## TRANSCRIPT

# FAMILY AND COMMUNITY DEVELOPMENT COMMITTEE

### Inquiry into perinatal services

Melbourne — 16 October 2017

#### Members

Mr Paul Edbrooke — Chair Ms Chris Couzens
Ms Cindy McLeish — Deputy Chair Ms Maree Edwards
Ms Roma Britnell Mr Bernie Finn
Dr Rachel Carling-Jenkins

#### Witness

Associate Professor Ryan Hodges, interim program director, women's and newborn program, and head of obstetrics and perinatal services, Monash Health.

The CHAIR — I welcome to these public hearings Associate Professor Ryan Hodges, director, Monash women's and newborn, head of obstetrics and head of perinatal services, from the Monash Medical Centre, or Monash Health. Thank you for attending here today. All evidence taken by the committee at this hearing is protected by parliamentary privilege as provided by the Constitution Act 1975 and is subject to the provisions of the Parliamentary Committees Act 2003 and other relevant legislation. Any commentary you make outside the hearing will not be afforded such privilege. It is a contempt of Parliament to provide false evidence. These proceedings will be recorded and you will be sent a proof copy of the transcript.

Now that that is out of the way, welcome. I invite you to make a 10–15 minute statement, followed up by some questions, if that is all right.

#### Visual presentation.

Assoc. Prof. HODGES — Thank you very much, and thank you for the invitation to present this morning. I will begin by just describing maternity services within Monash Health. We operate within an integrated service delivery model essentially across three sites. We have Casey Hospital, Dandenong Hospital and our tertiary facility at Monash Medical Centre. Monash Women's provides one of the largest maternity services in Victoria, with around 9000 women giving birth to over 9000 babies in 2016. Our operation really is around community partnerships in primary care that then stream through coordinated and individualised care services in our secondary and tertiary expertise. Around one in nine Victorian babies are indeed Monash babies.

I just want to walk you through our three services at Monash Medical Centre, Casey and Dandenong. The Monash Medical Centre is, as I mentioned, our tertiary site, seeing around 5000 births in 2016. It is a level 6 hospital, and we really do specialise in caring for some of the most complex pregnancies in the state of Victoria. So these are rare fetal issues, rare maternal health conditions, and we have our neonatal intensive care unit within Monash Children's. So we can partner with our intensive care unit, Monash Heart, or our coronary care unit, and neonatal surgery, and we also work with our collaborators and partners at the Royal Women's and Mercy hospitals in the Victorian Fetal Therapy Service, in which I am one of the fetal surgeons, and we provide fetal surgery for women of Victoria and Tasmania at Monash Health.

Within Casey Hospital, which is one of our secondary care hospitals, we look after moderate-risk pregnancies. We are very proud of our homebirth program that runs out of Casey Hospital. We have Dandenong Hospital, which really has a different community group: we see more social disadvantage, a lower socio-economic group, challenges with refugee health and so on, and we care for around 2600 births per year.

Our purpose at Monash Women's is to transform the lives of women and their newborn for a life of health and opportunity. What is unique about our care is that we offer a single point of access and then we align our models of care regardless of which site you are at. So of course you will be streamed into the high-risk service at Monash Medical Centre if required, but regardless of where you end up, our principles are the same: we want our women and families as partners in care with us; we try to provide care close to home; we want to keep mothers and babies together; we focus on continuity of care with our models of care; we use multidisciplinary collaborative teams, even within our high-risk pregnancy service; a full scope of practice; we are educators for medical and midwifery and allied health trainees — and I will talk to you a bit about our quality and safety and evidence-based care programs; and we want to provide equity across our sites.

Prior to the last six months, where I have moved across to clinical director, I was head of our high-risk obstetric program at Monash Health after returning from overseas. I just really want to walk you through our structures given that much of this inquiry does centre around pre-term birth and high-risk pregnancy.

Within Monash Medical Centre we have clinical teams, so we have dedicated clinics for preterm birth, for multiple pregnancies, for infectious disease, for endocrinology — so all of the subspecialties — then within our perinatal services we have tertiary-level obstetric ultrasound for babies with fetal abnormalities and a maternal-fetal medicine service, as I said, for some of the highest risk pregnancies, particularly women with cardiac disease because of Monash Heart, that is onsite.

