for these groups and decrease the long waits – I think this is something that could be useful in many other lists.

In medicine, we put somebody on a waiting list, and it might be a P2 or a P3, but once you’re on the waiting list, we don't tend to look at that list and actively manage it. And I think that's something that we could do with colonoscopy waiting lists, surgical waiting lists, actually getting the science to start to look at that.

And the other lesson is really engaging with frontline staff. And Ko Awatea's job, really, is to transfer the capability to continue quality improvement. We assist where we're asked, but we don't actually want to come in and do to a unit and then leave. So, it's working with rather than doing to.

I just acknowledge the radiology staff. Some excellent MRTs. And we had support from the clinical director and the service manager. And I'd just like to call out Heera. He's left Ko Awatea, but he did much of the data under the guidance of [INAUDIBLE], so, I'll leave it there and take questions.

Thank you, Mary. So, if people want to either just raise their hands or type in the chat for their questions. Just while we wait for people to do that, Mary, I was just thinking about your talk about the mismatch between the capacity and the demand and working with staff to manage that. I was sort of also thinking about the quadruple aim and provider wellbeing. And I was just wondering how you managed the people factors with the changes that you implemented.

Well, when we started, we had co-located two machines plus one isolated. In the two machines, we had two techs for each scan. In private, they have one. So, we work with the staff to say we could have one plus an HCA getting patients ready for you so that you are working at the top of your scope.

The other thing was working with them to vet the referrals. Up till then it was only done by two SMOs, so it was a slow bottleneck. The other thing was introducing unsupervised scans, so MRT-led scans, early in the morning and late at night when the SMOs weren't there, so that they can actually take some control and feel like they were driving their work. That being said, COVID really has impacted very strongly on this piece of work. It's really about giving people the authority to make changes.

Thank you, and that actually ties in well to what some of what Carl was talking about. So, I was wondering if you – oh actually there's a question come in, so before I follow my train of thought, I'll ask Veronique’s question: Hi Mary. Thank you for your presentation and for the published paper. With segmentation by part, patients would now be segmented. How did this impact on their waiting time to get all of their radiology needs? Also, what was their wait – I'll read this again because I, sorry—

No, I understand.

OK. Also, what was—

She was talking about people who might need more than one scan on a different body part, I think. Those people, we wouldn't necessarily segment by their body part because they've got to have multiple scans. So, we were looking at the ones who were purely coming in for a single scan.

Also, was their wait time counted from first scan or at completion?

Again, she's presuming that they're going to have multiple scans. So, I would imagine if a patient needs multiple scans, most of those are done in the same appointment. So, it would be at the completion of those scans.

All right, thank you, Mary. You spoke about the staff being in control and driving their own work when you answered that question before. So, have you noticed any improvement in how in control of their work staff feel, or are staff more engaged in their work? Do they feel better or worse about how things are now?

Yes. We did staff surveys and feedback. But as I say, COVID has completely decimated that service. Our waiting lists are going back up. And so that planned care is going to take several years to get back. But the responses we got – and we had weekly meetings where they could come up with the ideas that we were going to test, and there was really good engagement through that.

So were those weekly meetings really beneficial for engaging with the staff and the service?

Yeah, yeah, and I think they could see that we were taking their suggestions seriously and working through them. Just jumping to the union involvement, I can't answer that. But it was a fairly standard way of working in private. So, we adopted some of the staffing practises from private hospitals. And again, it was all done with the service manager, the director and the staff involved.

Right. Thank you, Mary. Other – ah, yep. [INAUDIBLE]

Yeah.

Yep. Yep. Any other questions for Mary from anyone? Any raised hands or chat comments? No? Oh yes, Carl.

Sorry. I guess, just to link that back to this idea about data for who. And I guess there's a – quality improvement when done well is entirely consistent with the things we were talking about before, which is that it's actually about understanding the realities of work and using data to show people and get them involved in solving the problems, which is quite different to having data that's then sold by people who don't understand the realities of work and just say this is what we're going to do. And so, I think, you know, good QI is always grounded in the soil of real work. And so, I think that's entirely consistent.

And I think understanding the importance of relationships –who are your key people in that department? We had a very engaged MRT that ran a lot of this. And just how they worked with the other MRTs, we were just – we were on the side, but it was their project, their issue, and it was their solution. So, we just helped.

Fantastic. Thank you very much, Mary. That was really interesting and very complimentary presentations. So just thank you once again, and I'll hand back to Gillian.

Again, my thanks, Mary. I think it's an excellent piece of work. What a shame Omicron and its cousin the Delta that's – I guess it's sibling Delta has done. But there'll be lessons that you'll be able to bring forward from that and getting it back on track.

We're now looking at capacity and demand in the outpatient setting as a whole. So, starting to get that rigour and understanding what our capacity is. Sometimes like in gastroenterology, we looked at it. Their capacity was so long compared to their demand. That's a different conversation. Then you had to think about how do we meet that demand in other ways? But where you've got enough capacity, then you've got, again, a different conversation. How do we match it? So, I think it's that thinking.

Great. Thanks very much. There are some complimentary things coming through. And we can send you the chat. And great thanks to both you and Carl for that. We're going to the wrap-up now. Just to remind you that we will send out – Mary's paper was circulated to everyone that registered for the programme.

We will be sending you a feedback survey. Please complete it and send it back to us. We know that you're busy, but we need to know and understand to best meet your needs in the future. It would be great. Remember, the next one at the same time, same place on the 24th, and we look forward to seeing most of you back, we hope, that day. And Jane is now going to close with a karakia. Thank you, Jane.

Thank you, Gillian.

Kia ora anō tātou katoa

Kei te whakakapi au i tā tātou hui

Nō reira he karakia whakamutunga

Kua mutu ā tātou mahi

Ka tae te wā

mō te whakairi te kete

I te kete kōrero,

I te kete whakaaro

Hei tiki atu anō mā tatou

Tauwhirotia mai mātou katoa

Ō mātou hoa

Ō mātou whānau

Āio ki te Aorangi.

Hui e tāiki e.

Thank you, Jane. Ka kite anō, everyone. I hope to see you back in a fortnight.