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Special Commission of Inquiry

into Healthcare Funding

Before: The Commissioner,
Mr Richard Beasley SC

At Level 2, 121 Macquarie Street,
Sydney, New South Wales

Monday, 26 February 2024 at 10.00am

(Day 010)

Mr Ed Muston SC	**(Senior Counsel Assisting)**
Mr Ross Glover	**(Counsel Assisting)**
Mr Ian Fraser	**(Counsel Assisting_**
Mr Dan Fuller	**(Counsel Assisting)**
Dr Tamsin Waterhouse	**(Counsel Assisting)**

Also present:

Mr Lachlan Gyles SC with Ms Joanna Davidson for NSW Health

MR MUSTON: Good morning, Commissioner. We are moving now to the innovation phase of this hearing block. There will obviously be some overlap between what we're discussing this morning and some of the procurement issues that were raised last week, but that's where we're at.

I do think we have a formal tender of some confidential documents and an order that needs to be made in respect of confidentiality but I won't deal with that immediately.

THE COMMISSIONER: Okay.

MR MUSTON: Ms Waterhouse is going to deal with this witness.

THE COMMISSIONER: Thank you.

DR WATERHOUSE: Commissioner, the witness is already in the witness box. It is Adjunct Professor Jéan-Fredéric Levesque. I will spell his name in full for the court reporter, J-É-A-N-hyphen-F-R-É-D-E-R-I-C L-E-V-E-S-Q-U-E.

<JÉAN-FREDÉRIC LEVESQUE, affirmed: [10.01am]

<EXAMINATION BY DR WATERHOUSE:

DR WATERHOUSE: Q. Dr Levesque, can you please state your full name and also your occupation?
A. My name is Jéan-Fredéric Levesque, I'm deputy secretary for clinical innovation and research in NSW Health and I'm the chief executive of the Agency for Clinical Innovation, also within NSW Health.

Q. How long have you been in this role?
A. I've been in the role of deputy secretary for 12 months and I've been the chief executive of the Agency for Clinical Innovation for a little bit less than six years.

Q. And what roles have you held before that?
A. Within NSW Health I've also been chief executive of the Bureau of Health Information and previously I had various professional roles in Canada, before migrating to Australia.

Q. And can you outline for us your qualifications?

A. I'm a medical doctor by training. I've got a specialisation in preventive medicine and public health and I'm a fellow of the Royal College of Physicians and Surgeons of Canada and I also have a PhD in public health from University of Montreal.

Q. Thank you. You have prepared a statement to assist the Commission, and I believe that statement is dated 30 January 2024. You have a copy of the statement with you?
A. Yes, I do.

DR WATERHOUSE: We might just bring that up on the screen, if we could, it is exhibit B.003 [MOH.0001.0435.0001].

Q. Have you had a chance to review the statement before giving evidence today?
A. Yes.

Q. And is the content true and correct to the best of your knowledge and belief?
A. Yes, it is.

Q. We might scroll down to paragraph 4. In that paragraph you refer to the creation of the clinical innovation and research division approximately one year ago, February 2023. What was the rationale for developing this or establishing this division and what do you see as the advantages?
A. There were various goals in establishing the division, bringing together the Office for Health and Medical Research and the Agency for Clinical Innovation and the first one was really to lift research and innovation as a key priority for NSW Health, really send the signal that it is an important component of the system and something that we need to continue to progress.

There was also a desire to better coordinate the work across the entire continuum from research, discoveries and implementation in the real healthcare system. So the objectives were really to ensure that we would have more visibility from a research perspective and also really align our work for stronger impact on the system.

Q. Can you see any disadvantages to creating it as a division in the ministry?
A. I don't see any disadvantages. I think that it's

really creating an opportunity for better aligning our investments in research with the efforts that we're making to translate them into clinical practice.

The only thing that we need to manage as part of this arrangement is the fact that the Agency for Clinical Innovation is a pillar of NSW Health and therefore, you know, we've had to establish different ways to manage a pillar and branches of the ministry, working together, but again, it's a great opportunity to actually be able to make a pillar work so closely with branches of the ministry, it was just a matter of establishing the right governance processes.

Q. One of the terms of reference --

THE COMMISSIONER: Q. Sorry, so the division of clinical innovation and research is part of the Ministry of Health?
A. It is.

Q. So the ACI and the Office for Health and Medical Research, it says, "were integrated to form a new division". I don't quite - the ACI still stands alone as a pillar - yes?
A. Yes, it does.

Q. And there's the Office for Health and Medical Research - that stands alone as an office?
A. It's one of the branches, yes.

Q. And what is the form of integration to form this division of clinical innovation and research?
A. Well, the first thing, Commissioner, is that both of those units are led by the same person, myself.

Q. That's you?
A. So I'm deputy secretary, you know, supervising all of the research and innovation work across the system for NSW Health and I'm the chief executive of the Agency for Clinical Innovation. So in this way, there was a first level of integration. And then from a functional perspective, the management structures within ACI as well as OHMR and the small structures that enable me to lead the division in a more coordinated way all meet together in planning our activities. There is --

Q. There might be a really good reason for this, and this

is your chance to tell us why, it just sounds like it should be the one organisation. The division of clinical innovation sounds a lot like the Agency for Clinical Innovation. Obviously I'm missing something as to why it's been done this way as distinct from just all of these three entities being the one organisation.
A. The Agency for Clinical Innovation as a pillar organisation, like other pillars, has a role to provide advice to the ministry, provide advice to the system in an impartial way, as pillar organisation, and that arm's length role was seen as an advantage in keeping the agency as a separate entity from a legal perspective, but really aligning it through its leadership with the work of OHMR, the work of the critical intelligence unit, within a division so that we better coordinate the work.

So we were trying to preserve the advantages and the levers that are part of a pillar organisation but by bringing it under a more integrated leadership so that it would really span the entire continuum from grant delivery to working with clinicians through that independent entity for real system change. But really, from a functional perspective, we now have meetings that enable us to coordinate the work across the two organisations.

DR WATERHOUSE: Q. The Commissioner asked if the OHMR, or Office for Health and Medical Research, was a stand-alone body and I think you responded that it was a branch. Is it, in fact, a branch of the ministry?
A. It's a branch of the division for clinical innovation and research, so, yes, it is a branch of the Ministry of Health, from a legal perspective.

Q. So the only part that sort of stands alone, effectively, is the ACI?
A. That is correct.

Q. Thank you. Part of the terms of reference for this Inquiry is to inquire into the balance between central oversight and locally devolved decision-making. Could bringing the ACI and the OHMR together in this way, into the division in the ministry, be seen as an increase in centralisation?
A. I think to answer that question, I need to reflect on what kind of organisation the ACI is. I think it is important, because you'll see that the ACI is an organisation that is already heavily decentralised through

its clinical networks.

So the agency has, you know, employees that we directly employ, they include network managers, they include people that have expertise in epidemiology just or organisational studies, data analysis, but the agency, one of its core roles is to lead 42 clinical networks that are made of clinicians working in local districts, working in our different hospitals across the system.

And the number of core fluctuates, but there are thousands of clinicians involved in various groups led by those clinical networks, and that really is a way for us to reach very deeply into the system, making sure that we hear from real clinicians, you know, currently working in the system about issues that may need to be addressed, or about opportunities in terms of new ways to deliver care, and then bringing it within an organisation that then can mobilise resources to redesign models or to support implementation at the state level.

So the ACI is already a very, you know, decentralised structure with that reaching out of clinicians through our work.

One of the goals of establishing the division was actually to make sure that we would keep that clinical voice and bring it to the ministry executive so that the ACI being part of or led in an integrated way as part of that division for clinical innovation and research, then we could create that, you know, streamlined channel so that the voice of clinicians could be conveyed to the ministry executive in an even more effective way going forward

So I think the reality is that it's not a top-down approach; it's not just a bottom-up approach either. It's about balancing those two together so that we have really activities in the system but in a way that it can then get into policies and in more integrated and statewide approaches. That's one of the advantages of having established a division as it stands, because we can keep that really essential role of mobilising thousands of clinicians for the purpose of innovation, and then integrated to inform policy that is led at the central level as well.

Q. Would it be fair to say that the decentralisation that

you're referring to there relates to consultation rather than the actual decision-making being on the ground, and that the decision-making is done more centrally by ACI?
A. There has not been any changes following the creation of the division with regards to how ACI makes its decisions. We have clinical networks executive committees and these are made of doctor, nurses, allied health professionals and consumers. They identify the work that they need to do and then have it endorsed by the ACI executive committee. And we also have a clinical executive advisory group that informs the decisions of ACI, and we're talking about clinicians from intensive care, surgery, primary care, many different areas.

The ACI still has, as it had in the past, a performance agreement with the Ministry of Health, identifying what are the key priorities, what is the work that is emerging from the different networks that we need to bring to scale, and that has not changed following the establishment of the division. So we've really tried again, as part of that transformation, to keep the strong advantages of the current structure, making sure that the voice of clinicians is well coordinated, well supported by the ACI, but by having a deputy secretary that leads that agency, you know, interacts with the clinical networks on a regular basis through our own ACI mechanic, then I can bring that clinical voice to the ministry executive, and that was one of the objectives as part of that reform of our structures.

Q. I'm going to come back to the ACI in more detail a little bit later. I would like to ask you some questions now about the Office for Health and Medical Research. So if we could just scroll down to paragraph 14, please. Before we go to that, can you just describe for us the purpose and functions of the Office for Health and Medical Research?
A. Yes. So the Office for Health and Medical Research has got, as overarching role, to catalyse research into NSW Health through different ways. Its role is really to be a central agency that helps local districts, hospitals, to use and produce research for the purpose of improving clinical care.

And the office does that through different means. First, we engage with academic institutions ensuring the coordination between NSW Health and universities or

research centres. We also administer various grant programs, so we allocate funding to medical research institutes, we allocate funding that is targeted at specific areas of research, so grants in cardiovascular diseases, for example, or in spinal cord injury, and we also work on supporting the governance of research in the healthcare system, and that means establishing more standardised ways to manage ethics, confidentiality assurance, that relates to the management of research.

And finally we work in partnerships with either academic institutions, local health districts research teams or industry, at working on the infrastructure that is required to make specific areas of research more conducive to impacts on the healthcare system. These are the main functions of OHMR and how it, you know, again tries to make research part of the delivery of health care in New South Wales.

Q. So if we just look at paragraph 14 now, it says that there is a budget of 104.7 million for that, and that's this year's budget. Would that be a typical budget for OHMR or have there been any significant changes in recent years?

A. No, there's not been significant changes, but year on year it will be slightly different, depending on the timing of specific grant programs. So with certain grant programs finishing, some years we could have a reduction, and of course there are always new grants coming in. So there is a bit of fluctuation in the overall budget but over the last few years it's been fairly stable.

Q. So looking just for this year, then, it says at 14b that 44.5 million, which by my calculation is about 42.5 per cent of the total budget, has been allocated to the day-to-day costs of running independent medical research institutes. How is the effectiveness of that spend evaluated?

A. There are various ways that we evaluate the impact of our investments within the Office for Health and Medical Research. First, we have a small team that is dedicated to monitoring and evaluation of programs, and we do have to report, depending on the source of funding, on the achievements related to our grant funding.

We do also monitor different indicators of performance, either with regards to the timeliness of

ethics reviews or governance approvals, and we do receive reports from the different groups that receive funding from the office as part of that work.

Another area is that we have worked with various academic institutions in progressing stronger frameworks to assess impacts. Traditionally, impacts of health research was mostly calculated in terms of number of publications or the grants that those institutions would receive from national funding, for example, but increasingly we're also asking them to reflect on the impact that it has on local policies or specific delivery programs in health care so that we can have a more rounded approach.

As part of the medical research support program that you're talking about, we do have specific metrics that we revise with them that relates to their academic achievements, and that is also integrated in the review of the level of funding that they receive on an ongoing basis, and there have been shifts according to, you know, the performance of those organisations in the more than 10 years that the program has been in place.

Q. Now, given that some of these medical research institutes would be operating in the same space, doing research in similar sorts of conditions, how do you avoid duplication of the way that the money is being distributed, particularly if they're competing for research grants that are the same source, et cetera?
A. So in the case of the medical research institute and the medical research support program, this is infrastructure funding. So it's not funding that we give for specific research activities, it's really to support them as organisations so that they can be functioning in an efficient way, an effective way, and it's for their researchers to actually determine what are the programs that they will apply to receive operating expenditure as part of grant programs.

We do have conversations with the entire sector, we meet with the various associations, including the Association of Medical Research Institutes that we have in New South Wales, on a regular basis, and therefore, at times we do provide advice if we feel that there are certain areas where, you know, there's opportunities for new research to be conducted. But again, the funding that we give is not tied to that; it's really infrastructure

funding, helping them to exist as centres.

Q. If we go to paragraph 14c, that's about medical technology and commercialisation initiatives. Can you tell us a bit more about that?
A. Yes. So the Medical Devices Fund is a fund that was established around 10 years ago. It's a fund that aims at helping start-ups and other companies or clinicians that have great ideas in terms of how medical technologies can actually help to deliver care in a different way, to accelerate their projects.

So what we do in that program is we give grants on a competitive basis, so we have independent committees assessing the proposals, and the most promising medical devices are selected for funding and that enables them to do the work that they need to at times bring those medical devices to a commercialisation stage, which means that they can then start to sell these medical devices on the market.

We select only a few of the, you know, all of the proposals that we receive, and we provide them with support in different ways to make sure that we increase their capabilities for commercialisation. Many of those devices are created by clinicians working in our system and, therefore, we need to help them to better understand how do you manage intellectual property, how do you engage with people that can potentially provide funding, how do you advertise and promote your medical device for it to be a successful endeavour?

That's what the commercialisation training program does and the Brandon BioCatalyst collaboration does as well. Those two structures are enabling us to provide a wrap around the programs so that we ensure that we're not just investing money to help those medical devices to be successful, we're also providing them the support so that they can really truly accelerate their development and ensure their success.

Q. You mentioned Brandon BioCatalyst. Can you tell us what that is exactly and what is its role?
A. Brandon BioCatalyst is an Australian venture capital fund and in our case, they participate in the commercialisation training program to give advice to the medical device fund trainees about the best way to engage with funders, so that they can bring their innovations to

the next stage of funding. The Medical Devices Fund is really just an acceleration fund. At some point, some of those companies are at a stage where they need to produce at a larger scale and that's the advice that they - you know, that's the advice that Brandon BioCatalyst provides within our context.

Q. And when you say the most promising of the very many proposals that you receive are the ones that are supported, is that the most promising in the sense of being commercially successful or addressing patient problems or having the most impact on patient outcomes? What's the measure?
A. It's both of those things, and the committees that evaluate the candidates every year have specific criteria that they use to assess them, and it includes the stage of development of those medical devices, so have they already demonstrated that, you know, it can work? It includes the potential impact on patients and on the healthcare system, because sometimes those medical devices will help to deliver more care for patients or deliver technologies that are enhancing the current treatments that we have for patients; but it's also with regards to their economic potential. This is really about ensuring that our clinical entrepreneurs can be supported.

So all of those different aspects are part of the decisions. This is not something that I control. We've got peer review groups that do that in an independent way and then recommend to the program which candidates should be supported.

Q. Can you give us some examples of particular devices or initiatives that have been commercialised in this way after being developed by people working in the system?
A. There are many examples, given the fact that we've supported more than 40, if I remember, different devices through the years - or, sorry, 80 different medical devices. Some of them relate to very clinical areas, such as finding ways to provide dialysis in a different way.

There are some that relate to digital applications, for example, or at least providing a digital application support on a specific device. In terms of specific examples, if you'd just allow me - I think I have mentioned some, but at the moment they're escaping me in terms of those that have reached commercialisation stage. I can

find that for you a bit later.

Q. That's okay. Does the OHMR monitor to see whether they do have the anticipated benefits for patients or commercial success?
A. There are various - again, there are multiple modalities we can do to monitor that, depending on the specific device or specific grant programs that OHMR supports. There are - in some of those programs, we have evaluation programs, independent evaluations, that need to be provided, and we do them at regular intervals to make sure that we provide an input back into the system and we provide the right adjustment to increase effectiveness. So, for example --

THE COMMISSIONER: Q. So something that doesn't work very well for patients is unlikely to have much prospects for commercial success; right?
A. That is correct. If something doesn't generate the outcomes for patients, it's very unlikely that people will want to purchase those medical devices, and in a similar fashion for other grants that we have, if a research study doesn't demonstrate an impact, then it's not something we would promote for implementation at scale afterwards.

So there are things that relate to every single project's evaluation, as well as an evaluation of the entire programs that we put in place, and I was about to say that the translation research grant programs, for example, was evaluated after its second year and that allowed us to make adjustment to the program to ensure that the projects we are supporting, you know, we assess them with the right criteria to ensure that they're going to be successful.

DR WATERHOUSE: Q. In paragraph 14d there, there is a reference to the Translational Research Grants Scheme, and that is for projects that have the potential to benefit patients quickly. Can you give us some examples of successes in terms of those TRGS grants?
A. Yes. So there's been many programs. We're at our eighth round of translational research grant programs now. One example is the monitoring of electrocardiograms, so that's to assess the heart, you know, electrical rate. That was developed in Hunter New England. It was part of the translational research grant programs and demonstrated really that we could have a more streamlined access to

quick diagnostics for cardiac care for patients living in rural settings, and the program is currently being implemented across the entire Hunter New England region and we're monitoring it on an ongoing basis to see the potential for other areas as well. So it's a good example of a program that went to the translational research grants, that demonstrated, you know, a really good impact on the system.

Q. Are there programs that have been - or projects that been funded by these grants that have been rolled out across the state?
A. Yes. For example, the naloxone program is one that went through the translational research grant to evaluate the impact of accessing that drug at home on the health of patients, and following very positive pilots funded through the translational research grant program, it has been rolled out across the entire state and is now used across many drug and alcohol centres as a way to treat patients in a standard way.

Q. Now, the TRGS funds, as I understand it - that $5 million is entirely money from the state; is that correct?
A. That's correct.

Q. And when you were speaking previously about the types of grants that the medical research institutes could apply for, were they only state grants or are there other sources of those?
A. No, I was talking about other sources of funding such as the National Health and Medical Research Council, but also the MRFF, which is another Commonwealth-led program, and of course, there are also funding that they receive through philanthropy or specific funding sources that may be provided by clinical patient programs, you know. There's a few sources of funding, although the main sources of funding for those medical research institutes are the NHMRC and the MRFF in volume.

Q. So of that 104.7 million budget for OHMR, is that entirely state funding?
A. That's entirely state funding.

Q. And just finishing on the TRGS, have there been learnings from projects that were funded but were deemed not to be successful?

A. Well, yes. There's been various learning as part. TRGS program in general. What we can say from our evaluation is that 40 per cent of programs that went through - projects that went through the program have demonstrated successes and have been implemented at the state level. 30 per cent usually demonstrate a potential effectiveness but still need a bit of work to really understand or to help us assess if we need to roll those programs across the entire state. And there is 30 per cent of projects that didn't demonstrate enough effectiveness.

And that's the goal of the program, you know, we wouldn't expect 100 per cent of projects to demonstrate that they would be effective. The goal of the program is to actually trial interesting ideas coming out of the system and really assess if they work before we invest further in implementing them statewide.

There are some learnings that came out of the evaluation as well with regards to the fact for those projects to have a very strong endorsement locally from their chief executives that are promoting them in their districts. They need to have a very clear measurement approach. They need to be mobilising clinicians locally so that they get implemented, and all of those are the types of learning that we have made through the years and now we help projects before they arrive to reflect on those different aspects and they're part of the things that we assess with the peer review committees to decide which ones will receive funding going forward. So the evaluation we did of the program did enable us to reflect on some learnings and then integrate them into the later rounds of the program.

Q. We might just move down to paragraph 14e, at the top of the page there. So you refer there to 15 million, this year, at least, being spent on cardiovascular research capacity. Can you give us a bit more detail of what that covers?

A. Yes. So that fund is a fund that we have for 10 years, we're about midway through it. The goal was to lift our competitiveness nationally and internationally in research grants in cardiovascular research. What it covers are various types of grants, first, early and mid-career grants, really helping young researchers to better establish their career, have a stronger lab platform to then be competitive and receive funding from national

organisations.

It includes funds that we use to attract emerging researchers internationally that we feel would provide something back to New South Wales, which would be a good new asset in cardiovascular research. And then it also provides funding for specific projects.

I want to, for example, mention the fact that we will have a targeted call for proposals about cardiovascular health for Aboriginal people this year, and that's a way for us to at times target the funding in an area where we think we need to lift, we need to increase capability in a more targeted way.

Q. And then if we look at paragraph g, omics research and omics technologies, it sounds like a space-age word but can you please explain to the Commissioner and the group what this actually means and what it involves?
A. Of course. "Omics" is a term, a very generic term that is there to describe many different things, and probably the most known area is genomics, which is the science of genes and the science of intervening to modify genetic illnesses to improve the health of patients.

So our omics work doesn't just cover genomics, it does, but it covers proteomics, which is about the science of proteins in the body so unfortunately it is a bit, you know, cutting edge and complex, but ultimately, if I am to summarise our work in that space, it is that we're really working with our partners to make sure that all of the promises of personalised medicine, which is really medicine that is about the specific genetics of people, the specific genomics of cancers that they may get, et cetera, so that the real personalisation of our treatments can be supported and be embedded into our system. And therefore, it's about that translation of cutting-edge, you know, benchtop research happening in universities and research centres, and helping them along the way so that we transform it into clinical applications at the bedside for patients. That's really our omics work.

THE COMMISSIONER: Q. Are they who you're referring to when you say "our partners"?
A. The partners in that omics space would be universities.

Q. And the research institutes?
A. Research institutes, but at times it could be industry, if specific industries are developing technologies that we feel are at the stage where we can start to support their implementation in clinical settings.

DR WATERHOUSE: Q. Can we scroll, please, to paragraph 15. Now, it refers there to OHMR's annual priorities and work plan deliverables being negotiated and recommended by the branch's executive team. Does this involve any consultation with the local health districts about the needs of their populations and their challenges and what they're doing to address them on the ground?
A. Yes. And there are various ways that we achieve this. First, there are regular structures that enable us to have close connections with the local districts' chief executives, such as the senior executive forum, where the Office for Health and Medical Research and the ACI are presenting their planned work, receive feedback about their adjustment with regards to local needs or feedback about things that we may need to adjust to better fit the clinical setting. And that's, of course, really also enabling each of the local districts to get a better understanding and an early view about the type of work that the Office for Health and Medical Research and ACI are progressing.

