**Embedding Human Factors in a critical care environment |Te tāmau Āhua Tangata i te ao whāomoomo**

**Visual
The video begins. The screen has a white background. In the middle of the screen are the words ‘Human Factors’ in large letters. Each letter of the word ‘Human’ is a different colour. The word ‘Factors’ is blue. Underneath that is a line, under which is written in smaller blue letters ‘Embedding Human Factors in a critical care environment.’**

**The screen changes and a te reo translation in the same style as the first screen appears. It reads ‘Te tāmau Āhua Tangata i te ao whāomoomo.’**

**The slide disappears and we see a shot of the outside of Middlemore Hospital. Blue sky appears, and two birds fly away.**

**A doctor wearing blue scrubs and a surgical face mask walks through a hospital corridor. He then appears sitting beside a hospital bed.**

Audio
[Carl] Kia ora, my name is Dr Carl Horsley.

I’m an intensive care specialist at Middlemore Hospital, and I have a Master’s in Human Factors and system safety from Lund University in Sweden.

**Visual
Nurses are standing in a hospital corridor, wearing face masks.**

Audio
[Carl] So, very often Human Factors is kind of seen as the factors of humans. You know, how do we communicate or how do we think about things?

**Visual
Carl talks to a colleague in a hospital hallway. They nod in agreement.**

Audio
[Carl] But Human Factors is more about the way we design our systems to support the realities of people in their work.

**Visual
A group of clinicians are standing around a bed with a mannequin in it. They are taking part in simulation training.**

Audio
[Carl] Human Factors is about seeing people within systems, about understanding how behaviour is shaped by the systems that they work in, and the design of those systems, and that can be from the tools we use, to the way we work together, to what we pay attention to and the physical environment.

**Visual
Carl moves a large piece of medical monitoring equipment on wheels. Then we see a close shot of a person writing on a clipboard.**

Audio
[Carl] So, there’s a whole lot of things that go into thinking in Human Factors about how do we design to support human performance in terms of providing good care, but also human wellbeing in terms of making sure that staff feel safe and supported and are really clear about what they can do.

**Visual
The scene changes to a different view of the group of nurses standing around a bed listening to a colleague talk during their simulation training.**

Audio
[Carl] One of the things with Human Factors, it’s about seeing people in the whole of the system, so not just thinking about the way that we’re shaped by the tools we use or our technology, but also the way that our culture or the things we pay attention to, the way that we work together, how that influences the way that we provide care.

**Visual
Carl is looking at a face mask while standing beside a colleague who is dressed in surgical gear and wearing a surgical cap.**

Audio
[Carl] Central to the care that we’ve been providing over many years now is this idea about relational health care, if I’m interested in the realities of our team, we know each other really well, then those are the things that matter when we have a really big event.

**Visual
Carl holds a poster to put up in a hospital corridor. A nurse stands beside him. The scene then changes, and he shares a laugh with a colleague. The scene changes again to a shot of steam rising on Whakaari/White Island.**

Audio
[Carl] So for Whakaari, we found that the extraordinary work we did during that time was really built on the ordinary way that we worked and the relationships that we had, both within the unit and across with our burns team, our infection control team. All those relationships were called on at these times of highest need, and so we see that that’s an everyday thing. But it’s also the base of exceptional work that can be done during a pandemic or during an eruption.

**Visual
A close shot of someone typing.**

Audio
[Carl] Human Factors was really central to our response to thinking about COVID.

**Visual
The shot pans down a line of boxes of surgical gloves.**

Audio
[Carl] When COVID first arrived in this country, we were the unit that took a lot of the first hit of that, and before it came, we were really thinking about how do we keep our staff safe? How to keep our patients safe? How do we design our systems to support staff to provide safe care?

**Visual
A clinician is putting on personal protective equipment (PPE). A continuously moving neon sign on a building informs people to ‘keep 6 feet apart.’**

Audio
[Carl] The nature that we saw from COVID overseas was that this really was something very unknown to us, and staff were genuinely worried about were they going to take this disease home to their families and put them at risk? Were they personally at risk from this disease?

**Visual
Carl is standing in a hospital corridor behind a nurse who looks anxious. The scene then changes to show a person in full PPE looking at a microscope. Test tubes labelled COVID-19 are seen on the lab bench. A doctor looks up at a chart on the hospital wall that reminds him of the correct order to don PPE.**

Audio
[Carl] There was a lot of anxiety at that time, and it was uncertain, and things were changing very, very rapidly.

We had to design solutions that dealt with the realities that people would face. How do we design for a tired team member in the middle of the night with a really unwell patient, where they worried about their own safety?

**Visual
A clinician wearing full PPE dons a surgical hat.**

Audio
[Carl] For us, it was about making it as simple as it possibly could be, with things that support the right way to work.

**Visual
A poster shows a ‘seven step COVID-19 bedspace process for donning PPE.’**

Audio
[Carl] Making sure that it was really safe for our staff and our patients, making sure that we could adjust things on the fly and making sure that we could maintain whatever we did for a long period of time and we weren’t constantly sending out a trail of emails, but just that people knew where to look for the information that was available to them.

**Visual
Shots of a green tile labelled ‘Donning Zone’ and red tile on the hospital floor labelled ‘Doffing Zone’. The scene changes to show the nursing group continuing their simulation training. They stand around a bed with a mannequin in it. Then we see a clinician putting on blue rubber gloves.**

Audio
[Carl] The end result has been that over two and a half years that we’ve had COVID patients, and we’ve had the most patients in any ICU in the country, is that we haven’t had a single member of staff acquire COVID from one of our patients.

**Visual
An exterior shot of Middlemore Hospital shows someone walking in the main entrance. The video closes, and credits roll.**