We then have our fetal monitoring unit, which is largely a midwifery-run unit that originated actually in the Queen Victoria Hospital days, which has really begun much of the early education for midwifery and for obstetricians. I am very comfortable saying that the expert group of midwifery that we have in our fetal monitoring units have saved many babies because of the advice and service that they give to obstetricians in the

community. It is something we are very, very proud of. The challenge for us now is how to best integrate this into Dandenong and Casey hospitals and into our regional partners.

We also partner with the university at Monash, the Hudson Institute of Medical Research, the Ritchie Centre, and our Monash Health Translation Precinct, which is all integrated within our high-risk service.

I just want to showcase some of our high-risk patients before I talk about some of the challenges that we have in how we provide services to all women. These are all on the public record, published in the *Herald Sun* or shown on *60 Minutes*. In the top left is a lady who had a cancer in pregnancy. She had severe heart disease in pregnancy, and had a long run of infertility. The day before her scheduled caesarean section, because of severe heart disease, she collapsed at home, she was rushed into hospital at Monash Health, she went to surgery, her chest was opened, her uterus was opened, the baby was saved, and her heart was repaired; she went to intensive care, had a stroke, a neurologist then cared for her, and she went home alive and healthy. These are some of the things we can do.

Here is a baby at 25 weeks, 800 grams, born preterm, born early, who is now home in Langwarrin. Here is a mother having chemotherapy because of metastatic breast cancer. Then there is a patient of mine with my colleagues at Monash Health. This is a baby who was in heart failure at 25 weeks due to a very rare lung condition and who we operated on in utero, who then survived, was then in distress at birth, had emergency surgery at birth and is now home and thriving. So these are some of the stories in our high-risk pregnancy service that really show what we can do.

But the real challenge for me, as I have now stepped across to clinical director, is how we get that expertise and that service to 9000 women. That is our real challenge. Here are some of the steps that we have begun to integrate. In 2007 we introduced this central bookings and triage service, as I indicated, so a single point of access for all women. We then developed a capacity management escalation procedure. In 2010 we introduced our homebirthing service at Casey. We introduced multidisciplinary team-based care so that all of our pregnancy care is within teams, so that is multidisciplinary and integrated. We have now begun to increase our number of births and care at Casey, because clearly that is the growth corridor in the south-east of Melbourne. We have then expanded and consolidated our public clinics at Dandenong Hospital and brought them out of some of the private practices and back into the hospital where we can have greater oversight for quality and safety.

Underpinning this at our program level is what we believe is a robust clinical governance framework within newborn gynaecology and maternity. This is largely centred around the Safer Care Victoria perinatal services performance indicators. We have dedicated groups with our dashboards that are centred around accountability and transparency where we review the data regularly, multidisciplinary team engagement, so that we can be constantly striving for best practice. I want to give you an example of that. Here is a complex graph that I will walk you through, because it is an important one.

This is published by Safer Care Victoria every year. It is a good summary graph as to the performance of our hospital services in Victoria. Essentially you want to be on the bottom left, so if you are in the bottom left that means you are better able to detect small babies. Small babies are those that are starving and at risk of stillbirth. If you are in the bottom left, these are babies that are born with better Apgar scores. They are born healthier; they are better able to breathe and transition to air breathing. Then the smaller the circle, the lower your perinatal mortality rate, so these are less stillbirths, less babies dying in the nursery.

At Casey Hospital in 2012–13 you can see that we were not where we wanted to be, and in 2013–14 we were starting to become an outlier. We then put in place all of that clinical governance framework that I have just taken you through and we started to see improvement in 2014–15, and then we were really pleased to see in 2015–16 we are where we want to be in the bottom left. These are more babies who were detected as small and transferred through to our tertiary site for individualised care. These are babies healthier when they are born, going home with mums and dads, and of course importantly, less stillbirths and less early neonatal deaths. It is something we are proud of, and we have achieved this through our team-based structure of midwives working with doctors, midwives and doctors reviewing cases and working with our patients and finding out what they want and listening to their voice.