We also have two communities of practice that enable us to better connect locally as well, both in terms of research as well as innovation. So we've got a community of practice which is a group of people having to achieve similar kind of work, and it's called the community of practice of directors of research, and they are the directors of research that are active at the local district level, working with their research teams at identifying specific opportunities, specific needs. And they now meet on a monthly basis to reflect about their specific needs but also the things we need to do at the state level to support their work, which, of course, is a very important role of the Office for Health and Medical Research.

And we also have a community of practice of directors of innovation. They don't always have that name, but we know who is leading, you know, innovation and translation work in the district, and they also meet on a monthly basis to reflect on our implementation programs, you know, the things that we're bringing at scale at the moment.

There's also, of course, at times consultation with the districts and specific hospitals or research centres that we do as part of specific programs. So, for example, when we do an evaluation or when we want to reorient specific programs, we would very often organise a consultation where people will be able to reflect on the previous program and identify potential gaps that we need to address, and at times, it does include public consultations as well.

Q. But all of this is being brought into the annual priorities for the OHMR?
A. Not for each of the programs, because some programs have plans in place for multiple years. So we don't always review things in the middle of those programs. But I would say that every year there's at least one program that enables us to go back and connect with the districts, connect with clinicians and researchers to inform our work.

Q. And in terms of these sort of - the priorities and work plan deliverables, you're confident that the system works in such a way that there are not sort of gaps or duplication at a district level in terms of what they're doing and what the OHMR is focused on?
A. We're really doing our best to ensure that we've got the communication platforms in place so that there's a good balance between local districts, progressing the work they need to progress in an efficient way without undue bureaucracies or steps, yet at the same time, us having the right visibility so that we can tailor our work so that we support their work, avoid duplications, you know, but at times, of course, when a specific clinical area is an area where there's a lot of innovation emerging, sometimes we do see that, you know, districts may do work that is not quite connected. The establishment of those coordination platforms is really the way for us to pick that up as quickly as possible and then work with them so that we align the work.

But it's about balancing, you know, centralised coordination versus local emergence, because we don't want to lose the initiative that comes out of clinical settings in terms of what they do in research and innovation. So we're striving to find the right balance.

Q. I would like to scroll down to paragraph 29, please.

Now, you refer in the second-last line there to the "NSW Health and Medical Research Strategic Review 2012". If we can just bring that up on the screen, it is B.023.51, and that is [MOH.0001.0358.0001]. So that's the document that you were referring to there?
A. Yes.

Q. If we can just move down to page 13 of that document, please. So this is where a number of recommendations are made. Now, this review that you said remains a strategic document for research in New South Wales, is 12 years old. Are you confident that those recommendations that were identified 12 years ago have now been implemented and embedded in the New South Wales health system?
A. I would say that most of the recommendations have seen significant improvement, many of them having been achieved. Some of them will need to be reviewed because they may not fit anymore with the new environment that we're in.

This strategy, as you've said, dates from 2012. It was due to be renewed because it was a 10-year strategy, and then the pandemic really took us to a different direction, we had to reorient a lot of our work to support the COVID research program during the pandemic, and now we have progressed an endorsement brief within the ministry and we're currently in consultation to review that strategy, with the aim over the next few months to have a replacement of that strategy.

Q. I'm particularly interested in the ones that rely on the districts actually making changes, and, of course, they've also been fairly overwhelmed with COVID. So if you look at 1.4 on the page there, the obligation to provide training for practitioner researchers and facilitate access to research support - is that something that has been embedded effectively at a local district level?
A. I would say that in most districts there has been significant improvement in them mobilising clinicians, providing support through a director of research, through, at times also, specific expertise that helps to, you know, develop research careers for our clinical researchers. And, of course, there are various programs at the central level from OHMR that are also aimed at that.

The early mid career grant programs is an example of that, really helping clinicians that are budding as researchers to be supported, to have more time dedicated

for research, being able to attract grant funding and then establish their career as research clinicians.

This has also been part of the work that we've done around research governance, making sure that we streamline the process, reduce administrative barriers so that clinical researchers can actually be more effective at concentrating themselves around the research and less around the administrative tasks that relate to research as well.

Q. And further down that same page, 2.3 refers to "Reduce barriers to clinical trials by faster start-up times and greater opportunities to recruit trial participants and engage clinical staff". How is that working in the districts?

A. Yeah, we've got two - we've got two programs that we have developed to help districts with regards to these capabilities, and the first one is the research ethics and governance system, which really enables us to better track the administrative tasks, reflect on indicators of performance with regards to ethics reviews, local site approvals, making sure that we govern research in an appropriate way but also in a timely way and reduce the time that it takes from money being available for research until it starts to hit the ground and recruit patients and clinicians.

So that's the first program, and we've got very advantageous indicators compared to other states in that space - you know, more quick assessment to ensure that clinical trials, for example, can start quickly in New South Wales, and this is recognised internationally.

The other one is the clinical trial management system, which is a system that helps local districts to manage clinical trials when pharmaceutical companies or other devices companies, for example, want to conduct trials, to make sure that we've got, again, a streamlined approach and that we can have a quick introduction of those trials so that our patients can start to benefit from them quickly.

This has really helped, I think, to structure through those technological platforms but also through the policies that we've established for both of those in making sure that the entire system sees what are the goals and has a more strategic alignment to really increase our

competitiveness in clinical trials and really, again, making sure that those trials end up benefiting our patients, and we all know that system that integrates clinical trials in a more systematic way is a system that is safer and a system that really promotes better outcomes, and there's a lot of literature in that space.

So that's why we've invested heavily into those two systems to really support local districts to be more active in research.

Q. Could we bring your statement back up on the screen, please, and if we could go just to paragraph 31 at the bottom of the page there. So it says:

> *The CIR Division actively engages with other pillars and branches within NSW Health, researchers, academic institutions, commercial entities, clinicians and consumers ...*

Now, there's no mention there of engaging with those health service managers in the districts or the specialty health networks that are actually responsible for managing health services. Isn't this something of a disconnect?
A. I think it's an omission, because it is in our strategy documents, clearly, that managers are one of the stakeholders that we work with. All of our models of care have components that relate to the work of, you know, nurse managers or medical directors, and therefore, they're a group that we engage with through our dissemination approaches and also they're part of the group that we consult with when we engage with them.

Managers are also part of our Health System Advisory Council, so it's clinicians of different clinical backgrounds but also managers that give us the high-level advice that we need to guide our programs towards impact.

So I would say that managers here is really an omission. It is really clearly demonstrated in other documents, they're absolutely one of the target stakeholders for us because they're the ones that locally will very often translate our models of care into operational decisions and operational models.

THE COMMISSIONER: Q. Just to be clear about "omission",

you mean paragraph 31 of your statement should have mentioned the LHDs and --
A. Yes, I think it would have been correct to mention them as part of the stakeholders mentioned there.

DR WATERHOUSE: Q. And they're engaged at an early stage in the planning of new sort of research and so on, not just downstream, once things are expected to be implemented?
A. Yes, and that happens because many managers are involved in our clinical networks as well. Our clinical networks, as I've said, have got, you know, executive committees that have clinicians, consumers, people that are having administrative roles in the districts, and therefore, they're part of the identification of opportunities or gaps, and therefore, at the specific clinical level, are involved in many of our - in most of our work through the clinical networks, but then the group of managers in the local districts are also consulted once we have drafted new models of care or new policies. So it's both through these mechanics that we're trying to link with local managers as well.

Q. And you mentioned nurse managers. What other types of managers might be involved in some of that decision-making?
A. Well, it depends on the clinical program and it depends on the type of model of care that we would be developing. For example, if we've got a model of care - for our models of care around virtual care, for example, we do engage with clinical information officers, we engage with people that are managing IT systems locally, because our models of care need to be supported locally by the right infrastructure.

If we're talking about models in surgery, for example, we very often have people in managerial roles with regards to how the surgical wards, the operating theatres, are managed, so that we better understand the operational issues that may have to influence the clinical guidance that we're providing. So depending on the type of clinical area and the type of model of care that we promote, we would have different types of clinicians, different types of managers involved in the design and in the review of those programs.

Q. In paragraph 32, if we just scroll down to that, you mention there that research is pivotal in the work of the division. Can you give an example of how the division's

involvement in research has led to system improvements?
A. Okay, so the first thing I'll say is that, you know, the Agency for Clinical Innovation is a partner in many of the translational research grants for the part that relates to supporting implementation, supporting the local engagement and the redesign, and the ACI is participating in many research programs that go through the TRGS program but also are going through, you know, NHMRC and MRFF funding as well.

So our clinical groups are involved proactively and increasingly proactively with different research groups to support their work and make sure that that work, that research work, is produced with input from us so that it translates the needs of the system and the opportunities for improvement.

We've done research in many different programs where we feel that it has made a significant difference. That includes, for example, the support that we gave for work where we wanted to change the way emergency departments are managing back pain. We collaborated with universities to assess how to avoid prescription of opioids in emergency departments, by mobilising different types of resourcing, different types of professionals around it.

That study, for example, demonstrated a really strong reduction in the use of opioids and in the use of imaging, for example, which we knew was very often not benefiting patients, not really making a difference for patients.

So that's an example where we worked with the clinical team to really ensure that their research question, you know, was driving the research, but informed by very strong clinical and health systems research expertise to make sure that it translated into impact afterwards.

Q. And just taking that example, given that back pain is something that presents in general practice a lot and people might be referred in to the hospital, have you been able to disseminate those learnings into the primary health networks and others to try and actually change the approach in general practice to managing back pain?
A. There are different routes we're taking to try to influence GPs and the primary care sector in general, which is not, you know, a sector under the leadership of NSW Health directly. It involves a structure that we have

in place at ACI that we call the general practice advisory group, and that's a group of primary care providers that give us advice about where should we be talking about that model of care, should we organise webinars with GPs, should would go to specific conferences where we talk about those models? And in the case of back pain, they have given us that advice and those studies were heavily, you know, presented across the system.

But we also have a joint committee with the primary health networks where we discuss these kinds of results and projects. Every time we feel that there's a structure within NSW Health that interfaces with primary care and where the result of, you know, the research or an innovative program may require an adjustment on both sides - you know, emergency department and primary care practices, for example.

So in terms of back pain, I know that the research team has been heavily involved in disseminating the work. I wouldn't be able to provide any numbers with regards to the change in primary care. That's probably a study that should be done to assess, you know, the impact. But with regards to emergency departments, it's been very, very clear, the positive outcomes.

DR WATERHOUSE: Commissioner, I'm going to be moving on to the Agency for Clinical Innovation now. Did you want me to do that or did you want me to take a break at this point?

THE COMMISSIONER: No, I won't take a break yet.

DR WATERHOUSE: Q. If we now turn, as I said, to the ACI, and we might move to paragraph 23a of the statement, so going backwards, it says there:

> *Engagement and collaboration with consumer, clinicians, agencies, industry and academics, to identify, design and test innovations in clinical practice.*

Who are the agencies that you're referring to?
A. Oh, it would be other pillars or organisations in different areas that would be an important partner. And those agencies could be national-level agencies. You know, in virtual care we do engage with them. If we're talking about models of care, we do engage with the national

commission, for example, you know, so there's a varied group of agencies that we need to interact with to both ensure that we do work that's complementary to the work that they do but also ensure that we can benefit from their support when the time comes to implement across the system. So it does include a varied group of groups or organisations across both Commonwealth and state.

Q. The paragraph above, 22, refers to the determination of functions from 21 August last year. I might just get that up on the screen. So that is B.023.048, [MOH.0001.0345.0001], and if we could just make that a little bigger. Thank you.

So it says in the third paragraph:

The Agency will achieve this role by ...

and it is very similar wording to what I just read out from the statement --

connecting consumer, clinicians, system leaders, industry and academics to identify, design, test and implement innovations ...

So the word "system leaders" is what is included in the determination?
A. Mmm.

Q. But that has been changed to "agencies" in your statement, and I'm just interested in the reason for that change from "system leaders" to "agencies"?
A. There is no specific reason. I think it's an oversight. It probably would have been better to use the same terminology, because we're really thinking about all of the agencies or individuals that have a role to play in how the system is designed and transformed eventually.

So I would say "system leaders" is probably a broader term, more aligned with the variety of stakeholders that we're engaging with for our work and, therefore, the determination of function is the most appropriate and correct wording.

THE COMMISSIONER: Q. So the "agencies" referred to in 23a are the health system leaders that are referred to in

the determination; is that what you mean?
A. They are included in the system leaders, just like they're included also in the public health organisations when we go in more detail into the functions of the organisation afterwards.

DR WATERHOUSE: Q. So do "system leaders" include the local health districts? Because again, it seems that there is a bit of a disconnect at that early stage of identifying innovations, that the LHDs are not necessarily part of that broad range of people with whom you consult. The clinicians, yes, but not at that decision-making management level?
A. There is absolutely no doubt that the local districts are a key stakeholder and a partner in all of our work. We do engage on a monthly basis with the chief executives of the districts, through the senior executive forum. We often present our work in key groups that have a role to play either in safety or clinical governance, as a way to engage with the district as well, and as I said, we've got, as embedded into our clinical networks, many of those local system leaders. So it's really a diverse approach that we have to ensure that we hear, listen and respond to the needs of the local health districts as part of our work. It is not just clinicians that are consulted through that process.

THE COMMISSIONER: Q. I suppose, when it has functions in the determination - I mean, "agencies" doesn't seem what an LHD is, but they might be system leaders, I think, but when you look at the functions, it has:

> *The Agency will perform the following functions:*
> *a) work with LHDs ...*

That's what you are really referring to?
A. Absolutely.

DR WATERHOUSE: Q. So even though consulting at the senior executive forum level will be about telling them the work you're doing, you're comfortable that there are mechanisms to find out what they are doing to identify those innovations that are happening out in the districts at an early stage?
A. Yes, and there are some structures that we've put in place to do that. The first thing I will say is that

there's not a lot of programs that we start as a pilot where a local district is not the main partner, and that really means that, for that specific pilot, which is really a small project that we progress before we implement something statewide, we'll have a governance group involving either the chief executive or the director of clinical governance, or it could be the head of surgery, for example, at the district level, and therefore we co-design it, really, at the district level. And then we use those more statewide platforms when the time comes to say, "Well, how do we translate that successful pilot into something that we will design for the state?"

If I may just use the example of Telestroke, because I think it is a good example that demonstrates the way we work. So Telestroke is a program that started probably a bit more than eight years ago, and it started because we were realising that patients were not receiving thrombolysis, which is really the clot-busting technologies and treatment, at a rate that we would require and expect in many clinical settings.

Then we started to work with Hunter New England and Mid North Coast, two local health districts, to pilot how could we support a remote or regional area with the specialised expertise of a regional centre to provide clinical guidance remotely through virtual care means, and what would be required from a technological perspective to be able to do that.

What we did is that we trialled it, co-designed the process with the local clinicians and the managers. There was a local health district sponsor in both Hunter New England and Mid North Coast, and then that enabled us afterwards to design what it would look like if we were to do that across all of the local districts in the state, and that was the second phase of the project where we decided that, yes, the benefits were clear.

So we worked with groups of clinicians and managers from the different districts to design the model of care that we would implement everywhere. And then we had, with each of the districts, a go/no-go kind of approach where we would start to look at their capability, work with them to enhance their technological platform, make sure that their clinical processes were in place, and then start to implement in collaboration. That enabled us to implement

the program everywhere but also to make small adjustments when we felt had a the local resourcing or the specific, you know, geographical challenges meant that we had to roll the program in a slightly different way.

THE COMMISSIONER: Q. Because you have mentioned Telestroke, why don't you tell us practically how it works. So a patient turns up in a rural ED with symptoms consistent with a stroke. You take it from there.
A. Yes. So what we've done is that we've funded cameras and mobile units in regional centres that are not specialised for stroke, and what we do when a patient shows up at a rural emergency department is that the emergency doctor identifies that, you know, this could be a stroke, connects with the service.

The service is, you know, led by a hub at Prince of Wales Hospital in Sydney, and the clinician would then be able to connect through virtual care, you know, telemonitoring and screens, to be able to first help the emergency doctor to provide the right assessment, provide the right imaging that's required to diagnose a stroke, and when it's confirmed to be a stroke - and that's not always the case, so sometimes the patients may have symptoms that look like a stroke but are not a stroke, and our centralised service enables us to provide that advice to the emergency doctor - when it is, you know, confirmed that this is a stroke, then the neurologist specialist from the hub will provide advice about the right treatment.

Q. A neurologist at the Prince of Wales will --
A. Yes, so the doctor at Prince of Wales or another of the big centres part of the service will provide that advice, and then either a thrombolysis will be started on site, because that's a treatment that can be done in those rural settings, or the patient will be transferred to one of the endovascular clot retrieval centres located in bigger centres, if we have to physically go and retrieve the clot from the vessel, because that's another, you know, new treatment that we have for stroke now.

Therefore, the Telestroke enables us to both increase local capability to provide care locally for rural patients, as well as making sure that our networked approach, you know, between bigger centres and smaller centres, would work in a seamless way and really ensure timely retrieval for patients that need a higher level of

care. That's what Telestroke, in a nutshell, does.

Q. Thank you and Telestroke is an example of what you are talking about, a collaboration between the ACI and, in these instances, regional LHDs to develop a remote virtual model of care to get better outcomes for people that suffer strokes that aren't having strokes in the metropolitan area?
A. Absolutely. And it's also a good example of how we've collaborated across the entire system with eHealth, with the ministry branches. Because when you're at the stage where you take a pilot project to state level, there's a lot of things we need to align. We need to align the technological infrastructure, we need to align the policies, you know, the kind of guidance we give to local districts about how they manage transfers, for example. We need to align clinical advice that we give --

Q. Is Telestroke the whole of the state now?
A. It is across the entire the state in all of the local health districts. It doesn't cover every single hospital in the state, you may understand this is not feasible, but it does now reach out to all of the local districts, making sure that there's a regional centre where ambulances can take those patients and they will receive care, which is supported by the highest level of technology.

Q. So you don't roll it out in every single small rural hospital, but it's within reach for people if --
A. Exactly, exactly.

Q. -- they've had a stroke, to get to somewhere near enough?
A. And it does cut the time, the travel time required, to access the highest level of expertise for stroke in the state.

THE COMMISSIONER: Sure. Thank you.

DR WATERHOUSE: Q. Just wondering if you can explain how the Telestroke service interacts with NSW Ambulance to determine the appropriate hospital to take a patient to based on the symptoms and signs that they're exhibiting?
A. So before a patient arrives to a Telestroke remote centre, it's the usual grid management that will guide ambulance, so they will assess the patient, they will identify where they can take the patient the quickest, with

an available clinician to provide advice.

Once a patient is in the Telestroke program, after having been managed by the emergency department, then we would connect with ambulance to make sure that we organise the right transportation, if the patients need to be retrieved and brought to an endovascular clot retrieval centre in the city.

So there is a combination of using the ongoing, you know, clinical assessment from ambulance staff and then a coordination of transportation mostly for the retrieval.

DR WATERHOUSE: Commissioner, that might be a good place to stop.

THE COMMISSIONER: If that's convenient to you, I'll make it convenient to me. Okay. We will have a break, then, until 11.30.

SHORT ADJOURNMENT

THE COMMISSIONER: Yes, Dr Waterhouse?

DR WATERHOUSE: Q. We might go to paragraph 24 there of the statement. You note there that the ACI has 200 FTE of employees currently. What types of roles do they fulfil? A. So the first type of role that we have are clinical network managers. As I've said, we've got 42 clinical networks and the clinical network managers are the ones coordinating the work of each of the networks, making sure that projects are progressing.

We also have people that are supporting our transformation teams and our people with expertise in project management, in redesign and design of healthcare services. We've got also teams that have expertise in science and evidence, and they're the ones that really make sure that we do the appropriate review of the international literature, making sure that what we propose is demonstrated to be effective with strong evidence. And then we've got a small administration and communication team that supports the organisation. But these are the main kinds of roles - oh, in addition to evaluators and economic modellers that we also have in the organisation.

Q. Do most of the staff have a clinical background?

A. It's more than 50 per cent of the staff that have a clinical background at the ACI, and it's varied clinical backgrounds, you know, we have doctors, nurses, allied health professionals, we've got people that are from mental health and psychology as well, from a clinical perspective.

Q. Do they have additional training in fields such as clinical management, health economics, that sort of thing?
A. Yes, many of them have either gone through our own internal redesign programs, developing their skills, you know, in not just engaging clinicians but also with the appropriate method, and many of them have, you know, higher education as well in complementary aspects, either Masters of Public Health or in administration.

Q. In paragraphs 25 and 26 you talk about the clinical directorates, if we start with those, first, in 25. Is this an arrangement that's come into play since the division was established or is this the longstanding way that ACI has been organised?
A. Yeah, the way the ACI is currently structured, it dates five years ago when we did some realignment of the way we were working. So PRISM and CATALYST, the two clinical directorates, have been in place for around five years, and they have streams that have also been in place for, many of them, five years, some of them have been slightly adjusted recently.

Q. Moving down to 26, you talk there about the evidence directorate, STEP - system transformation, enablement and patient partnerships - and then I think on the next page there's a reference to IDEA and SCOPE. How do you ensure that those support directorates, if I can refer to them as that, don't overlap with some of the other things going on. For example, the integrated digital enablement accelerator, how does that not overlap with the work being done by eHealth?
A. It is complementary. So if I may talk about the integrated digital enablement accelerator, this is a small team that we have established for the purpose of redesigning health care so that those health systems can actually use the digital technologies in a way that impacts clinical delivery of care.

So that team is not about developing or maintaining - or doing the maintenance around IT systems. That team works in collaboration with eHealth to ensure that we work

with clinical settings and local teams to do the redesign of health care that's required for new technology systems to be impactful on clinicians.

So this is our way to help eHealth to translate those new systems, digital systems, by redesigning health care.

THE COMMISSIONER: Q. What's an example of the digital systems that you're talking about?
A. Yeah, so I'll give the example of the health outcomes and patient experience digital platform. So that platform was developed in partnership with eHealth and it's a digital platform that enables patients to access remotely key questionnaires that clinicians want them to answer, so that when they get to the actual visit in front of their nurse or their doctor, that information will already have been provided to their clinical team. So they can fill out a form.

Q. It's a form of survey?
A. It's a form of remote surveying and what it does is that it enables clinicians to then access those results and plan, you know, what is it that they're going to have to discuss with the patient when the patient comes to the clinic. In that specific program, our role was to work with the local districts at gradually rolling out the system across the state, in new clinical areas gradually. So we had, you know, a system of implementation because you can't implement something like that all across the state all at the same time. So we worked with local teams giving them the right training, answering questions that they may have, but also at times helping them to understand how they need to reorganise their outpatient clinic or their inpatient management for clinicians to be able to use that platform in a way that's effective.

Of course, if they were giving feedback that related to the actual design of the platform, then we would translate that back to eHealth so that they would, you know, open the hood and make the adjustments that are required to make those softwares work.

We do believe that it's a really fundamental role of the Agency for Clinical Innovation, because those digital platforms do not translate automatically into clinical care. We need to take the time, you know, to reassess how care is currently provided, make the adjustments that will

actually make those digital systems really impactful for patients, you know. So I think that's a good example where the collaboration has been ongoing for many years.

THE COMMISSIONER: Thank you.

DR WATERHOUSE: Q. Do the staff working in IDEA have particular sort of training that they've needed to do to be able to take on that role?
A. It's not training that we give to them but many of them come with backgrounds in clinical settings and also having worked in telehealth in the past or having been, you know, working in clinical information teams at the local level. So many of them do have experience in how digital is translated into clinical care.

But we're not talking about people that have training in coding software, obviously, that's something that eHealth does. Our work is much more around the transformation support, and that's why we call it an enablement accelerator. It's about enabling those clinical settings to use those platforms in the right way.

Q. In paragraph 27 you refer to the ACI establishing an internal consultancy function just a few months ago. Can you tell us a bit more about what that involves?
A. So that involves really having identified what are the areas where we feel we've got internal expertise that could benefit local districts or central agencies in the system and offering that expertise as an alternative when districts are contemplating either using an external consultant to support that work or doing the work internally. And what we're doing really is to make clear that we can support on evidence reviews, we can support on redesign, we can support on implementation approaches, we can do data and analytics internally to do that.

What it involves really is assessing when a district or a ministry branch needs support, external support, we work with the chief procurement officer or the specific division within the ministry, assess the request, and if we feel that we've got both capability and capacity to answer, then we work in partnership with the local districts or the branch to deliver the work instead of going external.

So that's one of the contributions that we wanted to make to make sure that we, you know, develop internal

capabilities that will complement or fill some gaps that are currently present in the system.

Q. Is that within the 200 FTE that ACI has currently?
A. It is. Most of the time we can fit some of those requests as part of our work. When we can't and we need to enhance or lift the capacity in some teams, then we discuss with the local districts or the branch so that we get the appropriate funding to be able to increase our capacity. So it's a good mixed approach that we're trying to do. But we're not - we've not established a specific team for that; it's much more that it's a specific process.

Q. And so will an LHD only pay for the additional FTE if you have to bring someone else in - is that right - or do they pay for the service generally?
A. They would pay if we need additional capacity to be brought in. If we can do it internally, we offer it as part of our usual service.

Q. I would like to go now to paragraph 44, where you talk about models of care.
A. Yes.

Q. You have defined a model of care as - well, it says:

> *...[it] refers to the way health services are organised and delivered it outlines best practice care and services for a person, population group or patient cohort ...*

Models of care aren't necessarily best practice, though, are they? I mean, any model of care, in terms of service delivery, may or may not be evidence based, best practice?
A. Well, there is different types of evidence that we use at ACI to develop our models of care. There is, of course, academic or research based evidence that we systematically review, but we also want to make sure that the evidence that comes from the experience of groups of clinicians or consumers is also considered as evidence. That's why we've established the evidence team, so that we will adopt as rigorous methods to generate synthesis of the academic research literature as when we're consulting with clinicians and consumers. We want to go beyond opinions. It's really about making sure that the consultation process is generating as strong evidence as with the research

literature. Because the reality is that research is not available for everything that you need to design a good model of care, and sometimes you need to rely on the expertise of hundreds of clinicians and consumers to generate the additional evidence that is required. And we do adopt rigorous methods that enable us, at times, to say, even though there's not a study on this, the collective knowledge and wisdom of clinicians is strong enough that we need to put it in a model of care.

So in that sense, it's always about evidence based models or evidence based practice, but not just backed by the academic literature.

Q. But just to be clear, what you're talking about there are the new models of care that you're developing as being best practice. There are thousands of models of care that have existed for a long time that ACI has not been involved with, those are not necessarily best practice; is that correct?
A. You are correct that ACI doesn't cover all of the models of care currently implemented in NSW Health. We do cover a really broad range and provide that advice back to local health districts, but very often, they have their own models of care and at times their models of care pre-date the ones that we're updating.

Q. In the next paragraph, the last line, you say that only a small subset of models of care are mandated by a specific policy directive. Can you give us some examples?
A. So what we mean by that is that, you know, a policy directive is a formal document endorsed by the ministry where they say local districts or clinical settings must do X and Y, must do certain types of things. So, you know, there are policies in many different areas and there is a policy, for example, around stroke care, and the model of care for Telestroke, for example, aligns with that one.

But clinical practice is much broader than that, and there are areas where we don't need to mandate a specific way to care for patients because clinicians have, of course, professional autonomy to make the best decisions for patients. But that doesn't mean we don't help them with a model of care that would help them to standardise, make sure that we reduce clinical variation - and by that I mean that care would vary but not because of what people

need but more based on preferences or other factors - so we want to reduce clinical variation by giving clinicians a guide, you know, a model of care, so that increasingly, patients can be ensured to receive care in a way that's as standardised as needs to be, even though we don't need to mandate a specific aspect of that care to be provided. Clinical care is much broader than the amount of mandated policies in the system.

Q. Of course. I might have missed it, but do you have a specific example of one that has been mandated, just so we can get a feel for that?
A. I mean, there's a lot of different examples. I mean, we've got, you know, policies that mandate certain things that we do around maternity, for example, you know, who do you provide antenatal care, appropriate screening? That's a good example where we've got both policies, because we want every mother to have the right antenatal and postnatal care, and then we've got models of care that provide more details to clinicians about how to do it in practice.

Q. Thank you. Let's move down to paragraph 50. You've given an example there of a new model of care, being the clinical genomics model of care that came in in 2021. It sort of explains there what it's about and how it came about. Has this been evaluated to confirm that it did achieve what it actually was intended to achieve?
A. Not to my knowledge. I don't think this one has been evaluated yet, because it's a fairly recent model of care, and also, we are gradually integrating this model of care into new services, as new therapies are coming along. So in this case, it's really a model of care that we've developed ahead of time, because we knew that there would be new therapies coming, and we wanted to give guidance about how to set up those clinical settings, how to reorganise care so that we can provide, you know, the right access to the diagnostics and the right advice to clinicians back. So to my knowledge, the evaluation has not been done for that model of care.

Q. What would normally be the sort of time frame for an evaluation for something implemented in 2021?
A. I would say that, you know, we want to review models of care every five years to make sure that we keep them current. Sometimes what we do is a midway review where we assess the content of the model of care and compare it with the changes in evidence, and in the case of genetics and

genomics, that's something that we're doing on an ongoing basis.

At times, what would happen is that, after three years of implementation, we would start an evaluation, asking clinicians to reflect on the use of the model, identifying any gaps, and that's something that, for example, our genetic network, you know genomic network would meet to provide that advice back and make sure that at five years, when we reviewed the model, it's informed by that evaluation.

Some models of care are associated with more - you know, higher investments, and we do follow guidance from treasury around projects where a significant investment was made, and in that case, it would have to be done midway through the program, as well as when, after three or four years, the program is now implemented. That's when we would do the evaluation and that's for projects that sit within a certain range of investments. So we've got both approaches, depending on the nature of the model of care and in which type of program that it sits.

Q. So appreciating that it hasn't been formally evaluated as yet, and you wouldn't necessarily know about whether there have been improved patient outcomes, is there a mechanism by which ACI will have been receiving feedback about, say, increases in equity of access and whether there has been a decrease in variation, some of those earlier measurables?

A. Yeah. So there are two - there would be two ways for us to hear about early impacts as well as gaps that we would identify, needing to be corrected. First, it's the network that we have in place where leaders from the profession, you know, participate in our activities, reflect on the use of the model, reflect on the current service delivery in the system and help us to identify any gaps or benefits from the system.

But we also, in this case, have a steering committee, a statewide steering committee, where local districts are represented, where the network is represented and also our new technology assessment unit, and that's where we also reflect on progress in terms of implementation and impact. So we've got a statewide structure as well as the network that enables us to lift and capture any emerging issues.

DR WATERHOUSE: We might move to paragraph 51.

THE COMMISSIONER: Q. Just before we do, on the topic of models of care, I'm sorry to go back to where it was, but in paragraph 26, when Dr Waterhouse was asking you questions about those innovation programs, evidence seems to be a directorate. STEP, IDEA and SCOPE are programs, are they?
A. Evidence is a systematic input into the work of the clinical directorates and in the work of STEP, just to make sure that we always capture the latest evidence. We very often put in place what we call "living evidence tables", and that means that we - our teams, you know, either on a weekly or a monthly basis, scan the literature and put in those living evidence tables the most up-to-date information, and we do that when we are working on a model of care that is in an area where things are evolving very quickly.

For other models of care where it's not such a vibrant, you know, ecosystem where things are changing fast, we would do an evidence review ahead of reviewing the model of care, and for some of them that could be after five years of implementation. So it's variable but we are now systematically employing the evidence team as a way to support that review.

Q. Thank you. What I wanted to ask you about is in c you're talking about integrated the digital enablement accelerator, and you've mentioned virtual care teams. Can you just explain what the virtual care teams are and what they do in New South Wales?
A. Yes. So every district has got teams that support virtual modalities to deliver care. They're not always located in the same place. Sometimes they are with the IT systems, at other times they're in more clinical programs. But they do have people that are in charge of supporting the transformation towards virtual care, telemedicine, et cetera. And our IDEA team works with those teams on an ongoing basis to both help to support the implementation of programs that we're currently rolling out --

Q. Telestroke is an example of virtual care?
A. Telestroke is an example. myVirtualCare, as an outpatient, you know, telehealth platform is another example. We're working with them on clinical registries that we translate into digital modalities. You know, we

really have a relay locally, in the districts, with the virtual care teams, you know, to help us implement what we're implementing statewide, and in reverse, for them to be helped by us when they need either a policy to be changed or a tool to be, you know, assessed, so that they can also continue to conduct their transformation locally from a virtual care perspective.

Q. Totally out of curiosity - and this is probably something that will get followed up later - I was recently listening to a medical podcast, which is what I do in my spare time now, and it was a doctor, a physician from the Boston Children's Hospital, who was talking about how they'd put in a hospital-specific 5G network because the wi-fi wasn't good enough, which we may have to do in some of our hospitals regarding alarms. But leaving that aside, the virtual care model of care that she was describing was one where children, who are cancer patients, are actually getting their chemo infusions at home, and it's linked to the hospital, and the physician at the hospital can see that the chemo infusion is being done.

Presumably the parents and maybe even the child are given instructions, because the physician was talking about how computer screen literate the kids are anyway. And then the physician gets the message that the chemo infusion has occurred and all of the data at the home, of whatever kit they've got there, then goes straight into the hospital's electronic patient record for that patient, and so the physicians can see all the health data for the child, what's happened after the infusion and can call the parents without the parents having to come into the hospital and say, "This is what's happened. This is how it's going", et cetera, et cetera, which seems like a pretty great model of care for keeping kids that are unwell but can be treated at home if you've got the right model of care. Is that something that is being explored in New South Wales as an example, in any areas?

A. This kind of model of care, yes. I will not give an example in cancer but instead give an example - you know, there are examples that we're progressing in terms of chronic disease management, you know, people that have chronic heart failure, people that have also chronic respiratory diseases.

Q. Explain how it works for them, then if you've got - which diseases did you say?

A. Chronic respiratory and chronic heart disease. And we're piloting using remote monitoring techniques so that clinical teams would receive, you know, biological parameters that are currently monitored. It could be blood glucose.

Q. So how does that work and where is it being piloted?
A. It could be blood glucose, it could be, you know, heart rate, respiratory rate. It's a pilot that is starting and I don't have on top of my mind the specific districts where we're doing it, but we're not at the stage of statewide implementation. We're really testing the technology and testing how would it work for these kinds of patients.

I'll give another example of wound care --

Q. How would that model of care - say someone with the respiratory illness you're talking about, what would happen?
A. Well, what would happen is that if we see many signs of deterioration of their function, for example --

Q. So it might give oxygen levels or something like that?
A. It could be that. Then a team from the hospital would have to call and check on things. If the rates would be at dangerous level, it could trigger an ambulance to go. You know, there's a lot of --

Q. Is this a small device that the patient is wearing to help?
A. It is various types. What we're trialling at the moment is really to assess what is the technological platform that we need for that specific type of care.

I'll give the example that is currently rolled out from Royal Prince Alfred, which is the wound management or the remote wound management system. That enables our clinicians from the RPA wound management to connect with patients rurally, have them use their phones to, you know, take pictures in a secure way, transfer them to RPA, where a nurse or a doctor would review it, have help from the software to help calculate how is the wound progressing and then either ask, "We need to see you again because it is not going in the right way", or "Continue your treatment because it's all good", or prescribe a new kind of approach. So that's a good example of a project that is

starting from a specific hospital and we've collaborated with them in certain components, and now that it's demonstrating that it's a successful program, we're exploring how could we reproduce it in another way.

So there are specific areas where, you know, remote medicine is currently being developed in New South Wales. I'll just add another example, which is slightly different but it's still an important example. Increasingly, we can help patients that are waiting for surgery, and elective surgery, to be more active, prepare themselves for the surgery.

Q. So this is someone that might be scheduled for a hip replacement or a knee replacement in 10 months time?
A. Exactly. Exactly, and those are exactly the areas where we've got some apps that are currently being used, piloted and evaluated to help patients to be more active, manage their pain.

Q. So, what, they're sending messages saying, "Perhaps you should get off the couch now"?
A. That are various prompts that are given to patients through those systems an we're currently exploring, again, how to embed them as part of the model of care, and we've done some trials and pilots over the last few years to try to enhance care that's currently delivered through those digital tools and help patients to almost like have more connections with the healthcare system compared to what we can do through an outpatient clinic process so that they get to surgery either more ready or at times even avoid the surgery, if their state is improving significantly.

Q. Sorry, out of context again, and no doubt explored later, but in the same podcast - so in my mind, and only because you are, I think, the head of the artificial intelligence task force --
A. Task force, yes.

Q. -- the physician from Boston Children's was also talking about ambient AI - in other words, the nurses in the room with the patient saying, "I'm doing this and I'm doing that" and it's all recorded and it goes straight into the digital record, which seems pretty revolutionary.
A. We know that there are technologies available to do that, but we're not currently rolling out any pilots in that space.

Q. It sounds expensive to --
A. But that's something that obviously the AI task force will have to assess, discuss and make sure that we have, you know, a good rigorous process to make sure that if we adopt any technologies like this, supported by AI, you know, that it benefits our system and that's the focus that we will have, yes.

THE COMMISSIONER: Thank you. Sorry to distract you.

DR WATERHOUSE: That's okay.

Q. If we could go back to paragraph 51, please.
A. My apologies, which one?

Q. Paragraph 51?
A. Thank you.

Q. So that and the paragraph that follows are both talking about the emergency care access and treatment protocols, or ECAT protocols. Can you tell us a little bit about what these protocols cover in terms of clinical activities?
A. Yeah. So these protocols are standard protocols covering 73 different clinical areas and these are usual presentations at an emergency department, so it can be managing a wound, it can be assessing a patient that seems to have respiratory deterioration. So there is a broad range of clinical areas that are covered, 73 different areas.

But it's all about making sure that we start the treatment as quickly as possible and in a safe way, giving nurses all of the guidance required to be the first responder to start the treatment, again, in a very standardised way. And we know from previous research studies that we have done that this can actually accelerate access to health care, without generating any complications. It's a very safe way to do it, and that's why we've done it through those, you know, standardised protocols so that it's a really simple, step-by-step way to initiate care for those patients.

Q. I understand that those are not yet evaluated, it's early days. But do you have any early indications about the perspectives of consumers and staff in relation to

those protocols?
A. There has been quite a lot of studies actually done in New South Wales with regards to this kind of process - not the 73 standardised protocols that we are now implementing statewide, but there has been prior studies that have demonstrated good benefits, good acceptability, both from consumers and clinicians, and we have an evaluation plan in place for that ECAT, so that now that it's at the state level, we can continue to monitor their impact. But there's already evidence published in the literature about the benefits of those kinds of protocols.

Q. And are they well accepted generally, in the literature, by doctors who may feel that this has actually been their responsibility, that nurses are moving into that area?
A. New models of care always can face resistance from people that have traditionally been responsible for certain aspects of health care. What we know is that all healthcare systems around the world are moving towards really making sure that every type of professionals are working at what we call the top of their scope of practice, because that's really where we need their expertise.

So our knowledge about this specific kind of programs is that they're well accepted, because clinicians and, you know, medical emergency department clinicians, when they come to see the patient after a protocol was used to initiate treatment, it gives them the reassurance that the right things have been done, the early diagnostics that needed to happen before they would arrive and start to provide the additional treatment was also done at the right time. So overall, acceptability has been good, but like any changes to models of care, we need to engage with clinicians to make them also aware of the scope of this, reassure them about, you know, the way it's going to be implemented in a safe way for their patients, and therefore we need to invest time and effort to do that, and that's what the ECAT program will do as well.

Q. If we move down to alternative models of care initiative at paragraph 54.
A. Yeah.

Q. So this is a way of stopping low-value services, and the example given is in an intensive care unit, reducing the number of unnecessary pathology tests. Has that

reduction in unnecessary testing been embedded in that ICU?
A. So this program was done in collaboration with NSW Pathology. We started this in a few clinical settings to actually develop the tool that would capture the volumes of tests being prescribed and provide a way to feed back to clinicians those different levels.

We now have a functioning platform that is still ongoing and what we're doing now is to start to engage with more clinical settings so that they start to reflect on that platform. It's not yet implemented across the entire state, but our intensive care New South Wales team is in charge of continuing to disseminate that platform.

Q. And bearing in mind that some staff rotate, junior medical staff in particular, and obviously nurses, maybe agency nurses and so on, in the ICU or ICUs where it was piloted, have they been able to maintain it, despite the changes in staff?
A. That's a good question, and I don't have that information on top of mind. That's something that I would have to ask Intensive Care NSW to see if they've recently evaluated the - you know, how sustainable has this program been in the first ones where they established it. I was only able to reflect on the further implementation that we're doing. That's something that we can certainly check.

Q. And the further implementation would be going to emergency departments?
A. Yeah. So that's the next project that we've already started to pilot, to assess what is the level of testing in emergency departments. We're working with our Emergency Care Institute to develop that one. But this one has not come to a full fruition yet.

Q. If we go to paragraph 55, please - and this is about value based surgery - so you can see just over halfway down, it says:

The value-based surgery work aims to ensure that surgery is performed in alignment with the evidence base about clinical indications and identifying (and discouraging) procedures that are being undertaken where there is no clinical benefit to the patient.

Hasn't the ACI got more of a responsibility than merely discouraging people from doing procedures when there is, as you say, no clinical benefit to the patient?
A. Our responsibility is to be very, very clear in our models of care and our clinical practice guides when a procedure shouldn't be performed anymore or if a procedure is still, you know, not just recommended but should be part of standards of care and therefore be offered to patients systematically.

What that specific sentence and program reflects on is the fact that, for some procedures, it's not the procedure on its own that should never be done; the reality is that it should be done for specific patients with specific clinical indication. That's where we say we need to encourage and work with clinicians so that we reduce the number of patients that may receive a back surgery or a knee surgery whilst they didn't have all of the clinical criteria that would make them a likely patient that would benefit from that surgery.

The reality is that in many clinical areas, it's a bit of a grey zone. The literature says - you know, when they assess certain types of surgery, they may say 50 per cent of patients received surgery and did not benefit from it. At times it is because of their age, at times it's because they had other conditions that were preventing the surgery from being effective for that patient. That's why, in our models of care for those procedures, we're not saying "Don't do it", because the reality is that those procedures are still useful for some patients. What we're saying is, "You need to have a multidisciplinary team discussion in place so that your colleagues will help you to decide if that patient will benefit from surgery."

So that's where we're trying to work through that, you know, encouraging and convincing the system, because we know that ultimately, at the end of the day, for those procedures, it's the clinical team and the patients that will have to make the decision. It's not the role of ACI to govern that, you know? But ACI, of course, when a procedure is no longer perceived as being the gold standard, we have the responsibility to make it clear in our models of care and our clinical practice guide.

So I just wanted to clarify that the hardest work really is in those areas where it's more of a fit between

the patient and the procedure, where we need to work with clinical practices more in a collaborative way and it cannot be prescriptive, you know, to reduce that low-value care.

Q. So even if there is a particular cohort, say, of patients for whom there is demonstrably no benefit, you would still say that the ACI's role is not to do more than discourage clinicians doing those procedures in that cohort?
A. The ACI doesn't have, as part of its statutory function, the role to mandate clinical settings to do or not do.

THE COMMISSIONER: Q. You can't injunct services --
A. Our role is to provide clear advice that then they would have to reflect on. But it's not part of our powers or levers to be able to dictate what clinicians would do. We are there to provide advice, clear advice, and then work with them to ensure again we persuade them to change their practice when it needs to change.

Q. If you had those powers, it might be as dangerous as potentially beneficial. Because some of those judgments that you're talking about really need to be made at a clinician level rather than at your level?
A. This is absolutely correct. Medicine is practised as a profession. The relationship between nurses, doctors and the patient is really paramount, and it's not for a central agency to dictate, you know, what care a specific patient should receive.

Again, I'll just emphasise that our responsibility is to be very, very clear about the status of the evidence and what's currently recommended as care, and then clinicians will make the final judgment about the service they will provide to individual patients.

THE COMMISSIONER: Sure.

DR WATERHOUSE: Q. We might pull up the value based surgery document on the screen, which is exhibited to your statement, it is at B.023.064 [MOH.0001.0282.0001].

Now, that was published in November 2023. What is the status of this document? Is it a policy, a guideline, a discussion paper? How would you characterise it?

A. So this is a clinical practice guide. It means that, you know, it's not a policy, it's not something mandated; it's a document that summarises the status of the evidence at the moment in those specific surgical areas and provides advice to clinicians with regards to how to assess patients that may have indications that would require those surgeries and give them guidance about how do they assess if the patients would benefit or not from it.

So it's much more about providing guidance, and "guidance" by definition is not something that you force upon people; you guide them in the right direction. So that document is really there to make it very, very clear about, you know, what are the indications, what is the right process to review them and what is the right process to engage with patients in a way that will create a good shared decision-making for those specific value based surgical procedures.