Investing in workforce training is clearly critical to that success and to our ambitions in the future. We have a director of training who oversees obstetrics and gynaecology, and a director of training for our neonatology

fellows. We train more than 120 junior medical staff in our program every year. This is a large number of trainees that we have to get trained for the future service. This is across all disciplines, so from maternal foetal medicine, our high-risk obstetric service, to our tertiary ultrasound service to reproductive endocrinology and so on, also partnering with our general practitioners to ensure that they are well trained as they enter into the community, and then our neonatology fellows. But of course there are challenges here in how we can train this large number of trainees, ensuring that we work with RANZCOG and the college of physicians to ensure that they are indeed competent.

Then with midwifery, you will see in our submission we have detailed our undergraduate, postgraduate and graduate programs. There are obviously real challenges in midwifery that I am sure you will hear from other presenters. The experience and competency can vary within the midwifery workforce and the challenge for us, as we have our three sites, is to ensure that with the clinical exposure at Casey Hospital, Dandenong and Monash — at Monash we are seeing the highest risk mothers in Victoria — we get equity of training across our three sites. We want to make sure that the opportunities, particularly for our undergraduate midwives as they begin their training with us, are that they can rotate through those services and through those programs. My midwifery colleagues inform me of an employment model which they wish to further engage in.

Collaborative learning is key, so again doctors working with midwives. We have one program that we are very proud of called our cyber-medical ward round, which is where doctors and midwives work together on a ward round. It is at the patient's door, even as the woman is in labour, where the team very carefully steps in and talks to the woman, sometimes in between contractions, to get her voice, to get her expectations for birthing so we can all work together and partner with our patients. But there are clearly future service challenges that I am sure you will be aware of. We have begun some modelling for the future and within the next 10 years Monash Health is going to care for over 12 000 women. That is a lot of women. Monash Medical Centre is going to increase by 25 per cent to over 6000 births and Casey is going to increase by 80 per cent to around 3800 births.

Clearly planning is going to be imperative in order for us to provide best practice to our patients. If you look at our current capacity, particularly in the top left graph here, you can see that at Monash Medical Centre in Clayton we are well above our target of 260 births per month. That has been consistent now for some time. Dandenong bounces around a little bit, but at Casey you can see there where we have increased our target in order to try and accommodate the growing population and the young families that are all moving through the Casey region. Monash Health as a total is running over capacity and so there are real challenges for our workforce.

A statistic to try to understand this is the number of births per birth suite bed. At Monash Medical Centre it is around 520 births per birth suite bed per year, with a Victorian state average of around 370, and the *Australasian Health Facility Guidelines* maximum of around 365. These are particular challenges that we have in caring for our women in the birth suite and then on to our postnatal ward and then getting them home safely.

As a clinician this is one of the most important slides because this is the future. The future is around a proactive assessment of obstetric risk. Actually it is the early beginnings of pregnancy that are going to be the key. Antenatal care is largely designed from England in the early 1900s, which was where women either miscarried or they did not, and if they did not miscarry the pregnancy continued and then you were trying to catch up with them at the end of pregnancy on the lookout for high blood pressure and planning for birth. It has all changed now. We need to see women early in pregnancy — at 10 weeks to 12 weeks. We have genetic screening that is available at 10 weeks. We have an ultrasound scan at 12 weeks, which has a high detection for foetal abnormalities. We now know if we combine blood tests with an ultrasound at 12 weeks we have a very high chance of working out which women are going to have pre-eclampsia, one of the leading causes of maternal morbidity, mortality and stillbirth. We can reduce her risk by half if we commence low-dose aspirin, a cheap drug, something that is given to the elderly for heart disease. We can do it in early pregnancy. It is safe, it is best practice, but we have to see them by 12 weeks. We see one in five women by 12 weeks in the first trimester. This is a real challenge for us.

**Ms McLEISH** — Across the state or is that at Monash?

**Assoc. Prof. HODGES** — Yes, across the state. If you look then at that time point, you can then start to triage women. Are they indeed high risk? Do they need specialist services or are they low risk and can they be supported in the community? Can we get women out of hospital and into general practice, into independent midwifery that is well supported? Then we bring them back towards the end of pregnancy and we begin

modelling then for delivery planning. What are their chances of Caesarean section? What are their chances of birth trauma? What can we do to optimise the health of the baby at birth? This is the future of obstetric care and this is the space that our service really needs to begin our modelling for.