Q. If we just go to page 9 of that document, so it discusses there in the first paragraph - it says about halfway down that it is suggested that at each local health district they establish a surgical committee, and further down, that that will assist the director to make clinical adjudications about recommendations for admission, so when a patient is being put forward to be admitted for a procedure. And those decisions would be made when they fall into the category of discretionary procedures listed in the elective surgery access policy. So for the procedures identified in this document, have they been added in to the policy now, so that that is a guide for the districts?

A. If I remember well, yes, those conditions have been added and identified as procedures that are potentially of low value. None of those procedures are low value for every single patient. It's really about making sure that they're now assessed through that process and that's the guidance that we're currently providing in terms of how to manage it locally so that clinicians are supported to reduce the volume of those surgeries and really make sure that they're targeted to the right patient.

Q. So they're discretionary insofar as they will be appropriate for some patients, but they need to look at the clinical indications that are based on the evidence; is that a fair way to describe it?

A. It is.

Q. So given that the role has been given to the districts to set up these committees to sort of support that adjudication process, is there a role for ACI to support, say, the smaller districts that may not have the resources to put that governance structure in place effectively?
A. Our surgical care network is currently working with the various districts to, you know, make them aware of the clinical practice guide, assess how can they locally progress that work. And you are correct that the bigger districts have got bigger departments, probably more structures in place and more support to be able to roll this out, and traditionally, the ACI always provides more support to rural districts or smaller hospital settings where they don't have that change management resourcing available, so that they can, you know, reflect on their processes and establish the right local approaches.

The ACI would not replace their clinical governance processes, that's really something that is part of the local health districts' mandates, but we would provide advice, toolkits and other tools that would help them to implement it and make it - you know, make it a reality at the local level.

Because our surgical clinical network is a representative network, you know, we've got all of the directors of surgery, many directors of anaesthesia, from the different districts, we can really connect across the entire state.

Q. One of the procedures - we don't need to go to this page - but one of the procedures that's talked about is myringotomy without insertion of grommets. That's a procedure done by ENT surgeons; is that correct?
A. Yes, that's correct.

THE COMMISSIONER: I'm not sure I know what that is. What is it?

DR WATERHOUSE: It's when they insert a little hole in the eardrum and put an aeration tube in.

THE COMMISSIONER: An aeration tube?

DR WATERHOUSE: And aeration tube, yes, when you have chronic obstruction in the ear.

Q. So there may be some districts, smaller districts, that would only have one ENT surgeon, perhaps, out in the rural areas, for example. How would they have a - sorry, I can see you nodding in that regard. So that is correct, that it would be an ENT surgeon; yes?
A. Yes.

Q. That does these procedures?
A. Yes. In some distribution there may be only one ENT surgeon or a clinical practice where various surgeons would rotate to cover the needs of surgery in those districts.

Q. So how would a district put in place a governance process when they don't have peers that they can call on to actually adjudicate in relation to recommendations for admission for that procedure?
A. Yeah. So that's something that we would work with the districts to try to find a solution for. Very often, it would be that we need to have a multidisciplinary review program, not just comprised of specific surgeons but, instead, also mobilising paediatricians, if we're talking about grommets, it could be something useful, just so that it's not just based on a single surgeon's decision, socialised with a group through a rigorous process, so that various types of clinicians can provide an input.

So we wouldn't expect all of those to be done within each of the surgical specialties, anyway, and if there's any support to give to some of those regional areas, that's something we would explore from the ACI perspective, but it would be only to facilitate the process, again, not to make the decision on their behalf.

THE COMMISSIONER: Q. How long has spinal fusion for back pain alone not been recommended?
A. My apologies; I didn't get your question.

Q. How long has spinal fusion for back pain alone not been recommended?
A. It's not really time based. It's really one of those conditions where, compared to the volume of surgeries performed, the literature suggests that many of them do not benefit patients.

Q. We're straying, but just that when I started a lawyer which is a long time ago, every single plaintiff with a bad

back had spinal fusion surgery.
A. Sorry, I didn't quite get your question. So do you mean to ask how long have we known that --

Q. Yes.
A. I wouldn't be able to say exactly since when the international literature became quite consensual on that, but it has been a few years.

THE COMMISSIONER: Thanks.

DR WATERHOUSE: Q. Could we just move to paragraph 58 of the statement, please. So this is about reducing clinical variation, sometimes called unwarranted clinical practice variation. So it's said that this is an area of strategic importance for the ACI. Can you just explain in a bit more detail what this is?
A. Yes. So what we call unwarranted clinical variation is variation in care that patients are receiving that we cannot put - or that cannot be explained by variation in patients' needs or preferences for care, okay? So patients can, you know, have specific needs, but, of course some patients may not want a surgery, for example, or some patients may not want certain types of cancer treatment. And there are procedures where we can see that the care that's provided to patients does vary, and it doesn't correlate with variation in needs or evidence that it's the expectations of patients that are different.

That variation can be in terms of the actual procedures that are offered to patients or the way those procedures are performed, you know, laparoscopically or through open surgery or done in hospital versus through support at home. There are various ways to look at variation to reflect on that.

What's unwarranted really is where, you know, for example, we may think that in a certain region they've got more of a certain type of procedure and it's not because they've got more patients with an indication for that procedure, okay? So that's unwarranted clinical variation.

Q. And when you identify an example of unwarranted clinical variation, do you find resistance to changing practice?
A. There's very often resistance to change, either because clinicians are not aware that the evidence in the

literature has changed and, therefore, their practice needs to change, or because, you know, the change management required to support them to provide care in a different way is significant. You know, clinicians may not want to change the way they deliver care if they're not supported in the right way through outpatient support and all of those things. But it could also be resistance because patients need to also be informed about the fact that the standards of care are changing.

It is well known in the literature that, you know, following a demonstration of evidence that a certain practice is not a good practice anymore or that a new practice needs to be adopted, there's ample evidence that suggests that it takes time, it takes a few years before clinicians will adopt it, and there are pockets of clinicians that do not change their practices on the longer term. That's why agencies like the ACI and the Clinical Excellence Commission, for example, exist - because we're there to support that process, engage with clinicians, make sure that they're aware that the standards of care have changed, mobilise their clinicians so that they're informed about it, and also at the right times find the right champions that will say publicly, "It's time for us to change the way we deliver care for patients", you know, and we use different levers to try to address the clinical variation. But, you know, spontaneously, we know that it takes effort to support adoption of those new practices across complex healthcare systems like NSW Health.

Q. Is it sometimes the case that there could be a vested interest in maintaining the status quo even when the practitioner is presented with the evidence that it's no longer good practice?

A. There has been studies that have demonstrated that sometimes, financial or, you know, regulatory interest come in the way, and that means that we need to work at identifying those potential barriers and make sure that we adjust funding models and regulatory approaches so that we, you know, make it easier for clinicians to adopt those when it is known that it could have a financial impact or an impact on medicolegal issues, which, of course, are very legitimate things to consider when we want to promote adoption at the system level.

Q. And that's a role for the ACI, to be involved in some of those changes?

A. The role of ACI is really to identify when such levers will either become a barrier or would facilitate adoption, and work with our partners within the ministry or with other pillars or with the local districts so that we make the right adjustments and really making sure that we facilitate adoption by clinicians. But it's not for the ACI to make all of those changes, given the fact that we're an advisory body much more than a body that, you know, governs and manages the system.

Q. Understood. So what actions is the ACI taking in relation to unwarranted clinical variation currently?
A. So, of course, we've got 42 different clinical networks, many of them do have a reflection on clinical variation at the moment, and we produce, again, clinical practice guides that really clarify to clinicians what is the current standard of practice. We develop tools so that local clinicians can start to work with their peers to identify where there's clinical variation and start to address it, and we're currently also designing a more systematic program of measurement and action to cut across the different specialties to more effectively continue to address clinical variation.

The reality is that the ACI has worked on clinical variation since its inception. Now, we're at the stage where we can formalise and systematise a lot of that work and prioritise in areas where there will be a stronger benefit, and we're currently restructuring our clinical variation work through a clinical variation action plan that we have endorsed again before the pandemic, and therefore we had to be cognisant of the fact that clinical settings were disrupted at that time. But now that we're getting to a different phase, with many clinical settings, you know, back to where they were, it's time for us to re-instigate that work, and that's part of our priorities for the next few financial years.

Q. Would there be scope sometimes for, say, a slightly more interventional role in the sense that you might have a policy that requires clinicians to inform patients about new evidence that - in relation to a procedure they're recommending?
A. We already do that through our clinical guidance when there is already a shared decision-making process. We're already suggesting to clinicians that they use the tools that we have provided so that they are more systematically,

you know, touching on the key points. We've not mandated it. However, in some clinical areas, there could be a mandate for some of those tools.

It's the same with clinical checklists. We can identify when we feel clinicians need to more systematically go through specific criteria but again they are not mandated at the moment as part of our work. We would only propose to the ministry to do that when there's absolute evidence that this is now standard of care to the level where every single patient should go through it, and at times, when we support the review of policies, we do propose for those tools to be referred directly in the policy.

Q. We might move to "Technical and Clinical Innovation", which is your next section, so if we can just scroll down, I think it is probably the next page. There we go, just there - or maybe if we go to, sorry, paragraph 64. You've described there some advanced therapeutics that ACI has been involved with or OHMR has been involved with, and they look like very interesting innovations obviously. Can you tell us about the bacteriophage or "phage" therapy, and in particular the clinical implications for this?
A. Yes, so bacteriophages viruses that are harmless to humans that we know are harmful for bacterias. So that's the concept. So some viruses do attack bacterias, bacterias are a bigger organism compared to viruses. In nature, we find a lot of viruses that are actually keeping in check some of those bacterias. Therefore, phage therapy is really the clinical application of that concept, where we can use some viruses that we know will not harm patients but will target some of the chronic infections that they have.

The purpose is for us to create a system where we can more systematically identify the bacterias, their susceptibilities, and find in our bank of viruses some that would enable to target a treatment to those bacterias.

It's mostly used as an adjuvant to usual care, so by "adjuvant", I mean as a, you know, a complementary kind of therapy, and it's mostly used in cases where patients have got intractable infections that are not responding to antibiotics anymore or have bacterias that are multiresistant to all of our antibiotics, and there's been cases treated where we cured them of those chronic

infections because we've found the right virus that can then target those infections and kill them in the body, and afterwards, all of those viruses are, you know, also expelled from the body by the immune system.

So that's what we are doing. It's an emerging science, and we're working very closely with the scientific team at Westmead to progress that, but also progress a model where it can be made accessible and available more broadly across the system, and that's what our advanced therapeutics team is working on at the moment, really partnering around the science but also the delivery component of it, just so that we can really harness the benefits for our patients.

THE COMMISSIONER: Q. Just on that, so at the start of 64 you've said that the Office for Health and Medical Research advanced therapeutics team supports the development and delivery of, in this case we're talking about bacteriophage - or "phaige"?
A. I think it's either said as phage or "phaiges" in the literature, so --

Q. I'll probably use both. Just if you want to, could you just - sorry if you haven't given a complete answer, the way the OHMR supports the development of this particular therapy, is there anything further you want to point out in terms of what the OHMR does?
A. Well, what the office does, when we find a new area where there's obviously emerging evidence about a new treatment that will come and we could use, the first thing we do is that we assess what's the current capability of the system to actually integrate that new therapy into the system; is there further research that we need to do in support; is there some infrastructure that we need to put in place?

In the case of phage therapy, for example, we know we need a biobank to be able to deliver that as a service, and by "biobank", I really mean a place where we will have different viruses, different types of viruses available then to be manufactured and produced, to be able to be given to a patient. If we don't have that bank of virus, then it's unlikely we're going to find a specific bacteria in a patient that could be treated by that. And of course, it's the role of OHMR to work with the system at identifying, you know, do we need to work with regulatory

agencies to make sure that we can produce those new therapies in a way that meets the TGA, for example?

We work sometimes with pathology and other groups to make sure that we could bank those new therapeutics. We work with local districts when they say that their staff are not trained to be able to manipulate some of those new therapies as well. So we've got programs in pharmacology, for example, that aim at lifting that capability of the system. That's where you can see that the Office for Health and Medical Research has got mandates that relate to the proximal part of research, you know, really making sure that we accelerate research so that it translates into useable products, and then the ACI can take the relay and work with the clinical systems to embed them after. And again, at some point, phage therapy is probably one where some networks of ACI will start to work on models of care, for example.

DR WATERHOUSE: Q. Just one other question about the phage therapy, is it fair to say that that's part of the answer, scientifically, to the problems we see with antibiotic resistance in the community?
A. It's one of the tools that we have. Of course, we need to make sure we use antibiotics in an appropriate way, and we've got a lot of clinical models that do cover that, and the CEC, of course, have got a very important role in drug management. But this one is helping us - when things start, unfortunately for the patient, to be really difficult to manage, you know, we've got some patients that we've treated that spend weeks in hospital because of those chronic infections, this is an additional tool we can use and offer clinicians so that they can resolve those multiresistance issues.

Q. If we just scroll down to the second example, 64b, so this is gene therapy, and in particular, viral vector delivery technology. Can you just outline what OHMR's role has been in that and what promise it holds?
A. Okay. So gene therapy is a very broad term that means, you know, using fragments of genes and replacing those fragments of genes into, you know, cells in different organs to make those organs or biological systems, you know, start to produce the protein that, from a genetic perspective, they are not producing, or stop producing some of those proteins that are creating illnesses. And viral vector is a specific technology that enables the

transportation of those gene therapies into the appropriate cell.

So let me just explain, a viral vector is again a virus that is innocuous or harmless for humans, that we use as a way to deliver a gene therapy to a specific organ. And what we do, or what the researchers and the academic teams do, is that they find ways to identify and package viruses so that they will respond to a specific receptor on specific cells, so that, a bit like a mailbox system, they will deliver the gene therapy in the right place, okay?

We've all heard of the, you know, SARS-CoV2 virus and the way it was linking to the spike protein, you know, well, in a similar fashion, the adenoviruses and the lentiviruses that we use in viral vector therapy identify a specific protein on the surface of cells, and then they get into the cell and they exchange the faulty gene for a good gene and then that cell starts to produce the right protein, okay? So that's, in a nutshell, the technology that we're talking about.

It's not the only one to give genetic therapies, but it is one that, in New South Wales, we knew we had expertise and we had teams that were able to potentially bring this not just in the research space but actually in the clinical space, so that we would start to treat patients and potentially even turn this into a commercialisation endeavour.

The role of OHMR has been to work with the system at identifying what were their needs in terms of the research they needed to do to bring that technology to fruition, work again with regulatory organisations so that we would be able to bring the system to be able to manufacture those new therapies in a way that would fit with the TGA, for example, and also identify how would we start to produce this in a way that commercially would make sense and in a way that would also enable our system to access that technology at a lower price, because obviously you can purchase those technologies internationally at the moment, they are extremely expensive treatment.

So the role of OHMR is to work with the system so that we work on those different aspects, making sure it happens. Of course, we never produce the actual treatment, that's all done at the local level, with the research institutes,

but it's about being the catalyst of that change so that it happens. Many research teams come to us and say, "We need a bit of help on this aspect", or, "We need you to help us with our intellectual property", or, "We need you to help us in terms of training of some staff", for example. In viral vector, we did all of those things through the last few years so that we'd bring that manufacturing capacity to New South Wales.

Q. Is New South Wales leading the way, in terms of the nation, that is, in regard to these two, the gene therapy and the bacteriophage therapy?
A. In many respects, yes. In terms of viral vector, we have announced yesterday, actually, the creation of a company that will lead the manufacture of viral vectors, and it's the only such facility that will exist in Australia, and in many aspects of gene therapies we have, you know, world-leading teams, really, in certain areas.

But gene therapy is such a broad area. There are, of course, pockets of excellence all over the place, but New South Wales is really well positioned overall in precision medicine, you know, and gene therapy and our capability in that space, in the kids' gene therapy treatment as well as increasingly in adults, is really a strength that we can build on.

Q. Does that open the door perhaps for collaborations with other states to be able to roll out innovations from New South Wales?
A. Absolutely. And OHMR has in the past established networks that contributed to the national scene so that we would mobilise not just the experts and the leaders that we have in New South Wales but the broader group or community of academics that are working in a specific area, and I would say that for phage it's a good example because we have supporting the academic team to start a national network of specialists in phage therapy, again making sure that we collaborate and coordinate across states.

Q. Just moving down to an example of the technical innovation, and you've talked there about virtual care, we touched on that before, can you maybe just briefly outline the advances that have been made in the last three years in relation to virtual care?
A. Yes. So there's been obviously a really increased rate of adoption of virtual technologies in NSW Health.

The fact that, you know, through the pandemic we were not able to bring many patients to physical outpatient clinics for the purpose of managing the pandemic has already contributed to that. It has helped clinicians also to see how they can use those technologies as part of routine care, and we can see now we have higher adoption rates of virtual modalities to treat patients, compared to prior to the pandemic.

There's been advances in terms of the tools that we have in New South Wales, so we've got a platform called myVirtualCare, it's one of the platforms that is used to treat patients on an outpatient basis or after they're discharged from hospital, so that clinicians and patients can have a joint consultation without patients having to come physically to the clinic or to the hospital, and of course, in rural settings, that means, you know, hundreds or thousands of kilometres saved for those patients.

There's been advances in terms of what is known in the literature as virtual wards, which really means - or virtual hospital, where many of the functions that we do for patients admitted to hospital can now be done at home, if we deliver to the patients the right technology so that they can be followed centrally from the hospital but by remaining at home, and, you know, RPA Virtual is a good example of that being progressed in New South Wales.

Of course, Telestroke is an example that I've given, and it is a virtual care platform because the clinicians that treat patients for stroke in the hub do receive all of the imaging done locally through that virtual system so that they can interpret directly all of the imaging for patients.

So there are different modalities that we've progressed. And I will just conclude by the example of HOPE again, the health outcomes and patient experience. It's a different type of virtual care. It's what we call asynchronous virtual care, so it is virtual care that it is not - where patients and clinicians are not looking at the same thing at the same time, but ultimately it's virtual care because it enables clinicians to see from their patients if they're not doing well and if they need to be contacted, without having the patients needing to come in, in the clinical office, or the emergency department, and therefore it is providing a virtual modality to provide and

deliver that care. So I just wanted to provide a few examples of the things that have really progressed within NSW Health.

Q. And HOPE is about patient experience as well as patient outcomes; is that correct?
A. Yes, that's correct, and by "patient outcomes", we really main their symptoms, their quality of life, you know, the things that they would express if they were to come to a clinic, you know, to say, "I'm not doing fine", so we're talking about pain, we're talking about sleep, we're talking about their ability to move around, you know, things that relate to their quality of life, but it is also about their experience. And by "experience" we mean, you know, do they feel that care was provided in a way that promoted good continuity or did they have to repeat the same information at every visit, for example? Do they feel that they've got enough information to take care of their problem when they go back home? So the platform covers really both aspects.

Q. Let's move to paragraph 66. This is now talking about identifying, assessing, developing and implementing innovations. In 66a there you talk about the critical intelligence unit. So can you perhaps just start by discussing exactly what that is?
A. Yes. So the critical intelligence unit is a small team that we have established during the COVID pandemic, so it started as the COVID-19 critical intelligence unit, and it's basically a small unit that has the mandate to provide extremely rapid review of evidence to support decision-making at the right time, you know, supporting myself, supporting other decision-makers in the system, ahead of specific meetings or ahead of specific decisions that they had to make, very often during the pandemic on a daily basis, as you can imagine, and making sure that we were always going back to the literature and assessing how knowledge was evolving.

Of course, during the COVID pandemic, you know, a month away really meant that, at times, what we thought we knew was completely changed, and that's why a critical intelligence unit was required. We needed a dedicated team that had the time to track the progression of the evidence and provide, you know, independent advice to support decision-making.

It was a highly successful model, you know, and therefore, we were asked to keep this going, both for the purpose of continuing to support clinical decision and policy decision in New South Wales with that capacity to review rapidly the literature and provide scientific advice, but also as a way to be prepared if we got another pandemic or a recrudescence of COVID-19. So it was part of, you know, making sure we would keep an infrastructure that had demonstrated that it could benefit the system.

Q. About just over half way down that paragraph, after the brackets, it says:

> *Publications that describe innovations in clinical care in [New South Wales] are compiled into an Evidence Digest ...*

Why is it limited to innovations and clinical care in New South Wales?
A. Actually, it's not the right way to describe it. This is the evidence that's coming internationally, but the process is that within New South Wales we want to reach clinicians from our system to inform them about that international evidence. So it is absolutely about all of those international academic journals, it's about the international organisations that are providing advice as well, and the critical intelligence unit provides the weekly evidence digest, looking at all of those sources of information. So it's not just - it's not just about the innovations within New South Wales.

Q. I thought that might be the case but I wanted to clarify.
A. Thank you for that.

Q. So it says that it goes out to 1100 subscribers. Would you agree that this is actually a very small number relative to the size of the workforce in NSW Health?
A. We obviously want to increase the number of subscribers to the evidence digest. It is increasing on a month-by-month basis. It is used - the subscribers are 70 per cent clinicians and 30 per cent are people that say they've got a policy role in the system or more of a managerial role in the system. We don't know if those 70 per cent of clinicians, you know, are they all the ones that are organising care in New South Wales? We don't know that. But we will certainly continue to publicise the

existence of the evidence digest so that we increase the number of subscribers, but in just a few months of operation, it is still quite a good reach. But we're continuing to advertise it.

Q. So I appreciate it's too early to have been evaluated as yet, but is there any sort of plan to look at whether these evidence digests are actually translating into decision-making on that basis of what the evidence is?
A. Yes, and what we do is that we do track the specific papers that are open or accessed through the digest on an ongoing basis, so we can see the reach, which type of paper seems to have, you know, got interest from clinicians, and the digest is not just used by the people receiving it through our electronic mailing system; it's also used by different teams that are currently developing and designing models of care.

So we do have other processes where we discuss the digest with specific clinical groups and therefore we already have evidence of elements of the digest that were picked up and integrated into new models of care, because it's part of the evidence review tools that we have.

Q. Is there a requirement for policymakers to refer to these evidence digests and align their policies to them?
A. No, there's no requirement. This is really provided for the sake of disseminating that evidence. We do have other tools that synthesise the evidence in specific areas that we produce - evidence checks, et cetera - and very often we're asked to produce them for policymakers at the time of their review.

Q. So is there any way in place that you can manage inconsistency in terms of some of the policies coming out, relative to the evidence, that they may not be informed by?
A. There's currently no mandatory processes in place for that to happen. What is happening at the moment is that, you know, we receive requests from all of the different branches of the ministry and many pillars and local districts. When they are revising policies, then they ask us to provide that kind of evidence support.

Q. So on the next line, it refers to this digest subsequently being reviewed by a clinical panel to identify potential game changers. What happens when they identify such a game changer?

A. Yes, so just before I answer that, I just want to say that a game changer for us is really an advance in clinical practice demonstrated by the research that we feel will change clinical care or will change clinical delivery of care. So when our clinical panel reviews the digest and identifies that there's really a breakthrough in the literature, what we do is that we would either go to a specific clinical network to discuss this and see how we can translate that into an existing tool or if we need to develop a new instrument, but also at times we will surface it to our colleagues within the ministry when we feel that it relates to a program of work that, you know, they're working on, either in sustainability in health care or virtual care or any different aspect.

So the ACI takes responsibility then of having discussions with the appropriate group about what is the best next step in terms of progressing that game changer.

It could still be that we need to wait for more evidence to accumulate before we're convinced we need to build a pilot, you know, or test some of those, or it could be that the game changer is actually helping us to inform the next iteration of a current program, and again, we bring it to different platforms including the future health steering committees when required.

Q. And at what point would the system - the health services - be made aware that there may be something of this nature on the horizon?

A. I would say that it's still variable because we're really bedding this process at the moment, trialling to see what's the best way to identify and then progress game changers. We need to be cognisant of funding cycles. We need to be cognisant of the fact that for some of those game changers, there's a lot of things that we will have to adapt or adjust before we can actually roll them out, and therefore, we need to also adapt it to the specific areas that it relates to.

You know, as you know, it takes longer time to train people differently if a game changer is about using a different type of professional to deliver a certain service, or it takes time to adjust models of care if a game changer is more about specific aspects of the standards of care. So it will have to be variable, but again we're learning to work with that system. We think

that the advance that we've made is to really make it systematic, that we go through the literature and have a mechanic in place to surface what's promising.

Q. Who's on the clinical panel that looks at these?
A. So there's two clinical panels that we can use, depending on the game changer. The first one is the Health System Advisory Council, and the membership of the council is available on the website. You know, it's a broad group of clinical leaders across the system and managers that have leadership roles as well, and it is covers a broad range of clinical areas. So I won't - you know, I wouldn't be able to name all of the members of the group. But we also have what we call the clinical executive advisory group within ACI, where we've got surgery, trauma, emergency care, anaesthesia, intensive care, general practice represented, and they help us to really identify not just that the game changers in a specific clinical area has demonstrated a potential benefit, but that it would fit with the other clinical areas that they represent.

Q. If we could just scroll down to the next page, so this is paragraph 66d, you note there that the OHMR and ACI funded projects once completed are a potential source of innovations for spread and scale. Does the ACI or the OHMR monitor how they are spread and scaled up?
A. It's variable, depending on the program. Some programs have much more mature monitoring processes in place already. We are working at expanding that monitoring to all of the different programs, and that's why we've established, within OHMR, a specific monitoring and evaluation expertise. They're building new measures that enable us to better reflect on that process.

Within ACI we do have an evaluation team that's available at the right time to do the, you know, surveys and data collection required to be able to reflect on a program. But for some of the programs, we still don't have in place a fully fledged monitoring and evaluation process.

Q. Do you have a sense of some that have been embedded across the system, having started at that initial project level?
A. Well, all of the measures that relate to our research governance, clinical trial management, already have all of that monitoring in place. All of the programs that were

funded through treasury grants also have that monitoring and evaluation process in place. Also, I would say that in areas like trauma, intensive care, surgery, we've got many really well-established monitoring programs that cover the entire state, and in many of those areas, you know, it's a monthly review that our clinical teams are doing. So those are a good example of where we've been able to really progress a full statewide monitoring and evaluation of impact.

Q. In the next paragraph it refers to the new technology and specialised services committee. Can you just give a bit of an outline of the assessment process that's involved for the things that are put forward by districts and pillars?
A. The first thing I will say is that I'm a member of that committee and I do represent ACI and the office in my attendance to that committee. It's a committee that receives requests for assessment of, you know, technologies, that could be brought to the state level, and what's usually done are evidence reviews about the effectiveness of the technology; at times, economic assessment, to also ensure that we evaluate the cost but also the benefits and the ratio of costs to benefits for some of those technologies; and at times it does involve specific work from the Agency for Clinical Innovation in terms of assessing from a clinical perspective the perceived need for those technologies and a reflection on the challenges that would come from implementing them at the state level. So those are broadly the kinds of things that are put in front of the committee for assessment before stating if a new technology will be supported for statewide use and implementation.

Q. So if something were put forward by a pillar or one of the networks, the clinical networks, so they put forward a new technology, is it possible that a local health district could be required to fund it going forward, even if it wasn't something that they regarded as a priority?
A. Yes, it's possible. It all depends. Some of those technologies are really part of, you know, standard clinical delivery, you don't always need a statewide program to support the governance around it, and when it's something that should be used at the bedside and doesn't need that coordination across different districts, then really, truly, it's a local district's responsibility.

Sometimes we do feel - and the recommendation from the committee can be that - a statewide program needs to be implemented to support, you know, a safe and economical implementation of those processes, and at other times, the committee's recommendation is to recommend that it's only done under a research process, if the evidence is emerging but not quite supporting for a full statewide implementation already.

Q. If we just scroll down to 68, and we've got there the ACI redesign school, how does the course work in the redesign school?
A. Yes, so what we do in the redesign school is we've got three or four cohorts of students every year, and they start at different times of the year, and then they go through a process of monthly contacts where either they receive onsite training, and it can be training about data analysis, it could be training about project management, we support them in their process of identifying and clearly stating what is the clinical problem they want to solve. And then we, through the year, through 12 months, give them training so that they progress their work to a stage where they can implement and evaluate the early impacts of that work.

The people that come to the schools are clinicians and managers from the districts. Most of the teams include medical, nursing, allied health, management staff as well, and they come as a team and they come with a project that has been supported by the chief executive of the district to be put to the school and when they get into the school, then they work at trying to find a solution to that specific problem.

So it's a very hands-on kind of course where they have, at the same time, to learn new capabilities as well as deliver on an improvement project, and that's why it's called the school for redesign - really, redesign clinical care in practice.

Q. On the fourth line there you refer to service improvement sciences. Can you define what that means, please?
A. Yes. So there are different ways to improve care in the literature, in terms of implementation methods. You know, there's a lot of PDSA processes, for example, that are proposed, you know, "Plan, do, study and act". There's

methods like Six Sigma that aims at, you know, making sure you really understand the way different elements work together to improve the outcomes. There is full co-design, where consumers and clinicians and managers will come together, exchange on their perspective and redesign care, when we feel that it's that adjustment that is not quite right, you know.. so those are examples of improvement methods that are taught in the school and are adopted by different teams, depending on the problem that they're working on.

Q. And just one more request on this. Does the ACI follow up to see that the projects that have been done through the redesign school do actually become embedded?
A. We do on a regular basis. We have innovation exchange program and the digital platform that does showcase that. Many of them are actually the projects that have led to fully statewide implemented programs later on, so then, when that happens, we've got clear evidence that they've been picked up. And what we do is that we get in touch with our community of practice that I talked about this morning, which is the community of practice of directors of innovation, and they can reflect when a specific program is still ongoing. These are really the ways that we use to assess the sustainability of those programs.

THE COMMISSIONER: We will adjourn until 2 o'clock.

LUNCHEON ADJOURNMENT

THE COMMISSIONER: Yes, thank you.

DR WATERHOUSE: Q. We are on 68b. So we finished just before the adjournment talking about the ACI redesign school. I would like to move on to the ACI innovation exchange that you see at the top of the page there, or top of the screen, rather. Of the 46,790 page views, do you have an understanding of how many of those have been by local health districts looking for projects that they might be able to implement?
A. I don't have that information top of mind, but we could certainly do an analysis of provenance of the various - but that's not an assessment that we've made.

Q. Do you know if there are particular projects that get very large numbers of page views relative to others that have been particularly popular, say?

A. Again, that's not something I personally have top of mind at the moment. What has to be said is that the platform has been re-platformed recently, so that search modalities are easier and therefore we're in the process of expanding the platform at the moment. But I don't have the top page being watched.

Q. But that will help with the metrics in terms of being able to measure those things?
A. Yeah, that's something we can do using our usual web based statistics to better understand which ones are frequently visited.

Q. Just in that same point still, but the next sentence, it refers to 275 projects that are live. What does "live" mean?
A. It means that they're current, they're on the platform and we consider them as being, you know, current examples of innovation. Some of them have been retired through the years, of course. They're not innovation anymore, especially if they get rolled out across the entire system, and then we add additional ones, and I think that we plan to reach almost 300 projects at the end of this month.

Q. And where it says 29 were published in 2023, are they live projects now or is publication a different thing?
A. They are live.

Q. So that's a subset of the 275?
A. Yes.

Q. If we just scroll down to paragraph 69, this is where you talk about innovations that have been identified in response to particular policy questions or challenges the system is facing.
A. Yes.

Q. Can you give some examples of particular initiatives that have come out of tackling surgical wait times?
A. Sorry, particular programs or initiatives that have --

Q. Yes, so it says that "the ACI was asked to investigate ways" --
A. Yeah.

Q. -- so what did you come up with for tackling surgical wait times?

A. So what we did for tackling surgical wait times is that we first searched the literature about what were the evidence based programs that we felt could impact on wait times. And what we did is to build a comprehensive patient pathway so that we would really take the patients' perspective to identify all of the things we can do at different stages of their illness, either whilst waiting for surgery or whilst being assessed for surgery, but where we could do interventions that would help to improve the pathway.

So we identified that there are things we need to do months ahead of time when patients are first put on the list to start to make them ready for surgery, and that's called our pre-habilitation programs. We've identified that there are things we need to do in the month leading to the surgery, so that at the time they come for surgery, you know, they don't have uncontrolled diabetes or another chronic condition that would, you know, prevent them from being able to receive the surgery.

But also what we did is identified programs that helped to better manage the intraoperative period, as well as the things we needed to do early in the piece so that patients can be discharged early after surgery and recover early after surgery, and that's where our early after recovery surgery program came.

So what we did is identify various programs that either were helping to reduce the need for surgery, helping to better manage the flow of surgery, and really avoid, you know, cancellation, avoid things that we know would reduce our capacity to tackle the surgical wait times, you know.

We wanted to have a comprehensive approach, not that every district had to do everything, because obviously in some districts the needs are more towards the pre-surgical or post-surgical, but at least we had the suite of projects and measures that we wanted them to be able to pick on and we would support the implementation, you know. So that's what we did in that particular area.

THE COMMISSIONER: Q. This is slightly tangential, and someone can correct me if I get this wrong, but something the anaesthetists have told us - and I'm paraphrasing, but it's along the lines of, "We don't see patients in the elective surgical list early enough to assist with things

like assessment of how suitable they are for the surgery, providing advice about possible lifestyle changes that might mean the surgery is not ultimately needed". Is there work going on in that space?
A. Yes. So as part of the framework that we developed, we clearly identified pre-habilitation and what we called optimisation for surgery as key areas, and in optimisation for surgery you've got different programs that can be rolled out. Of course, one is all of the pre-habilitation, behaviour change, control of risk factors, but there are also pre-surgical clinics, especially for high-risk patients, that we encourage local districts to implement,.

Q. So what do they involve?
A. Very often they're run by anaesthetists, because one of the risks related to surgery is actually the general anaesthesia that's related to it, and therefore it is important that anaesthetists assess the patient early, identify the risk factors that need to be changed, so that at the time of surgery, you know, again, they're in a state where we reduce the risk and they're more ready for surgery.

Q. So are pre-surgery clinics routine across LHDs where surgery is being performed?
A. For specific patients that need that assessment, so there are criteria we can use - age, of course --

Q. What does that mean, patients with chronic diseases?
A. -- co-morbidities, and for specific surgical procedures it's more warranted than others. We wouldn't recommend that it's done for every single patient, because this is --

Q. It may not be needed.
A. -- a use of resourcing that is rare, and therefore we need to target, for the patients that are at risk, needs to be assessed for that risk, so that we optimise them before surgery.

Q. Just slightly related to that, in 69g you talk about introducing same-day joint replacement surgery. Is that routine? Say it's hip or knee, is it routine now that you're in and out the same day?
A. In some centres --

Q. I'll fill this in. When we had a visit to the

North Sydney LHD at Royal North Shore Hospital, they certainly had a program for people to have joint replacement surgery and be discharged that night, that they'd had the surgery. Is that routine across the state or not?
A. What I would say is that in some districts, it's routine to assess if patients need to be in their same-day surgery program.

Q. Sure.
A. Okay? So all the patients are assessed for it, and then some patients do not take that track because of certain risk factors. Do we have a standard joint replacement surgery in all of the districts --

Q. There's a type of patient? There's a type of patient it might be ideal for.
A. -- we're not there yet. So there are some districts where we still continue to support them to implement their same-day joint surgery program. It doesn't mean that they don't have any patients doing day surgery, but what we want is a more systematic approach where patients are really assessed for it so that we increase the proportion of patients that go through those same-day surgeries, because we know they're associated with excellent outcomes, and you reduce the impact on the system, and we also know that for many procedures they're actually associated with less complication, because patients mobilise more quickly afterwards and all of that is part of good recovery after surgery. So it's not all implemented across the state, but --

Q. Well, it's not suitable for every person that's having a joint replacement for a start.
A. It's not suitable for everyone.

Q. Secondly, there might be a complication that means you've got to stay in the hospital.
A. Yes, and you need to consider the patient's personal circumstances as well, because same-day surgery works under the assumption that people can go back home, have the support that's required and not have to travel too long to come back if, for whatever reason, they've got an infection or a bleeding or another complication.

So there has to be some variation and some adaptation to the patients' needs and specific circumstances, but we

do want more hospitals to routinely offer that program as part of their surgical program.

Q. For the people it's appropriate for?
A. Yeah. And we've got models of care to guide surgical units in identifying those patients based on the evidence.

THE COMMISSIONER: Thank you.

DR WATERHOUSE: Q. Just taking that one as an example, if a district has actually set up a program whereby they're doing 24-hour joint replacement surgery - ie, discharge within 24 hours but not necessarily the night of the surgery - is there an expectation that they will stop doing that and transition to the same-day surgery program that's been developed by ACI or have they the latitude to continue doing what they - what works well for them?
A. They have the latitude to continue to do what works well for them, because again, it may be that they really need to make sure that the patient is stabilised overnight before they ask them to travel significantly across the state - New South Wales is a big state, of course.

It may be that in terms of their capacity to quickly readmit or have advanced access clinics, et cetera, they're not at that stage yet and therefore we need to respect that it's a gradual process. But what we do is to really help them to enhance their same-day or next-day surgery. That's part of the program. Already we think that this will provide a lot of benefits for patients and then local districts have room to adapt it to their specific clinical context.

Q. And some examples also, perhaps, in relation to the management of end of life palliative care, are there ways in which the ACI has investigated initiatives and developed things for that?
A. Yes. We do have a palliative care network, it works with the system about, you know, enhancing the models of care, et cetera. And we also have increasingly what we call supportive care models where, you know, when patients are in specific clinical situations where they may - we may think they need an intervention but that intervention may actually have an impact on their quality of life towards the end of life, we also increasingly have models that help to support them without necessarily needing surgery or the active treatment so that they're comfortable. That's part

of a broad kind of perspective on palliative care, which is something that we've tried to promote in various clinical areas - more supportive care, leading to palliative care afterwards.

Q. If we can just scroll down to 70, and this is where you talk about clinical engagement, now, you can see there's a long list there of all of the ACI's networks, task forces and institutes, and it goes over the page. I'm just wondering, there seems to be some similarities. So if you look at a, which is "Aboriginal Chronic Conditions", and then just over the page, you have "Chronic Care for Aboriginal People" at h.
A. Yes.

Q. Now, is there potential for sort of overlap or duplication of what they're doing by having groups working on similar areas?
A. So one is a team that manages our program as an Aboriginal health program and helps all of the networks across the agency to consider Aboriginal health issues and in the appropriate way. The other is a network of clinicians and local managers that work in that area. So the reality is that they are complementary. It's not in every clinical area where we've got a team and then a specific network being progressed for Aboriginal health. This is what, you know, the community wanted.

We are currently working - you know, we've got a new director of Aboriginal health at the ACI and we're going to revise our activities in Aboriginal health, and those, you know, teams and network will be part of - will be part of that stream of Aboriginal health, led now by our new director of Aboriginal health.

Q. So given the very large number of groups that you have, how does the ACI, as an overarching entity, ensure that you minimise the overlap and duplication and also that you minimise gaps where one network might assume that another network has a particular body of work covered?
A. Yeah, so the first thing that we did to ensure reduction of duplication and increase in synergies and coordination is five years ago we restructured the organisation and we created clinical streams. Those streams are pulling together clinical networks that have commonalities in terms of their patients or the type of interventions that they want to do or the type of clinical

sector that is involved.

That enables us, for example, to manage in a more integrated way all of the trauma, pain, rehabilitation related networks under a single stream. It doesn't mean that everything then gets subsumed into a single kind of big network. We still have those different clinical engagement programs, but now they relate to a clinical area where we ask them to plan in a more integrated way. We ask them to manage some programs collectively and across the networks instead of just the network specific work that they have to do.

So in 2018, what we did is to restructure so that we would have eight clinical streams where the 42 clinical networks are embedded, and then we started to engage with them at the stream level in addition to, at times, having relationship with the networks at the clinical level.

THE COMMISSIONER: Q. Sorry to interrupt, this is not a criticism of you or the people that helped draft your statement, but just so it's in the evidence, there's a few terms in your statement that - this will be my fault - I don't understand, and if they're not in the evidence I can't make it up or guess.
A. Yes.

Q. In 69f there's a reference to ACI being asked to investigate ways to deliver CAR-T cell therapies. I don't know how important this is. Someone has explained this to me once and, shamefully, I have forgotten. I know CAR-T cells are, I think, white blood cells and some of them are T cells and they're taken out of the patient and they're modified and then they're put back in and then I have forgotten what happens after that. They help your immune system attack a cancer or --
A. Yes, exactly. And my apologies if there are some terms in the statement --

Q. No, no, don't worry.
A. -- but we can certainly correct that.

Q. Was there anything you would add to the brief description I just gave - the thesis about CAR-T cell therapies?
A. Yes, so CAR-T cells are modified T cells. The T cells are the cells that we have in our body that defend

ourselves against a lot of things, infections but also cancer. You know, it's a little known fact but our immune system --

Q. But is this precision medicine, is this to modify them to attack the actual cancer you've got?
A. It is. It is. And what happens is that our T cells are constantly getting rid of cells that are abnormal in our body, but when a cell gets to be abnormal but cannot be recognised by our immune system, it continues to grow without being attacked by our system, and that's one way cancer grows.

When we modify T cells, we modify them so that they identify the cancer cells and then they can attack it, and that's why it is called a chimeric cell. We've mentioned it there because we do have a blood and marrow transplant network that works on all of the novel therapies around cancer, you know, all of the blood and the marrow cancers, and they've been the ones that have supported the system - by this I mean specific hospitals and districts - to actually build their capability to deliver CAR-T cells but also work again with regulators and other bodies so that we can integrate those technologies locally.

Q. When you used the term "network", that's involving, what, hospitals and --
A. Yes, in this case, all of the blood and marrow units across the state are part of our network. It's one type of network that we have when the entire system is in, you know, and therefore they all work together.

Q. So that's research as well as hospitals and --
A. That's clinical units within hospitals across the state, you know, all of the blood and marrow are part of that service.

THE COMMISSIONER: Thank you. Sorry.

DR WATERHOUSE: Q. Obviously that's a very specific niche area where you've got all of those group involved. As a general rule, though, how does ACI ensure that the networks actually represent the breadth of different types of clinical practice?
A. Yes, so I think your question hints at the fact that it's difficult to cover all of the clinical areas all the time. You know, we know that health is a very diverse

group, and the ACI does not have a clinical network for every single clinical area.

Some networks do, you know, come on board for a while, and then after a while, if we see that, you know, there's no innovation emerging, there's no real significant transformation to make, sometimes what we ask them is to be subsumed into another network. So we have merged networks together to create space for other networks as well, when the time came. Some networks have been stopped, again, if we feel that there is no critical need for those networks going forward.

Of course, there are some networks that have been there since the inception of the ACI, I mean, trauma, emergency care, surgery, anaesthesia, these are really big clinical areas where there's always something to do in terms of refining care or implementing new models. Whilst for others, for example, we've got a series of networks now in the child, maternity and paediatrics space, where we know that there's emerging innovation, and what we've done is to create a new stream so that those networks could come together and start new work that we were not doing in the past at the ACI.

So as much as possible, we're trying to be flexible and agile and dynamic in how our networks are managed. Some of our networks have gone from being a network to being a reference group, and I know it may sound technical, but basically what it means is that instead of having an ongoing plan or, you know, series of activities that we're working on with the system, sometimes we need to ask clinicians to establish a group that can be there for us if we need advice, if we need to provide advice to somebody else, but more as a reference group that we consult on a more ad hoc perspective, and we limit the resources that we have, which are limited, of course, for the ongoing work for the networks that have, you know, a plan of activities over many years. That's the way we try to manage that breadth and depth because, you know, we know it's difficult to mobilise such a big system.

Q. And the networks are invitation only effectively; is that right? People are invited to join the networks, whereas, is it correct that the communities of practice are more groups or individuals, rather, that opt in so that they can be kept informed of the work of the network?

A. There's no difference between the networks and the communities of practice in terms of how we recruit. People that want to volunteer for a network can contact the network and sometimes we proactively seek new members. At other times, you know, new members come in the network because they get to know about it, they approach us and we integrate them into the network.

Communities of practice just tend to be broader in terms of numbers of clinicians involved, and their focus is to share ideas together, not so much to come with an action plan for the organisation to support. And that's really the big difference between the two.

So a community of practice is really, you know - our role is to facilitate them coming together and then, by getting together, they exchange, they share, that's it. Networks, we expect that they will propose things to do and we give them support from an ACI perspective to achieve those projects that they want to progress.

Q. If we look at 71a, which is the surgical care network, now, that one is by invitation only, according to the fifth line - fourth or fifth line - and you've got the bigger community of practice sort of underpinning that or working with that. Given that it's all directors of surgery for the districts, if all of those directors were to come from the bigger hospitals in those districts, the big teaching hospitals, et cetera, how do you ensure that you've reflected the range of levels of clinical practice and what people are doing in the districts, if you have got the one person from all of the teaching hospitals?
A. It's not one person from each of the teaching hospitals, it's more based on the local districts' representation. So we're talking about the directors of surgeries, they have to be nominated by their chief executives, and there's a representative from all of the districts.