We begin to have this discussion. I will not take you through the detail here, but we are investigating what are our future infrastructure requirements. We are going to need a Monash Medical Centre with a near doubling of the birth suite capacity, which is clear based on that statistic. We need to reinvest in our postnatal wards and a foetal care centre with a pregnancy loss centre.

In summary, Monash Women's provides one of the largest maternity services in Victoria in one of the fastest growing populations in Melbourne due to a high birth rate and young families. But we are unique in that we can provide health care at multiple sites and across the healthcare continuum of primary, secondary and tertiary care within our integrated service model. We do care for some of the highest risk pregnancies due to our general hospital, which provides intensive care, coronary care and the largest newborn services within Monash Children's.

Our clinical challenges are met through robust quality and safety frameworks and investment in our medical and midwifery workforce. Future service planning is now underway to address demand, with current capacity insufficient to service the forecast birth numbers.

**The CHAIR** — Thanks, Ryan. Are you happy to give us a copy of that presentation?

**Assoc. Prof. HODGES** — Yes, of course. Absolutely.

**The CHAIR** — I have got a couple of questions. Thank you for the presentation. The first question is: in your opinion how do we go about increasing that figure from one in five people accessing this kind of service before 12 weeks?

Assoc. Prof. HODGES — Yes, I think it is key. It is a priority we have identified at Monash Health because I think it is unacceptable. I think one of the first things is we really need to engage general practice. I think that really has to be the first point of call, because with all of this advanced testing that is now available, by the time you reach the hospital you have missed the boat, and women are then having secondary level testing, which is just nowhere near as good. I think it is just education of general practice and it is providing better general practice and access to general practice and through midwifery in the community. I think it has to be driven by community first.

**The CHAIR** — In your opinion would some people be educated about this but then not access it because it costs more money or it is not available through Medicare?

Assoc. Prof. HODGES — Yes, indeed. So that is a really important point. If you look at the best prenatal screening — it is called NIPT, which is non-invasive prenatal testing — it is just a simple blood test so it is of no risk to the baby because you are not having invasive diagnostic testing with needles and so on. It is just a simple blood test with a 99 per cent detection rate of Down syndrome and the three next most common aneuploidies, but the cost is over \$400 with no Medicare rebate. It is a real challenge. It is a shame that some women can have access to that, particularly in the private sector, and in the public sector they wait for the test that we offer at Monash Health, which is a Medicare rebate and which is around 15 to 16 weeks. It will pick up about 80 per cent of Down syndrome babies, for example, and we are very, very late into the pregnancy at that point. It is a shame that women are offered that test and not best practice.

**The CHAIR** — Also just another question: are the state's neonatal care units, in your opinion, adequately resourced to meet demand?

**Assoc. Prof. HODGES** — I think that is a particular challenge. At Monash Health our nursery is one of the largest. It is slightly different to the Women's and the Mercy because it also offers neonatal surgery through Monash Children's. The two surgical centres are at Monash and at the Royal Children's. There are some differences with our nursery, and we always need to have capacity to be able to offer and care for surgical babies.

**Ms BRITNELL** — You mentioned training. Do you think we are actually training enough obstetricians and gynaecologists in the state of Victoria to meet the needs that you have talked about with the growth?

Assoc. Prof. HODGES — Yes, I think we are. Certainly it has expanded a lot since I was trained. In my year there were four of us at Monash, and now we are much, much greater than that. I think one of the challenges is then, once you complete your training, how do we then encourage our obstetricians out of metropolitan private practice and then into the service, into the areas of need? I think that is one of the real challenges, particularly for me. How do I get some of the best obstetricians out to Casey and to our regional partners? I think there is an abundance of obstetricians here in metropolitan Melbourne. I think the challenge is: how do we get that workforce out to the areas of need?

**Ms BRITNELL** — Do you believe the perinatal services are being managed and delivered well in regional Victoria?

**Assoc. Prof. HODGES** — Yes, I do. We have some excellent relationships with our regional partners, but I think that could be formalised. A good example of that would be through telemedicine or telehealth. I think that is something that we should be really invested in. For example, I did my high-risk training in Canada, and we had a regular service where we would conduct essentially a clinic for regional partners and we would be meeting patients and obstetricians all throughout various provinces and providing expertise and ongoing care. It was such a good service, and that is something that we are not doing at Monash Health but something that we would want to.