So we don't have an overrepresentation of metropolitan hospitals, given that process.

It's surgeons but it's also directors of anaesthesia, they are involved as well, and we've got also nurse managers in surgery as part of the surgical care network, and it's representative because we do have someone from each of the local districts and, in return, we ask them,

when they go back to the surgical committees or, you know, divisions of surgeries that they lead at the district level, to convey back the information that we lead within the surgical care network.

The surgical care network used to be called the surgical task force or the SST - yeah. We've transformed it as a network to really reflect on its ongoing role in quality improvement and innovation in surgery.

Q. At 73, you talk about consumer engagement. Does the ACI have a role in educating the community about new models of care that might challenge longstanding views, for example, where care is delivered or by whom?
A. Yes. So we do that not just through our consumers, because obviously 128 consumers is quite a big group of consumers involved in our work, but at the same time, it's not a lot of people in terms of disseminating back to various communities what the new models are about. So the 128 consumers are really part of our networks, they are co-designing with our clinicians, you know, the models of care or the tool kits or the various products that we create.

But then what we do is that in many areas where we feel that there's a need to provide education and advice to patients and communities, then we produce these documents, make them available, so that clinicians can then use those documents in their interactions with patients, or local managers can at times also use those kinds of tools if they have got information sessions with community, for example. And we've done that in some of the, you know, bigger statewide implementation programs that we've had, ensuring that we had some patients and community-facing material available as well. But we don't do it directly. You know, it's not the ACI that goes into a community, talks to, you know, town hall meetings. We rely on the local clinical teams and the local districts' managerial teams to do that, our role is to give them the tools so that they can do it correctly.

Q. What about if it was something like an expansion of scope of practice that was actually being rolled out statewide - say, for example, an increase in the role for pharmacists? Would ACI then have a role in trying to educate the community or create materials for that?
A. So we do work on media relations when required, which

means that we do use either formal print media or television and radio to talk about some of our programs, and we also use social media as a way to connect. So in this way, when we feel that, you know, there's something new and it needs to be shared more broadly to inform people that this new program is available, we would use those routes, in addition to the more clinically based kind of work that we do through the information sheets and other material that we produce. But we don't do it for every program. I think it really depends if such a broad kind of communication is required.

Q. If we go now to paragraph 75, where you discuss interstate collaborations - so you've identified there just a couple on that page, the paediatric improvement collaborative and the national surgical quality improvement program, or NSQIP. Have these resulted in changes being embedded into practice across New South Wales?
A. Yes. Absolutely. So if we look at the paediatric improvement collaborative, for example, it really enabled us to avoid duplicating standards of care and models of care that were already produced by one of the lead institutions in paediatrics in the country, which is the Royal Children's Hospital Melbourne.

Clinicians told us that the guidelines that they used come from the Royal Children's Hospital Melbourne. So what we did is we collaborated with Queensland, Victoria and New South Wales to structure a joint approach where we would have one single way to produce those clinical guides and then we would promote their adoptions in the three states, and in this way, we can mobilise, you know, our limited funding to other clinical areas.

We know that those guidelines are used by the paediatric community, they've confirmed that, and of course, we've mobilised a group of clinical leads from New South Wales to be part of the paediatric improvement collaborative to make sure that the work was reflective also of some of the needs that we had in terms of updates of standards.

In terms of the national surgical quality improvement program, it's a program that is different in nature from the paediatric improvement program, and that's why we've put it in the statement. What we do with the NSQIP program is we support clinicians to measure their practice, we

extract data from the electronic records, we ask patients to reflect on outcomes.

What we have is a collaborative of surgeons and anaesthetists and other clinicians involved in surgery and they look at the results, the variation. They receive a benchmark compared to not just the participating sites in New South Wales but also participating sites in the US and in Canada, so that they can actually compare their practice with an international benchmark and then identify where they need to improve.

For example, there have been programs aiming at improving urinary tract infections following surgery and clinicians have worked together to identify what are the things they can do, even though we have to put catheters in place, to avoid the risk of UTIs following surgery, and that includes, you know, early mobilisation and extraction of the catheters. So it's a good example of a way to mobilise clinicians to look at data and self-identify things that they can do locally to improve on some of those outcomes.

Q. Has there been any evaluation of the patient outcomes whether there have been actual demonstrable improvements with either of those?
A. There has been an evaluation of NSQIP as a program, but the beauty of the program is that because it is a program that monitors and tracks outcomes, we can actually see if we're improving as part of that program, and in many areas we have hospitals that have seen ongoing improvements in some of the complications and in the outcomes of care.

It's not implemented across the entire state, it's one of those programs that, you know, we're gradually integrating new sites, and it's one of the programs where we do have an interstate collaboration as well with Queensland, for example, collaborating with us on that collaborative.

Q. If we go to paragraph 82, and this concerns the NSW Telestroke Service that you spoke about before, and you've provided more detail there, I would be interested to know what are some of the challenges that ACI encountered when implementing the Telestroke service?
A. I mean, there were shared challenges, not just

challenges that the ACI faced. We're talking about a program where we had to align clinical change, you know, behaviour change from clinicians, but also technology enhancement, and we needed to ensure that we found the right communication and clinical management processes to make it work.

So in some areas, we did struggle to uplift the technology to make sure that we would have, you know, good images to transfer to the hubs so that they would make the right decision for patients. In some areas we also faced challenges that related to the workforce available and their coverage of, you know, 24 hours versus only a part of the day, and therefore we had to work with the different districts to, at times, pause implementation, make sure that we reassessed things and we consolidate what needed to be consolidated, and then get back to implementation afterwards.

Q. And I see there in c that the Menzies Centre is currently undertaking an economic evaluation. Will that take into account allocative efficiency as well as technical efficiency?
A. I think so. The evaluation will compare standard practice versus this one, and I do have to say that the economic appraisal that we did ahead of time, before deciding to implement Telestroke across the state, did such a comparison as well.

THE COMMISSIONER: Q. What's actually involved in an economic evaluation of a new model of care like that?
A. So what you have to consider is both the inputs, so all of the costs related to the costs of the technology, the cost of the workforce.

Q. Setting them, right, yes.
A. But also the cost for patients, you know, in terms of travelling or not, in terms of having to spend a night in hotels or anything. Then you look at the benefits both from a direct economic benefits, and that could be cost avoided if you reduce length of stay, for example, or if you don't have to transport patients - ambulance costs, you know - but also the transfer of health outcomes into economic measures. Because we know, you know, from the economic science, how to translate what would be the economic impact of people not having disability, for example, you know, in terms of their economic productivity.

Q. How long they're out of work, that sort of thing?
A. How long they're out of work, and if they can return to work, and also, in some of those economic evaluations, we can put a cost, a dollar figure on preventing illness and death.

Q. So all of that is part of this evaluation that is taking place?
A. Yes.

Q. Do you know when Menzies are meant to finish that work?
A. I think that the draft has been circulated. I was hoping that we could release the report incessantly [sic].

Q. So it's imminent, is that the answer?
A. It's imminent but I'm not directly involved in that process.

Q. Leaving aside - I suppose it's related to it, but has there been a health outcomes evaluation?
A. Of Telestroke?

Q. Yes.
A. Well, I think you have to understand that for Telestroke, what we're doing is that we're expanding coverage for patients of therapies that they would not have had, so the impact is quite --

Q. I mean, it's part of it.
A. It's quite immediate.

Q. It's early intervention, isn't it?
A. Absolutely. And we already know the number of patients that have received a thrombolysis, you know, and we can compare it --

Q. In circumstances where they may not have without Telestroke?
A. They may not have in the past because of time. Because stroke is a time-critical condition, and if you're outside of the window where some therapies are known to be effective, then the patient won't access them.

Q. The damage is already done?
A. Yes. And therefore, we can see the benefit of

Telestroke already through that early assessment.

THE COMMISSIONER: Thank you.

DR WATERHOUSE: Q. Just to clarify, in terms of the economic analysis, so you had people internally who were able to do that initial evaluation and now it's been referred out to Menzies?
A. Yes, yes.

Q. So you've got the right skill set in-house for that initial phase; is that correct?
A. So we tend to concentrate our evaluation team's focus on assessing if a program should be established or not, you know, what are the expected benefits, does it make sense to invest resources in doing it? We want our evaluation teams to focus on what we call formative evaluation, which is about testing things in the middle, you know, of implementation, do we need to change things, do we need to adjust certain parts of the program? But when we need to report on the effectiveness of our work, it's good to have an independent organisation running the evaluation, with our support, because sometimes we've got the data, you know, that they need, but at least they do an independent assessment and we feel that this is stronger in terms of providing evidence about the effectiveness of the program.

Q. And the skill set of those people that do that - the internal people - are they health economists or what is their sort of background to be able to do the evaluation?
A. Yeah, we've got people that are specialists in the designs of evaluations. We've got experts in economy - you know, economists that can especially support the decisions that relate to modelling. But increasingly we also have people within our team that have expertise in modelling, in predictions, because that's an area we want to emphasise. We want to make sure that before requesting funds to invest in a statewide implementation program, we've done an assessment of the potential impact not just on the specific area or intervention we want to do, but potentially on the flow of clinical care at the local level, and that's where economic modelling and predictive modelling is a skill that will be really important going forward for our team.

Q. If we go now to paragraph 85, you mentioned two intensive care models there. One is the intensive care service model and the other is an exit block project. What

was the ACI's actual role in those two projects?
A. So for the intensive care service model, we were charged in developing a model of care, what it would look like in level 4 ICUs, and then we had to facilitate a community of practice where level 4 ICUs would come together, look at the model of care, identify the things that they had to do to lift some of the services and really make sure that they would meet the requirement of a level 4 ICU.

And a level 4 ICU sits below level 5 and level 6, and those higher levels really mean that they can actually care for more complex patients. But level 4 are important because they're really there in regional settings, you know, to provide a big part of the intensive care. So this was a quality improvement program. We run it as a collaborative program and ACI was really, again, the catalyst of those different teams coming together, providing them with the tools to improve, but then the change happened locally through the leadership of those local teams.

In terms of the ICU exit block project, there was a lot of analytics that was involved in that project, really trying to identify what were the reasons why patients were at times delayed from being discharged from the ICU to the ward, when they were well enough to go on the ward. So we're talking about patients that technically are discharged from the ICU but don't physically have a bed to go on a ward, and the issue - and the reason why it is called an exit block, is that it takes an ICU bed that we need to use for somebody else.

This is really a critical project to ensure that we've got a good flow of patients across the system. What the ACI did in that work is to support the ministry whole of health team, which really is the one managing the flow of patients across the system, to identify what were the blockages and work with local teams to try to get rid of those blockages. It could be lack of transmission of information, it could be about the way the ward's bed availability is managed, you know, depending upon the local circumstances, then we provided the support to the whole of health team to support the local teams to change. This was a collaborative work.

Q. You say there that it was interrupted by the pandemic.

Given we're now four years into the pandemic, is there a time frame in which it will be re-established?
A. That's something that I would have to ask Intensive Care NSW. I think that they're probably getting ready both in terms of readiness with the local teams to re-engage with the project, and when the local ICU teams feel that, you know, they've got some room and energy to be able to roll out such a program, they'll be re-engaged. It's really important for us to adjust to the receptivity for change at the local level as well, given the pressures that clinicians have every day in delivering care.

Q. Were there measurable outcomes from that project just from where it got to before the pandemic?
A. Yes, I don't have all of the findings in my head but in some of the ICUs where they had a sustained, you know, effort, they were really able to reduce the amount of hours that, you know, or minutes, even, that patients were delayed before they could be discharged. But I wouldn't be able to reflect on the outcomes across the state.

Q. And in relation to the service model, did it actually demonstrate better access and reduction in variation?
A. I think that the outcomes are more related to the quality of care provided, the consistency of care provided in the level 4 units. Of course, for patients, it means that they access the right level of critical care, but the outcomes that we've been measuring through audits and, you know, reflective practice with those units, were more about the increase in resourcing and quality of care provided.

THE COMMISSIONER: Q. Tell me if you don't know, but this sort of project, ICU exit block project, is probably still being interrupted by the pandemic, is it?
A. I would say that there's probably a lot of intensive care units that wouldn't say they are ready to tackle a quality improvement program at the moment, but again, that's something that I would have to refer to my clinical network to gather data about.

DR WATERHOUSE: Q. If we just scroll down to the next subparagraph, c, the leading better value care program, can you tell us a little bit about that?
A. Yes. So that program was a program that we rolled out across the state in specific clinical areas such as osteoporotic refracture, chronic obstructive pulmonary disease, bronchiolitis, chronic wounds, renal supportive

care, chronic heart failure, hip fracture and diabetes.

The goal of the program was really to implement, across the state, models that were different from what was the standard of care before. So, for example, in osteoporotic fracture, we know that refracture prevention clinics are successful at preventing people that come to hospital with a hip or a fracture of another bone, to refracture afterwards, and that's through identification of their risk factors, providing them with the right medication, the right advice about preventing falls afterwards, and the osteoporotic fracture program was really about increasing the volume of patients that can actually access that assessment for their risk of fractures.

If we look at renal supportive care, the goal was to implement clinics that provide what we called supportive renal care instead of dialysis. We know from the literature that for many patients, dialysis will not be associated with better outcomes for patients, and therefore, our goal was to really push across the system for more units to adopt a supportive approach and reduce the number of patients on dialysis, or at least enable us to not have to further invest in services where we had a big proportion of patients that we knew would be better treated by that supportive care. And that supportive care included, you know, a broad range of providers, allied health providers, so that patients are better able to take their medication, remain active, control their symptoms, et cetera.

Q. Is this a statewide program?
A. It's a statewide program and for most of the conditions where we started the program, we've got clinics in all of the local health districts. There remain some clinics or hospitals that have not fully implemented the program, and some of our networks are continuing the work, even though, from a statewide perspective, you know, the entire program has finished recently.

Q. It has actually finished. But it is a value based health care program?
A. It is part of what we call value based health care, yes.

Q. Would it be the biggest body of work rolled out so

far in relation to value based health care?
A. Certainly from an ACI perspective it was the biggest investment, we had many clinical networks dedicating all of their time supporting local districts to implement those clinics and we know that, at the local level, many of the innovation and improvement teams were also dedicated to that one. It was a significant investment for the state in terms of a focused kind of program of work around value.

Q. In terms of the investment, was this something that districts were funded to roll out or did they need to do it within their existing resources?
A. It was a mixed approach. So there was some funding initially given to districts to start the process and being able to have support on the ground. ACI continued to support the districts without asking for any resources throughout the five or six years that in many of those clinical areas the program went for. At some point, districts had to transfer it into a "business as usual", because this was really about replacing a previous way to deliver care into another one that was associated with as good, if not better, outcomes for patients, at times at a lower cost. So that's how we, you know, supported the embeddedness of the program as part of the BAU afterwards.

Q. Let's go now to paragraph 87. You have referred there to the National Health Reform Agreement and to trialling new and innovative approaches to public hospital funding. Then you say:

> *To date [New South Wales] is the only jurisdiction to have explored funding for trials through these mechanisms ...*

Can you give us some examples of successes that New South Wales has had in that regard?
A. So I think the example I will give is probably related to collaborative commissioning, which is really where we collaborate with primary health networks in identifying needs that are present at the local level, and we need to combine funding available from the state and funding available from the Commonwealth to ensure that we, you know, commission or purchase those services for the population. You know, it's the type of services where, if it were to be provided in hospital, it wouldn't be the right place, but general practice is not necessarily the right place either for it. So that's one area where

New South Wales has been especially active, working with the groups of primary health networks at identifying those areas where we could, you know, to meet the local demand, purchase something in a joint way.

THE COMMISSIONER: Q. Sorry, so if it's a service that is not necessarily appropriate for a hospital or for a GP, it's, what, some sort of community clinic or - what are you talking about?
A. It could be a community clinics; it could be services to support people at home; it could be outreach in aged care facilities. You know, there's different types of work that would fall under that space, you know, which is between hospital and between community services or GP services.

Q. And please don't think this is a criticism, it's not, but when you talk about this trial being a collaborative approach, shouldn't the Commonwealth, the state and the primary health networks and the LHD all be talking to each other to collaborate anyway for these sorts of - what's different about what you're talking about as a trial? How is it specifically set up?
A. It's not so much a trial as we need the establishment much a more systematic way to bring those parties together.

Q. So it's creating a network of people that talk together?
A. And we do have a joint group in New South Wales where all of the PHNs, you know - sorry, not all the PHNs, but the PHNs are represented as well as other parties from NSW Health, to proactively look at what is the next thing we need to do to make the system work all together. Obviously the separation of funding between state funding and Commonwealth funding at times --

Q. Makes it difficult?
A. -- can create issues, and therefore establishing that platform was really important to make it work as one system.

Q. And so if there's an idea about something that emerges from it, then there's a discussion about who funds it?
A. Yes.

Q. What percentage, those sorts of things?
A. Yes. And for some of the programs that we've rolled

out, such as Telestroke, there was a Commonwealth contribution because we could clearly see that this was a new way to deliver care that would benefit, you know, general practitioners working in emergency departments, et cetera, in some of those remote communities, to improve care closer to the community.

THE COMMISSIONER: Thank you.

DR WATERHOUSE: Q. Has New South Wales put forward proposals for initiatives that have been refused under this program?
A. I wouldn't be able to answer that. I don't have an example that comes to my mind.

THE COMMISSIONER: "Not supported", I think, not "refused".

DR WATERHOUSE: "Not supported", yes.

THE COMMISSIONER: Maybe it's the same thing in the end.

DR WATERHOUSE: Q. Could we go to paragraph 94, please. So you say there:

> *Current arrangements are effective in supporting innovations and models of care but they have not always been fully integrated and maximised.*

What do you mean by this?
A. There are some programs that at times we're not able to scale, even though we think that there's, you know, a promising model emerging. And of course, we keep our eyes on that and, you know, we come back at a later stage or another financial year to try to progress some of those models as well. And I think it's fair enough to say that no healthcare system can tackle all of the innovative work that needs to happen in such a complex system. But I think what we would like is to be able to more proactively plan what are the things that we would like to start rolling out in two or three years, and maybe being able to be supported on a longer-term kind of approach to innovation, because we know it takes time to demonstrate that something works, but it takes resources also to evaluate appropriately, progress a pilot towards a spread test, where we try to reproduce it somewhere else, and by not having a clear forecast of the

funding available, then it reduces, at times, our capacity to fully commit to a pipeline approach and being ensured that if this is successful, we would be able to scale it up. And that's what we mean by the consistency of funding.

It's not just the amount of funding, I think, that's important here, it's also the time frame to really truly enable organisations like ours but also the local districts to fully implement that scale, and sometimes it's longer than the usual three or four years that we have as part of specific programs to really fully roll things out at scale.

Q. Is it sometimes, do you believe, that the programs have not been fully integrated and maximised because the districts bear the cost and responsibility for implementing them and they don't necessarily rate it as a priority in their population?
A. Sometimes we can see that there's variable adoption of some of those, and of course - of course - at times we are told that there are financial implications for local districts in adopting some of those new models, either because of their impacts on activity based funding or any other activities. When this happens, we try to work with them to identify what are the things we can do to reduce those barriers and again fully support their adoption of those new models.

Q. Now, you have summarised the approach that you're taking currently or moving towards in that sentence. The third sentence says:

> *The system does not have an innovation fund to scale new models and a strong mechanism to embed innovations that have been proven to be good value into business as usual.*

THE COMMISSIONER: Q. That's the New South Wales system you're talking about there, doesn't have the funds?
A. Yes.

THE COMMISSIONER: Sorry, go on.

DR WATERHOUSE: Q. If an innovation has been proven to be good value, as it says there, wouldn't there be an incentive to embed it anyway, even if there isn't a dedicated innovation fund to scale it?
A. I think it's about the challenge that relates to

implementing at scale sometimes. Implementation is not a very short-term kind of exercise, because, you know, clinical settings are made of clinicians that have worked in the system for 30 years as well as clinicians that have worked in the system for one year, and the challenges in terms of supporting their adoption of a new way to work are not the same.

In addition, healthcare systems have to integrate innovation in a way that preserves safety. That really means that we need at times to run in parallel an innovation and an improvement work with a business as usual consistency kind of approach. That, at times, means that additional funding is required to push in a significant way and really ensure that we transform care before we disinvest in the previous way to deliver care, and consistency of funding through multiple years, and for some programs, I can say that it took, you know, 10 years to really truly achieve change at scale. We can see that the programs are going longer than sometimes the funding that we receive.

So the statement around the innovation fund is a statement - you know, this is the current fact. It's one thing that we could explore to ensure a more consistent source of funding on a longer perspective as well, given what we've learned from other jurisdictions.

THE COMMISSIONER: Q. The alternative for funding is through the route described in paragraph 87 of your statement, through the agreement?
A. For paragraph 87, it's really about the translation into business as usual afterwards. You know, we need to ensure that the way hospitals and clinicians are reimbursed for their activities, at times, doesn't just rely on activity based funding but, instead, can fund care from a blended perspective.

Q. 87, in part, involves IHACPA getting involved; is that right?
A. And we don't - we don't want a new model.

Q. Sorry, if you agree, say yes.
A. It could.

Q. If you don't, please feel free to say no?
A. It could involve that national body, yes. But what we

don't want is for a new model not to be adopted because implementing it would reduce the activity that is actually the way to generate reimbursement in health care. That's a well-known issue around the world, and therefore it's something we need to address through those negotiations with the Commonwealth and the health reform agenda.

Q. Can I just also ask you - you touched on this, and Dr Waterhouse did, too - I'm sorry, my brain is not keeping up, but it's only just occurring to me how odd that last sentence of 87 is. So the agreement - this version of the National Health Reform Agreement - started in 2020; correct? Sorry, 2020 to 2025, it is?
A. Yes.

Q. And without having it in front of me, I know it says something along the lines somewhere that innovation, innovative models of care are going to be critical, which is why it's surprising me that New South Wales is the only jurisdiction, et cetera, that you've said in your statement. Are there any trials in the pipeline?
A. Again, I wouldn't be able to reflect on that. This is not the area that I'm managing. The only thing I will reflect on, though, is that, you know, the current agreement does have some clauses that enable novel models to be trialled. What we need is to emphasise that so that it becomes even more "business as usual" for those --

Q. I think the part of innovation and innovative models of care being critical, I think, is in the schedule of the agreement that deals with long-term health reforms.
A. (Witness nods).