**Ms BRITNELL** — We heard in another hearing about the challenges from an IT perspective, communication between specialists and the regions in rural areas and timing and within the hospital systems themselves, between private and public. Do you face those challenges as well with IT?

**Assoc. Prof. HODGES** — Yes. IT is certainly a challenge. At Monash Health we are just beginning a journey to develop a fully integrated EMR at the moment. It is obviously imperative that we get that right. When I was in Canada I saw some of the challenges as an EMR was introduced. I think the benefits of the EMR will certainly be very helpful, but it is not a guaranteed solution, I might add.

**Ms BRITNELL** — I do not know what an EMR is, and I do not need to, but is it something that Monash needs to do or is it something that Victoria needs to do?

**Assoc. Prof. HODGES** — EMR is electronic medical records — sorry, my apologies. As opposed to pen and paper documentation and then scanning in, we need to have an electronic record that everybody can access regardless as to where you are.

**Ms BRITNELL** — Is Monash doing that?

**Assoc. Prof. HODGES** — Yes, they are.

**Ms BRITNELL** — So is that sensible that we have that in systems like Monash that does this but is not relevant to, say, western Victoria?

**Assoc. Prof. HODGES** — No, I think it is certainly relevant. A good example of where an electronic record can work is if I am an on-call obstetrician at home — this happened to me a couple of weeks ago — and I get a call from a midwife who is caring for a patient and says, 'The baby's heart rate is a bit funny. I'm not quite sure what it looks like,' I can then just log in through my computer, through my iPhone, and in real time I can then view the fetal heart rate, and I can then comment. In this case I got in the car. So I think that is a really good example as to how an integrated system can work.

**Ms BRITNELL** — My question — I am sorry; I am not getting it clear — is: should it be Victorian-based or should it be system-based within the hospitals that you work in. Should it be right across —

**Assoc. Prof. HODGES** — I see what you mean; sorry. I think it is probably within the hospital because, for that example I have given you, there will be some issues there for patient privacy and so on. I think if you are the individual caregiver, you would probably log in within your service to identify that particular patient. I am not sure how in other settings you would need to be logging in to view individual patients at that point. I would have to give that one more thought.

**Ms BRITNELL** — I am interested in one of the slides you put up about the benchmarking in perinatal care. Was that a study that you had been involved with or was that a Victorian study? I noticed that South West Healthcare was not mentioned but Ballarat and other western Victorian ones were, and I wondered why.

**Assoc. Prof. HODGES** — The diagram with Casey Hospital that I showed?

Ms BRITNELL — No, the data on the benchmarking.

Ms McLEISH — The four corners?

**Assoc. Prof. HODGES** — The four quadrants?

Ms BRITNELL — Yes.

**Assoc. Prof. HODGES** — That is through Safer Care Victoria. It should cover all health services, all maternity services.

**The CHAIR** — That is interesting.

**Ms McLEISH** — Thank you, Ryan, for coming in today. You mentioned earlier about your experiences in Canada and you gave a couple of examples of the things that are happening there. What else is happening overseas that you know that is not happening here?

**Assoc. Prof. HODGES** — I did my high-risk training in both Belgium and Canada. In Belgium I went to Eurofetus, which is Europe's largest referral centre for fetal therapy and surgery. If we take the Belgian example first, I think it is about developing absolute expertise in rare conditions, so there is a central place where patients can then be referred to — patients all over the world, all over Europe, from Russia, from South Africa, all to this one little centre in Leuven, a little town outside of Brussels. That was just an epicentre of excellence in this particular field, and fellows came from all over the world to train under Professor Deprest.

I think that is one example as to how, particularly with rare conditions, that expertise can certainly be translated and it ensures training and research. We do that quite well here in Melbourne, I might add, with the collaboration I mentioned between the Royal Women's, the Mercy and Monash. We have around two or so surgeons from each hospital. Cases then come to each hospital. They are worked up at that individual hospital. The team then meet together to discuss the appropriateness of surgery or otherwise. The surgery is then performed at one location. We then review all of our outcomes and so on. So that is I think a really good model of the three tertiary centres all coming together. We probably need to do that more, I think, for other conditions because it is a really good model of success.

In Canada they do structure it a little bit differently, such that the tertiary centres tend to have spots of expertise. Mount Sinai Hospital, where I trained, was the province's centre for heart disease, so all women with heart disease in pregnancy came to this one centre. In an outpatient clinic we could see in one clinic up to 100 women in one clinic with heart disease in pregnancy. You really develop this absolute expertise. But one of the challenges of that is what happens if the woman with heart disease goes into labour a little bit early and attends a local hospital? How do you get that training to the other care providers to make sure that they are across it as well? So there are pros and cons of that model.

Ms McLEISH — I guess that leads nicely into my second question. You mentioned earlier too about advice that your clinicians have given to obstetricians in the community and that they have saved a whole bunch of babies through that. What sort of advice is it and how does that work? Are you seen as a call centre where someone, an obstetrician, can ring in and say, 'Hey, listen. This is what's happening here'?

**Assoc. Prof. HODGES** — It is not formalised, but it should be, and that is something that we are working towards. The fetal monitoring unit at Monash is, as I said, largely midwifery run, and they have developed the national textbook, if you like, on fetal heart rate tracing that is endorsed by RANZCOG. A lot of our midwifery educators travel the country to educate both midwives and doctors — obstetricians, general practitioners — in how best to interpret the fetal heart rate during labour. It is just through reputation that a lot of doctors in the community tend to call our group for advice, but I think formalising that is a really important service, or next step.

**Ms McLEISH** — I have got a very quick final question. You mentioned the importance of people who are 12 weeks pregnant having advanced testing, screening. How many people do you think do not know that they are pregnant by that point?

**Assoc. Prof. HODGES** — That is certainly a problem. It is a particular problem for women with English not as their first language. How do we get that awareness out there that these tests are available early and that this is best practice? That is a real challenge.

Ms McLEISH — Is that because in their countries they might not go to the doctor until —

**Assoc. Prof. HODGES** — Yes. There is a whole raft of possibilities there as to what are the obstacles to accessing care. I think there are a whole host of different reasons there.

**Dr CARLING-JENKINS** — Thank you very much for coming in, Ryan; I really appreciate your time. I am really fascinated with the fetal therapy and surgery area and the advances in this area. It just seems to me to be quite amazing. How many fetal surgeries would you be doing in a year and what kind of common types are you seeing?

**Assoc. Prof. HODGES** — The collaboration between the Women's, the Mercy and Monash is predominantly around laser-based surgery for twin-twin transfusion syndrome. This is a condition that occurs only in identical twins where they share one placenta, and within that one placenta they are connected by blood vessels and one baby donates its blood into the other. Essentially we need to disconnect them. Without that procedure the loss rate of both babies is greater than 90 per cent.

#### **Dr CARLING-JENKINS** — Ninety per cent.

Assoc. Prof. HODGES — Yes. Essentially once you are diagnosed with this condition — the most common time is around 20 weeks of pregnancy — without laser surgery, usually you would lose both babies. We would perform laser surgery about 10 to 15 times per year, and that is for Victoria and Tasmania. It is just the tip of the iceberg. Most of these cases are not diagnosed. One of the challenges for these high-risk pregnancies — they are called monochorionic, so one placenta twin pregnancies — is they need to have ultrasound scans every two weeks from 12 weeks, because it can just develop like this. We know that when they are identified early, and if there is an early opportunity for treatment, we have very good outcomes. This is a real challenge. We write our guidelines. We have just published recently. At Monash we looked at the women who had attended, who had had the two-weekly scans, and then we looked at the women who had not, and that was a clear difference in outcome between those who had earlier scans and those who had not. But getting that message out to the community is challenging, and how we fund that. At Monash we commit to it, absolutely. Any woman with a monochorionic twin pregnancy who we see, we will provide all of those ultrasound scans, but it is a challenge.

**Dr CARLING-JENKINS** — And they are picked up in that 12-week initial scan?

**Assoc. Prof. HODGES** — Yes, at the 12-week mark you can do some risk factors, but it usually develops around 20 weeks. Once you reach 16 weeks, then every two weeks you want to be watching, with the optimum time of surgery around the 20-week mark. But even with surgery, we usually only get around 10 weeks from the time of surgery to birth, so we are still having preterm babies around 30 weeks gestation. There is still, unfortunately, a risk of neurodevelopmental disability that can occur, so we need fetal MRI scans to examine the babies before birth and after birth. Fetal MRIs are not funded. There are a lot of challenges for this group, but it is such an important group.