Q. Which is why it surprised me to see that New South Wales is the only jurisdiction to have explored funding for those sorts of trials. You mentioned one. Are there any others that New South Wales has put up?
A. There are others. I wouldn't be able to --

Q. This is not your area?
A. No, this is not my area.

Q. We can follow that up with someone else.
A. It relates to our work when we develop an innovative model and we find a bit of a hurdle in terms of the reimbursement model, but I'm not the one managing the portfolio of collaborative work with the Commonwealth.

Q. The way I understood it, just from reading the agreement, is that what's meant to happen is that people with the relevant expertise through - no doubt through the senior public service, public servants, say, "Here is a great idea for a new model of care that will have better outcomes and it might be cheaper, who knows?" And that IHACPA is meant to get involved and work out a way of - if there's going to be a trial funding it, to see how it works, and then either it does work as hoped or it doesn't. But it doesn't seem as though that's being taken up, at least in --
A. I would say there are still instances where we are pushing for certain new models of care where people are reflecting on the challenges that it causes in terms of funding and appropriate funding.

Q. Thanks.
A. And again, it's not the cost of implementation. This is more about funding health care on an ongoing basis.

DR WATERHOUSE: Q. If we were to seek more evidence about that, whose area would it be who would be able to speak to that?
A. It would have to be strategy, planning and patient experience.

Q. If we can just go back, please, to 94, I just wanted to clarify the term in the second-last line "a strong mechanism" - what did you have in mind for a strong mechanism?
A. My apologies, which number are you?

Q. At 94, I beg your pardon.
A. Thank you.

Q. And it's the last sentence that I read out previously. It refers to "a strong mechanism to embed innovations" - what would that strong mechanism be?
A. I think it's about the intensity of effort, when we decide that something needs to be implemented in all clinical settings, so that we have the appropriate number of people that will be mobilised for an appropriate amount of time, so that we truly embed it in regular practice afterwards.

The literature on implementation does suggest that

it's difficult to commit such an amount for implementation, but it's increasingly recognised that if you don't commit enough resources and for a long-enough time, it's unlikely that the benefits will be sustained afterwards, because you didn't take the time for the true behaviour change from a clinical perspective to be adopted and for all of the processes to have been integrated as part of business as usual.

That really means that from an ACI perspective, we need to be parsimonious in the number of initiatives that we roll out across the state as each hospital and district have a certain amount of resourcing available for this kind of change. But we also need to make sure that when we propose to implement at scale, that we've got a realistic request in terms of the resourcing required to implement that scale, especially when the change is significant.

THE COMMISSIONER: Q. Don't let me put - and I know you won't - words in your mouth, but is what you're really saying in that last sentence of paragraph 94 - and accepting that it's a matter for executive government, I suppose, as to how much money it spends on certain things - you're saying that at least to scale models of care that have proven to be good value into, as you say, business as usual, there really needs to be more funding to help you do that?
A. It's about the amount of funding, given the challenges of transforming health care, but it's also about the agility, so that we don't always have to plan from day one what things will look like over the next four years of implementation. Because sometimes things don't go this way in complex systems, and we need to have a way to fund those initiatives in a way that provides that flexibility - with still good accountability, don't get me wrong, but it's about being able to sustain the effort and adjust when suddenly we cab see that the system is not responding to what was initially planned and funded.

DR WATERHOUSE: Q. In the following paragraph you talk about the three main routes by which projects that have been demonstrated to have strong potential can be implemented at scale, in paragraph 95, and then if we just stroll down to the top of the next page, I want to explore a couple of those. So the first one is a business case. Where does the money come from, if there is such a business case put forward?

A. Well, there are various sources of funding, depending on how government structures, you know, its budget. So we've progressed, for example, business cases aimed at IT funding that was available in the system. Sometimes it comes from treasury as an additional allocation to health to allow these programs, and at times it's been business cases that we've submitted in partnership with the Commonwealth and the state government for funding as well.

So those business cases are progressed to treasury or the relevant assessment body, but the money comes from government.

Q. Does the ministry have any sort of contingency fund that it holds for the purposes of business cases like this?
A. Sometimes we do have to absorb within the budget, you know, by reallocating from one program to the other to accommodate some of the programs. That's something we do within ACI as well, within our base allocation, and when we don't need additional resources, we don't ask for additional resources. But when a program really requires implementation at scale, in hundreds of hospitals, obviously, the available resourcing we have internally may not be sufficient and that's when we ask for additional funding through business cases.

It's the case also, if there is a significant investment to be made in either a technology or a specific device or therapeutic, we wouldn't be able to absorb all of those kinds of new initiatives within, you know, the operating expenditure of the ACI.

Q. Are business cases sometimes funded by a levy on local health districts?
A. Not from those that we are progressing.

Q. So taking the example of Telestroke, since we've talked about that a bit, how would something like that have been funded?
A. So this one was funded through a business case process and it was co-funded between Commonwealth and state, so there was a contribution from the Commonwealth, and there was an additional allocation provided to the Ministry of Health to manage, and the ACI received funding that related to the activities that it needed to support as part of that program.

Q. Moving to that second route, you refer there to "dissemination of new models of care via ACI", and further down in that paragraph you refer to - it is the middle there - "Connecting with LHD staff promotes some standardisation and efficiency in implementation of the new models". Is this efficiency for ACI because the local health district is absorbing the cost?
A. This is actually when ACI mobilise its own resources to support implementation across the state. And for some of our program, it's perfectly appropriate to do that. You know, we have network managers, we have project officers that, if the program is not extensive, you know, we can just use our internal resources to do that.

At the local level, in many of the districts, they also have implementation teams and innovation teams, and we work in partnership with them, asking them to prioritise those programs, you know, compared to other local issues, and that's part of the discussions that we're having with them.

In some rural settings or smaller settings, at times we have to mobilise the entire resourcing, because they don't have that internal capacity to support the programs compared to bigger metropolitan local districts. So we do adjust, depending, but in no way do we transfer, you know, the brunt and the burden of implementation entirely on the districts.

Q. But it is possible, isn't it, that a district might actually find it quite costly to implement even if there isn't major system redesign or technological uplift?
A. It is possible, and if we hear that feedback, you know, we're exploring ways to try to support them. We have given spot grants at times when required, when districts were telling us, you know, "We just can't cope with the volume of change required at the moment." And at times we've also delegated our own staff to go work with them on a more ongoing basis.

So you're right, sometimes the ask is significant, especially if locally the change management is not going smoothly, and that's obviously when we would step in and try to mobilise resources as much as we can.

Q. If we go to paragraph 97, that second sentence there says:

However, a project may demonstrate that it is feasible and acceptable and provides value to the system yet at the end of a trial period, there is not always capacity and flexibility in providing funding support for its incorporation into business as usual across [local health districts].

What happens in that instance?
A. So this is obviously when we have to prioritise our limited resources and some programs cannot be supported even though they were promising, and this does happen. I think it's part of managing a healthcare system and an improvement program to have to make those decisions, of course.

What happens is that at times, what we will say is that we will either pace the implementation on a longer time frame to reduce the ask; at times what we will say is that we will just go to a spread process, support the local districts to implement in other hospitals, without necessarily going to statewide implementation straightaway.

THE COMMISSIONER: Q. Give me an example of a project that demonstrated it was feasible and acceptable and provided value, yet at the end of its trial period, it wasn't funded?
A. Well, TeleECG is one example.

Q. TeleECG?
A. Yes, yes, which is that tele-echocardiography program and what we're doing, what we're doing at the moment --

Q. Explain that.
A. So that program is about the remote access to the echocardiography results so that local connections --

Q. So someone is in a rural hospital, are they, hooked up to a machine?
A. Yeah.

Q. And someone, a cardiologist or someone else, another clinician with similar expertise, is at a hospital here, helping local doctors?

A. Reads the echocardiograms and says, you know, "This an ST elevation infarct. This is the type of treatment that you need to do". So it's about remote support.

Q. So that sounds like it has a benefit straightaway?
A. It does, but it's also a very broad program. It's very different from Telestroke. There's a lot more ECGs done in a healthcare system like NSW Health than there are assessment for stroke, given the prevalence of cardiac diseases, and therefore the safest thing to do at that stage was to support the local health district to implement it further within the local health district and then reassess at a latter stage, because the cost of implementation was significant as well and this needs to be considered as part of the decision to roll out or not.

Q. Sorry, I didn't quite understand the first part of the answer - help it roll out in that local LHD?
A. So Hunter New England's clinicians - because that's where it started - are really committed to continuing to implement, continuing to support the rolling out of that program. Hopefully, they will provide further evidence about its effectiveness. If, you know, for example, we do an evaluation and we don't find such strong benefits, then we will have been informed, but we're not stopping the work, we're continuing to work with them to implement across the entire local health district, even though we're not ready at the moment to implement at the state level.

Q. So what was the issue with this TeleECG - that the costs of rolling it out across the state are so high that you're not sure that there's the benefit there on the other side? Is that the equation or am I being too basic?
A. No, we think that there's a benefit related to that program, but the cost of implementing at scale is significant and therefore we would have had to deprioritise a lot of other programs.

Q. So the equation I gave is correct?
A. We would have had to deprioritise a lot of other programs to be able to do that and, you know, when you've got a limited amount of money for innovation, then --

Q. So in terms of the benefits of it, when you look at the costs, you've also got to assess that that's money that could be spent on other programs or models of care as well?
A. Absolutely.

DR WATERHOUSE: Q. In those circumstances, are local districts ever required to implement it within their current budgets or do they have the discretion to decide if it's a priority for them?
A. They can do that if they want and the tools - you know, we have developed a model of care, we've developed with Hunter New England various tools that they could use and roll it out if they want. So there's still the possibility of emergence of that innovation, it was just not possible to fund it at the state level given our current financial situation.

Q. Let's have a look now at paragraph 103. So this refers to the evaluations and what they typically assess. What actions are taken if an evaluation is positive in the pilot sites but not when it's rolled out to other locations?
A. Oh, it informs our decision to not roll out or go back to change the program. Either we say it's not that the program is not worthwhile but it's just that it's not ready for scale, we need to change some of, you know, its characteristics, maybe we don't have the right technology yet - you know, there's various reasons that would explain why something that worked locally is not reproduced somewhere else, but it could also be that the program needs to be adapted to various contexts, because the spread test is important because it tells us if something worked just because, you know, you had a really dedicated group of clinicians that somehow made it work, even though it was a challenge to implement, or it informs us that there are characteristics in the environment - and it could be a rural versus a metropolitan setting, it could be the size of the hospital, it could be the local availability of resources - that forces us to change the program.

So when an evaluation of spread tells us that it's not working, then we would have a rethink with, you know, the people leading the program to assess: do we need to transform the program so that it fits in those new contexts, or is this truly a challenge in terms of demonstrating the effectiveness of the program?

You know, things may not spread or scale not because they're - sometimes because they're not truly effective, and then we need to learn from that and not invest there, but sometimes it's because they're not adapted to other

clinical areas and we need to work with the system to make this happen.

Q. Can there be cultural differences that influence implementation, either at a district or even between hospital level?
A. Yes. And culture, organisational culture and clinical culture, is well known in the literature as something we need to measure so that we better understand the receptivity of different contexts to an innovation but also the barriers that will come in the way and the things that need to be worked out before we start to implement. So absolutely, specific cultures are really important to consider.

Q. Would you have a look at paragraph 107 for me. I just wonder if you could expand on the greater agility in rapid evaluation and the more dynamic situation modelling that you're planning?
A. Yeah, so what we want to do is to really be able to mobilise our evaluation teams to identify very early when an implementation program is not going in the right direction, when we need to make some adjustments to make those programs a success.

It's really important because it's not true that you always design things in a perfect way right from the start, and that rapid evaluation enables us to tell local teams, you know, "You may not be implementing the program the right way", or, "Maybe we need to stop for a while, raise the local capability, work on sponsorship or culture, and then come back to make sure that we use the limited resources we have for innovation in a way that really would be effective."

When I say "agile", it's really about being able to mobilise ourselves quickly. So if a district says, "We're struggling", we should be able to mobilise resources quickly, evaluate things, give them some feedback, move on.

In terms of the dynamic simulation modelling, that's about predicting what's going to happen. We're lucky because we live in a time where data computing capability has really increased and we can increasingly do modelling that is almost a replica of the healthcare system and the way things move within the healthcare system. That can better inform us in the future about the potential impact

of some of those new models and new technologies, but also potential unintended consequences that we need to take care of.

You know, if we implement something that has got an impact on emergency department functioning, but ends up putting more pressures on the beds on the wards, for the entire system it may not be as positive as if we just look at the emergency department's impacts.

So dynamic simulation modelling helps us to better understand the interdependencies in the system and propose to the system innovations that we know overall will have a good impact in addition to the - you know, the already trialled kind of processes within specific clinical units.

Q. How do you gather information for that modelling?
A. It's by linking different types of data. So we know we've got intensive care data, emergency department datasets, hospitalisation datasets. We've got workforce data we can put in the mix, financial data. There's increasingly capacity in the system to link different types of information and then being able to provide that dynamic simulation modelling.

But this being said, the clinical input is extremely important because it's the clinicians that ultimately tell us, you know, "If we do it this way, this task takes five hours. If we do it that way, we can reduce it to one", you know? And then we put the right parameters in the model to have something that's not just based on historical data but also based on what it could look like if the innovation is successful. And that clinical input is absolutely fundamental and that's why we feel that ACI is an organisation that needs to use those tools because we've got the clinical foundation to really get those kinds of models right.

Q. You will probable be very happy to see the word "summary" in the middle of the page there, because that means that we're nearing the end.

Commissioner, do you want me to press on? I haven't got a great deal more rather than have a break or would you prefer to have a break.

THE COMMISSIONER: I got told at lunch that the transcript

people didn't mind going all the way through. If that's still the case, we'll just keep going.

DR WATERHOUSE: Q. If we can go to paragraph 110, please. Just roll down to subparagraph c. So you talk there about prioritising innovations that are potential game changers. Can you give us some examples of game changers that have been identified to date?
A. There are obviously a few in virtual care, for example, when studies demonstrated that some types of remote monitoring would really help to reduce length of stay in hospital, for example, or when remote monitoring or virtual care would enable us to avoid hospitalising patients by sending them back home instead, with the appropriate technology that would enable us to track them.

But there also are the game changers in the advanced therapeutics space where we can see that some new treatments actually are at times costly, but can prevent many episodes of illnesses and hospitalisation, and therefore, they're game changers, because for some of them it's a single treatment or a very short course of treatment that can prevent a few years of the more traditional type of treatments. That's really a game changer because it, you know, completely changes the way we think about things.

I mean, the advances in cystic fibrosis are a good example of that, where those treatments are really positively impacting the health, the quality of life, you know, of patients, of people with cystic fibrosis, and we can see it is having an impact on the type of services we need to provide for them as well. So they're truly changing the game, you know, and that's something that we need to increasingly be proactive about, provide the right assessment and then design model that would support their integration going forward.

Q. You mentioned there about requiring system changes, and obviously ACI would not be responsible for all of those, but what sorts of changes have had to be made to accommodate new game changers like this?
A. Well, I think that maybe I will talk about CAR-T cells again, you know, those cells attacking cancers. We knew the technology was coming, but we also knew that to treat patients with those technologies in the right way, we had to somehow design things differently in terms of, you know, what would be the referral patterns, when would we want to

provide them with those treatments, what kind of outpatient follow-up would we have to do afterwards?

What we did is to work with relevant branches in the ministry, with the local districts, and basically co-design with them what would be the right processes to ensure good access to those treatments.

It's going to be - well, it was the same with Telestroke, you know, we really had to assess how it was changing care, because obviously if you see a patient but you can't access the actual technology that would enable you to transmit the images to the hub, then you can't provide Telestroke, and that, therefore, required at times to even redesign the places where some instruments were located within emergency departments in some of those hospitals.

So those are the kinds of things that we increasingly work with the system, giving them the support to provide the redesign, but ultimately, of course, it's the local districts and the local hospitals that, you know, do make the change physically and from a process perspective, at the local level.

Q. Let's move to 112, which is where you have listed some challenges. I'm going to just highlight a few of these. So there's a bit of similarity in the first two, a and b - they deal with variation across the system in adopting new models of care, and b deals with local health districts that are working in isolation and developing their own models of care. Isn't there a place for local health districts to develop their own models of care because they know their population best?

A. There's absolutely a place for local districts to adapt models of care to their local circumstances. What we're talking about here is work that redesigned the entire model of care that is produced at the state level. And in some areas, you know, the evidence is quite clear, there shouldn't be a big variation between local, you know, processes and models of care, and we need to find a way, then, to tell the local districts, you know, "This is there, just adapt it to your local area, but we're very confident this is the best model for your clinicians".

THE COMMISSIONER: Q. Professor, would you mind - in your answer to Dr Waterhouse's question, could you give an

actual example of - in relation to subparagraph b, for example - LHDs working in isolation to develop de novo guidance and models of care and also models being developed by LHDs that aren't brought to your attention and the system's attention?
A. I wouldn't want to single out a specific clinical area because I feel that it's happening in many different clinical areas, but we're really talking about, you know, models of care where clinicians would be mobilised for a period of time, reviewing the literature locally, starting to agree on what is the right way to deliver care, and ultimately ending up with a result or an outcome very similar to what we will have in parallel developed at the ACI. The reverse happens --

Q. I'm sorry, I'm definitely not trying to be difficult, but I don't know - I understand your general proposition, but I don't know that it helps me as much. I mean, you're in a section of your statement that's headed "Challenges", which I assume means might be in the context of, "This is a difficulty we face." It would really help me if there was a more concrete example of what you're talking about here rather than the general?
A. It's a difficulty because the amount of resources we have to dedicate to mobilise clinicians, write up models of care, is limited.

Q. Sure.
A. And we need to make sure that we also invest more efforts in actually supporting adoption of those models of care at the local level. And that's why, at the ACI, we're working now with other states not to duplicate a model of care if there's already a very good spinal cord injury or maternity model of care developed in another state, and we reduce the amount of work we would have to have to make it locally adapted, but by avoiding redoing many of the steps that they've taken to develop those models of care.

So we need to be more systematic at making sure that we know what the districts are working on so that at times we let them come up with the first, you know, draft and design of specific clinical guidance, but also to make sure that once they know we're working on a statewide model, they don't invest all of the time required to mobilise clinicians to produce one at the local level in addition to that statewide one. Then we can mobilise resources to support dissemination in the system, the appropriate

engagement with clinicians, and really the effort that's required to support adoption locally. That's really our goal.

Q. Okay. Well, this is your statement: "Models developed by LHDs are not always brought to the attention of the system" - what's an example of that?
A. It could be that a local district has developed their own optimising surgical theatre guideline, when we already have one that gives key elements that need to be considered to make operating theatres more efficient.

Q. And this only comes to the attention of the system, what, anecdotally or --
A. Either through the consolidation and then the work that we do at the state level and then we realise that many districts have developed in parallel similar kinds of tools, or at times, it comes out if, you know, they tell us that they already have a model of care following the consultation.

Q. Well, just on that, wouldn't this be solved by a monthly meeting where all new models of care that LHDs are developing are discussed?
A. Well, it's - I think it's part of it, but it's also about the commitment of the governance structures to surface those and be transparent about it. It's not just about collaborating. At times, it's about committing to coordinate things. We certainly are committed to that because the reality is that to run a healthcare system like NSW Health, you need hundreds of clinical guidance documents and models of care and they need to be up to date.

Q. You don't need to go into specifics about this but does that mean there are instances of some LHDs deliberately not sharing models of care they're working on?
A. I think there's different drivers for that. Sometimes it's just that clinicians may take the initiative to do it and it doesn't quite surface up to the clinical governance structures quickly, so that happens. Sometimes, to be honest, it's universities that are reaching out to specific clinical areas and starting to work on some of those models of care. And at times, it's because they're required for accreditation purposes or for other regulatory purposes, and all of those things are things we can work on as a system. The statement here is really a desire and

a commitment to reduce the burden that all of those models of care impose on our system so that we can mobilise more resourcing to actually implement them.

DR WATERHOUSE: Q. So the main concern, by the sound of it, is duplication of resources or effort; is that correct?
A. Yes.

Q. But is it possible also that there may be more buy-in from clinicians if they've personally been involved in investigating and developing the model themselves?
A. Well, that's where championing and other things we could do in collaboration can actually make a real difference. If everybody agrees that we need one clinical practice guide in a certain area and then local districts work on translating it in terms of local processes, and everybody agrees to that, I think we can achieve a more coordinated approach, like in the English NHS, for example. There's lots of examples where you can see that different levels can actually contribute in a coordinated way with other more locally driven levels, so that you avoid duplication, and instead you increase tailorisation and localisation of the guidelines.

Q. In paragraph c you refer to reluctance of local communities and clinical groups to adopt or support innovative models, and then further down, at f, it's a similar issue of reluctance to incorporate successful pilots into business as usual. What do you see as the driver of this challenge or these challenges?
A. There's a lot of different drivers and, of course, culture is one --

THE COMMISSIONER: Sorry, do you mean the drivers of the reluctance or --

DR WATERHOUSE: Of the reluctance, yes.

THE WITNESS: So culture is one. Training of clinicians and the way they're trained and the way they've practised for a very long time is a driver of that. At times it's also perception about, you know, what is the right care, surgical versus non-surgical, home care versus hospitalisation. Then, of course, there's the complexity of the interaction between patients' expectations and what clinicians feel they need to do for patients.

There's financial drivers to that, there's regulatory drivers to that at times, and, of course, the paramount of safety is really something that also at times is a challenge for organisations like ours that have to demonstrate that we can do things in a different way, in more innovative ways, and it's still safe for patients, and as the times, to be honest, even safer from the perspective of preventing complications.

So it is complex to change clinical practice because clinical practice is made of habit, it's made of - you know, the word says it, "practice", you know, you get better and better from a clinical perspective when you do more surgeries of a certain way, and if the evidence changes and suddenly you have to practise in a different way, then it's challenging for those providers. So there's a lot of different drivers but it's also part of the nature of delivering health care.

Q. Let's move on to the opportunities in paragraph 113 --

THE COMMISSIONER: Just before we leave that.

Q. In 112d, lack of integrated data and capacity for modelling or artificial intelligence techniques to support assessment of potential innovations, et cetera, I think we all know what "modelling" means. Integration of data or integrated data, I take it that means you've got data over here, you've got data over there, you know, workforce data, some other data, diagnostic data, whatever, but we don't have a system that integrates that together; is that what you mean by --
A. Yes, there are improvements that could be made in terms of that integration, and the COVID pandemic has demonstrated that to manage personal protective equipment, for example, we needed to link different types of information to be able to predict the amount of masks that would be required. This being said, I do want to acknowledge that NSW Health is the most advanced and structured healthcare system as far as I'm concerned in terms of data linkage, but --

Q. I will take that on notice. Victorians may say something different, who knows --
A. They may, they may.

Q. -- but anyway, I'll believe you.

A. My experience in other countries as well suggests that we've got a strong foundation, but now it's the types of data that we need to better link, so that it's not just the clinical data that we link together, it's also data that relates to management of the system so that we're better able to really provide advice about the right allocation of resources to promote innovation and that's what that statement is pushing for.

Q. We'll no doubt get into this in more detail later, but to just get a few basic things in, and so we know what we're talking about, when you use the term "artificial intelligence", what do you mean?
A. It's a very good question, because it can mean many different things, and in this case, it can mean - and I'm talking about artificial intelligence techniques, so it can mean algorithms derived through artificial intelligence, but once they're derived, they're just automation of, you know, information that we provide to clinicians, but at times it could be that there's truly an artificial intelligence software constantly learning about how to better read wounds or x-rays or other imaging.

Q. That's sometimes called "machine learning", is it?
A. Yes.

Q. That's raw data in, the machine gets --
A. That's one --

Q. -- learns more?
A. That's one of the methods of artificial intelligence, that machine learning.

Q. And I think a subset of that is, like, neural networks, where the more data you put in --
A. Yes.

Q. -- the machine actually ultimately gives you an answer to the problem - hopefully, the correct one?
A. And refines the algorithm so - or other signal that it's generating, according to not just the breadth of data but potentially its evolution if things are changing. That's where some of those tools are learning whilst others are based on artificial intelligence techniques but then fixed in time. In health care, mostly it's fixed algorithms developed through artificial intelligence that we're seeing at the moment.

Q. And if I were to ask you, which I am, as to what are the areas where artificial intelligence in the broad scope we've just discussed might have an impact on the healthcare system, can I ask you what they would be? One I've read about obviously is opportunities for diagnostics, radiology and pathology?
A. Yes.

Q. Can you explain a bit about that - looking at pictures, et cetera. That's one area?
A. Yes. So one obvious area is diagnostics because, you know, radiology, we're talking about scans and films that have millions of pixels and therefore, analysing those millions of pixels requires artificial intelligence to be involved. It's the same with pathology where the movements of, you know, different molecules in different tests can be really, you know, enhanced by artificial intelligence techniques.

But there are other areas where artificial intelligence can really impact health care as well and --

Q. Predictions, you mentioned that before, predictive technology?
A. Yes. Yes, predictions by looking at different measures, you know, and multiple measures changing all at the same time and capturing signals that maybe human beings are not as quick to capture, but there's also --

Q. Like, for example, the patient's data going into the machine and the machine --
A. Early signal of deterioration --

Q. -- sending a message to the doctor or clinicians and the nurses, or whoever, saying "This person might be about to go into kidney failure or sepsis", or something like that?
A. Yes. There are tools that have been developed through artificial intelligence that do exactly that. They're currently being refined and evaluated and tested, but yes, it can be an adjuvant to clinical decision, because it captures early changes that again wouldn't be evident if you just looked at the patient without mixing together a lot of different pieces of information.

Another area is drug discoveries, research.

Increasingly artificial intelligence can help to reduce the time that it takes to identify which molecules would be a good candidate for treating that specific condition and guide the repurposing of drugs so that we, you know, respond to some illnesses where the current therapies available are not quite responding to the needs.

In the past, we would have to do that manually. You know, drug per drug, testing with new indications. Artificial intelligence really helps to speed that process and identify the most likely candidates to work in the repurposing, and it's going to be the same in many different areas of proteomics, metabolomics where there's a lot of proteins in the body and artificial intelligence is increasingly helping us to understand what are the configurations that are a marker of a certain condition or the evolution of disease, and therefore we need to get ready to better assess those technologies using artificial intelligence and wrap them around the right governance framework so that it reaps the benefits, whilst we also manage the risks associated with those going forward, and that's why the artificial intelligence task force was established.

Q. Right. So diagnostics, predictions like early warning systems?
A. Research and discovery.

Q. Drug development?
A. Yes.

Q. What else could there be?
A. Back of office management of some tasks. There's literature --

Q. Funding models?
A. There's literature emerging in many different areas and that includes --

Q. There could be an algorithm that solves this entire Inquiry.
A. This is outside of my specific area of expertise --

Q. Yes, it's outside of mine too.
A. -- but I know that there's a lot of trials in many areas that relate to managing the healthcare system as well.

Q. And there are more basic uses of artificial intelligence like chatbots that remind people, "Don't forget to take the drugs that you've been prescribed", that sort of thing?
A. Some of them are indeed integrated into medical devices at times to support, you know, patient behaviours and adherence to some treatments as well.

Q. And in your role as head of the task force, artificial intelligence task force that has just been set up, I know you haven't finalised your terms of reference yet, but --
A. They are.

Q. -- what are the key risks that you see to health from artificial intelligence?
A. So from what we know in the literature and various frameworks adopted internationally, obviously, you know, privacy is extremely important, you know, management of information is really one of those. But also regulatory frameworks, we need to better understand for some of those tools what would be the implications from a medicolegal perspective. We need to ensure really that when we assess those technologies we consider all of those risks before we start to integrate them into mainstream clinical settings.

Q. There's still a risk of machine error like there's a risk of human error at the moment?
A. Yes. And one of our roles is to survey the literature and compare when algorithms have been compared to clinical decisions, and then reflect on how do we need to use our clinicians and the expertise that they have to be enhanced by those technologies when we find that there are some tasks that those technologies can do in a more consistent way. And that's the kind of translation that we will have to do, but again within our safety frameworks, which are extremely important from a health perspective.

Q. Your task force, I think I read, is time limited at the moment. What does that mean?
A. Oh --

Q. I know what it means --
A. -- we don't know --

Q. -- but what does it mean specifically?
A. We don't know how long it's going to be there for.

The goal is to accelerate a lot of the changes within the system across different organisations because artificial intelligence, just like data and information, is not going to be something managed only by one team within a complex system like NSW Health, you know, there's going to be implications for workforce, finances, clinical settings, et cetera. And for the task force --

Q. You wouldn't have set the task force up for fun --
A. No.

Q. -- given the number of meetings you have to go to?
A. Yes.

Q. Is AI amongst the biggest challenges/opportunities coming to the health system generally?
A. It is top priority for us, so that we get ready for a lot of the developments that will appear in the coming years. And the task force is there so that every component of the New South Wales health system now starts to think about what is it that we need to do now to manage the current challenges related to AI, and how do we get ready for the next few years? And that can be in terms of, again, regulation-specific policies, clinical information systems, you know, there's a lot of different aspects that need to be progressed and we're just bringing all of the leaders from the system to co-design it together.

Q. So one of the research institutes described to us in a meeting that the number of gene therapies, cancer therapies, precision medicine therapies that are coming, literally within the next 12 months to five years, is like a tsunami hitting the system - AI is like a second tsunami or building on that tsunami in terms of its potential impacts on the system?
A. Yeah, so, as I was saying, in terms of research, AI is going to increasingly - you know, it's going to increase the speed of change. So for gene therapies, for example, AI is really enabling us now to analyse millions of gene mutations and better understand the potential of some of the therapies. So that means that the pipeline of innovation is going to rapidly increase and we need to be ready to harness that. And that's the goal of the task force, to put in place the right, you know, administrative, clinical engagement, data infrastructure, et cetera, processes so that we take that wave for the benefit of the system and the population of New South Wales.

Q. Do you want to be cheeky and tell me how much money you need to be right on top of all of this?
A. I wouldn't be able to say that.

DR WATERHOUSE: Q. I had a few questions myself about AI so I might just cover off on those now. How was the AI task force that you're co-chairing selected?
A. So we did an expression of interest across the system, asking chief executives of organisations of local districts, of various stakeholders across the system, to identify their key people that would be able to come to the task force and share their expertise but also come back to those organisations and be the leaders of change. Because we're really talking about a task force that will not be able to do all of the work on its own. It's really about leveraging the work of pathology, eHealth, ACI, the local districts and we've got a really good representation of all of those organisations.

Q. Does it include external experts who actually develop AI programs?
A. There are some, and we also have other mechanisms for us to be connected with that, so we've got a living evidence table on AI that's available on our website and constantly updated, but we're also part of the artificial intelligence, you know, national network, where we receive information about the key developments, and we've been a member of that national group for four years.

Q. And one of the roles of the task force, will that be to look at the lack of integrated data for modelling, et cetera?
A. I think the task force will look at what is the potential that AI would give us to have a more streamlined integration but also potentially how can we use new methods that would protect privacy, reduce some of the risks related with linkage through designing synthetic datasets, for example. And by synthetic datasets, I really mean datasets where we could still analyse data and find relationships, but nobody in that dataset is an actual real person, if you see what I mean. It's almost like you tweak the data so that it preserves the association so that you can do the studies, but nobody's information is identifiable anymore, and, of course, AI can help us to develop new ways to analyse data like this.

Q. The task force is charged with developing a framework. What will that framework cover?
A. That framework we intend would cover what is the regulatory approaches; what are the key priority areas we need to explore; what are some of the risks and issues; what are the clinical applications that we want also to prioritise and explore; what are the applications that may actually help the system to run efficiently as well? The framework should help us to give guidance to the system for the next few years about, you know, accompanying that introduction of those technologies in different parts of the system, or through different devices and technologies that we use otherwise.

Q. We've talked a bit about resistance to change, and you identified this as being an area of profound change. What is ACI or the task force doing to manage this anticipated change and what you can expect to be the resistance to it?
A. So, I mean, establishing the task force and building the framework is, of course, the first step. We are --

Q. I'm talking specifically about how are you going to manage the resistance to this profound change?
A. I think it's about being transparent about truly what's being demonstrated there. So what is the evidence; what is the comparative effectiveness of a medical device that uses or not; what is the comparative effectiveness between human based processes versus processes that are enhanced by AI?

But it's also about - going to be about working with the developers of AI so that there's more transparency about the AI tools, because clinicians will want to know how is this working, and we cannot propose to them a black box where they can't see how is this algorithm arriving at a certain result.

The challenge, of course, is that for some of those AI tools, it's very difficult to explain how it works, because it is, you know, a neuro system or a deep learning system, and therefore, it's going to be a challenge for some of those applications. It will have to be through research and trials so that we will demonstrate that those things work, just like we do for pharmaceuticals, and I think that then clinicians would be willing to explore using some of those tools.

Q. If we could just go to paragraph 113, you say at the beginning there, in the second sentence:

> *There are opportunities for greater linkages between the delivery arm of NSW Health and the innovation arm ...*

Can you clarify what you mean by those two arms?
A. I really mean between ACI and local health districts and local hospitals. We need to continue to strengthen that relationship and that collaboration. You know, there's no point in having a central agency doing all of that work, assessing what's emerging in the literature, what's emerging in different clinical settings, and then not have a system based approach to ensure that it translates into clinical practice, you know, and therefore, I think we need to further that linkage through different ways, and that's really a commitment that we have.

Q. But there is already a lot of innovation happening at a district level. It's not all coming from ACI, is it?
A. Absolutely, absolutely.

Q. You talk also about no jurisdiction having fully achieved this. Are there other jurisdictions you're aware of that are doing it better that we can learn from?
A. There are some that I would consider gold standard, some American HMOs, for example, that really have been able to fully integrate a lot of their innovation ecosystem with their delivery arms. I think that we sit in a good place at the moment in New South Wales and we can build on that platform, but we're not achieving the level that some of those systems are achieving at the moment.

Q. Did I hear you say HMOs?
A. HMOs, or other types of organisations in the US, some systems in Canada as well. There are European systems where they've established quite embedded innovation processes. We're scanning those to be informed by them and learn from them, either through our international expert advisory group or through the international scanning that we do otherwise.

Q. And by "HMO" do you mean health maintenance organisation?
A. Yes.

Q. In 113a, in subparagraph a there, you refer to ABF as being a barrier. But ABF is not actually an impediment to change, is it? Would it be fair to say there's nothing to stop a district adopting a model of care that's more efficient, even if it doesn't translate to counting towards hospital based activity?
A. That's correct. There's nothing that stops districts from doing this, and there's even ways within the National Health Reform Agreement that would allow for some of those innovative models to be delivered, explored and funded. I think that a lot of it is because of culture and habit and at times people take for granted that the new model will disrupt things and therefore it's perceived as not being supported by the current funding model.

Q. So it's a perception that's out in the system --
A. At times.

Q. -- is that correct?
A. At times it is.

Q. You talk about blended reimbursement approaches. Can you explain what you mean by that?
A. Yeah. So blended reimbursement approaches are when you start to combine funding that comes per capita, for example - you know, number of patients within a certain roster. A certain amount would come from activity, where if you give more vaccines, you get paid for those vaccines. Some of it is block funding and, of course, block funding is already present in NSW Health, but we need to find a way to use it strategically for the purpose of innovation. And at times also there could be other funding models or reimbursement models that are based on outcomes, for example.

So blended models are really models where you use outcome based, activity based, capitation models as well as block funding to provide a flexible approach to clinical settings so that they make the decision based on the patient's needs, not so much, you know, just to produce more services.

Q. Let's scroll down to subparagraph e.
A. Did you say e, sorry?

Q. Yes, e for "echo"?
A. Thanks.

Q. You talk there about greater rationalisation of the vast numbers of local models in the second-last line there. How does ACI plan to achieve that given the extent that you've highlighted of the variation in uptake and districts doing their own thing?
A. So the first thing is that we've started to revise our own internal processes to develop those models of care and those clinical practice guides. We're talking about hundreds of models that we need to keep current, keep up to date, and therefore, we needed to ensure that we had a systematic approach internally first, to make sure that people would believe that our models are always, you know, current, valid and should be used, and we're implementing at the moment those approaches.

We're also reducing our own burden by collaborating with other states and we've established collaborative platforms that enable us to do that. We actually led the establishment of those platforms and I've been the chair of some of those committees for a while.

And then we need to discuss and engage in a conversation with local districts about the reasons why sometimes they develop their own models or want to replicate some of the work that we've done so that we better understand the drivers and then we can collectively find solutions.

I think the reality around the world is that many organisations are now struggling to maintain those guidelines, because we've covered the various clinical areas and now it's coming back at us because, you know, some of them are five years old, we need to update them. This is putting a pressure on organisations that in reality should be looking at the future, innovation, and now we're caught at revising what in reality is standardising care, and for us that's not the right balance. We need more time for innovation and to reduce the impost of maintaining - the maintenance of those standards, and to be informed by that, we've also been active participants in some international groups that are looking at different ways to generate evidence and generate guidelines, as well as national groups that do so, such as the evidence task force that is led at a national level.

Those are the different ways we've put together to

make sure that we've got best practice in that space and can, you know, rebalance our efforts towards innovation and a bit less towards standardisation.

Q. If we scroll down, please, to subparagraph h, this refers to streamlining decision-making in government and improving links with other government bodies. I want to ask you about a scenario that's a bit closer to home than the big sort of enterprise investment and trade, et cetera.

We heard evidence last week from the chief executive of a local health district that suggested that the ACI clinical networks should be more involved in providing advice before state contracts are negotiated for clinical products.

We then heard from the chief executive of HealthShare NSW, who said that technical evaluation committees will decide if advice is needed from ACI when they're considering entering into a state contract for a clinical product, so that the ACI may or may not be involved depending on what the product is.

Then subsequently we heard from the chief procurement officer who said that the ACI has a role in monitoring the patient outcomes that are related to clinical products that have been procured under state contract. So those are, if you like, three slightly contrasting views in terms of ACI's role, but all highlighting where they see ACI either should or does play a role.

So how would you describe the ACI's role in procurement of clinical products on statewide contracts that are negotiated by HealthShare?
A. By HealthShare?

Q. Yes.
A. So currently, our involvement is through providing clinical advice in specific areas when, you know, we have to, for example, provide contracts that would impact on our surgeons in the state or when they're contracting devices or instruments that, you know, would have an impact on clinical care. What we do is that we either mobilise a network or we identify clinicians, you know, to be part of those assessment committees, and inform their processes from the clinical perspective, okay?

So far, every time we were asked, we provided that support. We've had significant work with HealthShare in the surgical space. We have significant involvement with HealthShare in other areas that relate to disability and the types of procurement that need to be done for people living with disability that may need support - nutrition, you know, many areas where there are interventions that really would relate to what is being procured.

We're not involved in pharmaceutical, which is really under the remit of the Clinical Excellence Commission. And at times what we've done also is to do evidence reviews to really understand also what are the current practices internationally with regards to procurement for some of those and what is the level of evidence about the risks or benefits of changing some of those procurement approaches.

You know, you may want to go to more or less options for certain types of clinicians as part of, you know, the list of products available in the system, and it needs to be based on evidence.

So, so far, this is really the way we have supported HealthShare in its work.

Q. So, to be clear, that's on an as-needs basis when you are asked for advice. Do you ever offer up advice on some sort of clinical area that you're working on to make HealthShare aware of something so that if they're looking at state contracts, they can take that advice into account?
A. I would say this is not an area where we have had proactive work ongoing to be able to, you know, proactively alert them of this, apart from if there's clearly the emergence of a new technology, a new prosthesis, et cetera, then our clinicians are alerting us that, you know, "This is coming", and then we inform HealthShare about that, providing the advice ahead of time. But it remains an ad hoc perspective because it really depends on our clinicians identifying those emerging innovations as having an impact on potential procurement activities.

Q. Do you think that ACI should take a more consistent role in terms of being involved routinely rather than ad hoc?
A. I think that that's something we could explore. There's obviously work implications and potential reorientation or reprioritisation of some of the work, if

we were to do this on a more systematic basis, but that's something that we could explore in discussions with HealthShare and other partners.

Q. In terms of the monitoring function, once a statewide contract is in place, how does ACI monitor the effects of the clinical products that are being procured this way?
A. So I would say that it does that in an indirect way. We're not the organisation in charge of, you know, post marketing or post commercialisation monitoring. But we do have clinical variation work where - and contribution to clinical registries, for example, where the data that we collect would reflect on changes in outcomes and sometimes it can actually be related to a specific procedure or a specific device that is used in certain clinical areas.

It is limited. It is not systematic, and it really depends on the current measures that are measured as part of those registries or as part of our clinical variation work. But certainly, it's not systematic and it's not for the purpose of alerting the system that, you know, there would be anything wrong with those medical devices. We track outcomes overall to identify needs for innovation. At times, it can be related to specific devices or prostheses, but the purpose is not to monitor, you know, the outcomes of those procurement processes.

Q. And finally, in paragraph 114, your statement ends with the description of the clinical innovation and research division having strong foundation but identifying that there's always room for improvement. Going forward, what are you most optimistic about in terms of innovation for the New South Wales health system?
A. I've written that statement because I'm extremely proud of the work that the teams have done over the last few years through the pandemic, really keeping focus on innovation, keeping focus on identifying new ways to work, engaging with very broad and big clinical groups, you know, to ensure that we design things that will harness innovation but in a way that fits with clinical practice and clinical expectations.

I believe that there's going to be ongoing improvements in surgery and value based surgery, and that's really a key priority program for us and we continue to push.

I believe that there's going to be massive disruptions coming out of personalised medicine and we're currently working with our clinical networks so that it's not just a responsibility of the genetic, you know, clinical group, it's really something that will impact other clinical areas as well and they need to pay attention to that.

THE COMMISSIONER: Q. What do you mean by "disruptions"?
A. I mean technologies that will suddenly force people to think differently and will challenge the way we provide care at the moment. You know, how do you link a patient with a specific clinical condition - and they may be the only one in a hospital that year - to connect them with the right treatment that, you know, may be available somewhere else in the system? That's not the way we work at the moment, just to give an example. So personalisation of medicine will have its challenges and we need to work across the different clinical areas and networks to get ready for that.

Q. Is one of those challenges cost?
A. Cost can be a challenge, of course, because some of those technologies are expensive. Sometimes, they are expensive but we need to compare them with the current investments and sometimes lifelong investments, but those lifelong investments, you understand, will be in many different places, many different cost centres, whilst, as a single technology, there may be a single one, and that's a disruption on its own and we need to support the system to make the right arbitration, but also reorganise the way care is planned and delivered so that sometimes we can make those decisions to allocate towards those expensive therapies as well.

DR WATERHOUSE: Commissioner, I have no further questions for Dr Levesque.

THE COMMISSIONER: Thank you, Dr Waterhouse. Mr Gyles?

MR GYLES: No, thank you, Commissioner.

THE COMMISSIONER: All right. Okay. That ends this hearing block, am I right?

MR MUSTON: Subject to one very small technical matter.

MR GLOVER: Just a couple of housekeeping matters to wrap

up, Commissioner. There are some further documents to tender, some of which have been referred to in the evidence. I will hand up a list. They have been given notional markings in the usual way, so I tender those.

THE COMMISSIONER: Yes.

MR GLOVER: In addition, you should have coming to you now a folder that should have been labelled as "Confidential Exhibits".

THE COMMISSIONER: Yes.

MR GLOVER: We seek to tender those and at the same time, there is a proposed order under section 8 of the Special Commissions of Inquiry Act.

THE COMMISSIONER: What does that say?

MR GLOVER: You will see it now. The redacted portions --

THE COMMISSIONER: Is gives me power to do something, does it?

MR GLOVER: It gives you power to make directions limiting or restricting the publication of evidence or documents that are before you.

THE COMMISSIONER: This is all by agreement?

MR GLOVER: It is.

THE COMMISSIONER: All right. Well, I will make the order.

MR GLOVER: Thank you, Commissioner. Nothing further from me.

THE COMMISSIONER: And I will look at the section later. I'm sure it's there. I trust you.

MR GLOVER: It is there. I have read it. It says what I said. You have the power.

THE COMMISSIONER: Excellent. Very good.

So I think, formally, we are adjourning until Monday,

18 March in Wagga Wagga --

MR GLOVER: Correct.

THE COMMISSIONER: -- for the next hearing, subject to giving a bible or taking an affirmation from somebody randomly before that. All right. We will adjourn until then, unless there is anything else. I should say, Professor, thank you very much for your time, it is greatly appreciated.

THE WITNESS: It was a pleasure, thank you.

<THE WITNESS WITHDREW

AT 4.10PM THE COMMISSION WAS ADJOURNED TO MONDAY, 18 MARCH 2024 AT 10AM IN WAGGA WAGGA

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