**Dr CARLING-JENKINS** — Sure. So if you are picking up 10 to 15 cases, how many more do you think are out there that you are not picking up?

**Assoc. Prof. HODGES** — If women are not having access to fortnightly ultrasound scans, we are missing them and they will be essentially miscarriages —

**Dr CARLING-JENKINS** — And they will be miscarrying twins.

**Assoc. Prof. HODGES** — and we do not necessarily know about it. We know that twin pregnancies are at a higher risk of miscarriage, but if people have not identified that these are monochorionic twins and then are not

having their two-weekly scans, they could miscarry and no-one will ask the question, 'Was that twin-twin transfusion syndrome?'.

**Dr CARLING-JENKINS** — Right. So there is so much unknown still?

**Assoc. Prof. HODGES** — So much unknown still.

**Dr CARLING-JENKINS** — Goodness! I also noticed with one of your anecdotal babies, 25 weeks — that is quite amazing. What is your assessment around viability of such premature babies? Is that usually around 24–25 weeks?

Assoc. Prof. HODGES — Yes. We would aim to see all women at risk of preterm birth at 23 weeks. That would be the time where we would like to have counselling. Usually viability would start at 24 weeks and we would have an expectation of good long-term outcomes from 25 weeks and beyond. But I have to make a very important point here that the counselling needs to be individualised. If you look at the causes of preterm birth, there is a large variety of causes. Some babies are growth restricted, for example, so it is not just gestational age, it is also birth weight and it is also the sex of the baby: we know that girls do better than boys. Then what is the mother's health. Are there any other comorbidities? So it is quite complex. But for any woman who is at risk of preterm birth, we think we would rather our experts give counselling to those couples, so we would see them at 23 weeks, 24 weeks, of course.

**Dr CARLING-JENKINS** — Great; thank you. Just to change tack a little bit for my last question, I noticed in your submission the consideration of an apprenticeship model for midwives, which I thought was quite fascinating. Can you just talk us through that in a little bit more detail around the perceived benefits of that and what it would look like?

**Assoc. Prof. HODGES** — I am sure the committee well knows that there are challenges to the midwifery workforce. It is hard to get midwives. We are struggling particularly at Casey Hospital. We are down —

**Dr CARLING-JENKINS** — It is hard to get the hours, I understand.

**Assoc. Prof. HODGES** — Yes, it is very hard. Then we use an agency or we are then using overtime, so we are exceeding our budgets. It is a particular challenge. Then we hear from our graduate midwives in particular that we do not want to throw them in the deep end. Particularly at Monash Medical Centre, they are looking after very sick women with complex healthcare needs. So that is where this idea has come up about how best to prepare particularly our graduates for complex practice within Monash Medical Centre, and that is where some of that work is beginning now.

**Dr CARLING-JENKINS** — Excellent. Where do you think that is up to? Do you think that is a possibility in the near future, or is that a longer term —

**Assoc. Prof. HODGES** — I would hope near future.

**Dr CARLING-JENKINS** — Excellent. Is that dependent on funding as well?

**Assoc. Prof. HODGES** — Funding, and I think we are still working up the models.

**Dr CARLING-JENKINS** — Okay; great. Thank you very much, Ryan; I appreciate your time.

**Ms McLEISH** — Earlier you mentioned that you trained 120 junior medical staff every year. Where do they end up? Do you do follow-throughs to know whether they remain working in that field or are they more generalists that go off just as part of a placement?

**Assoc. Prof. HODGES** — That is just within obstetrics and gynaecology and neonatology. Our expectation would be, except for the general practitioners, that all of those would essentially remain within women's health. There is a small number of what we call unaccredited residents or registrars, so these are doctors who are not yet in college-based training. But the majority of those are in the pathway trying to reach an accredited position, so they usually stay in the system until they are accepted by the college. I would say all of those will stay within women's health.

**The CHAIR** — Thanks, Ryan. We very much appreciate your time today. We know you are a very busy man, and we will let you get back to saving lives. Thank you so much for your time.

**Assoc. Prof. HODGES** — A pleasure.

Witness withdrew.