The future of healthcare productivity

Webinar transcript

Jason McDonald: The head of the competition Task Force and the Treasury and we've got Catherine de Fontenay, who's the Commissioner at the Productivity Commission responsible for these two fabulous reports into healthcare.

I'd like to start by acknowledging the traditional owners of the land on which we all meet today and pay my respects to their elders, both past and present. And I'm on the land of the Ngunnawal people myself here in Canberra now.

Catherine, I don't know what a perhaps I should start by saying congratulations on two really great reports to you and the team I had a lot of fun reading them. Now that Shogun had finished, I had I had something else to do with my time and it was really great to get into the reports.

Maybe we should start off with the with the first one about measuring productivity in healthcare. I don't know if you want to give a sort of a quick overview of what it says and then we can get into some of the questions that I've got for it, and I'd like to hear perhaps from others at the end of this webinar.

Catherine de Fontenay: Sure, that'd be great. So, this is a report on measuring productivity in healthcare, the normal way that we do that is to measure services.

So, for instance, a GP visit, a hospital stay and to look at what's been happening in the productivity of the delivery of those services. So that productivity ends up being nearly zero because really it can only improve when costs go way down for a GP visit or a hospital stay, for example. What we've done instead is we've said, well, what the what the health system is trying to produce is health.

And so, let's instead take a look at a patient centric approach. Let's look at a patient who has lung cancer, for example, and look at what are the outcomes and how much did it cost to deliver those outcomes and are those outcomes improving.

So it allows us to take into account two important things. First of all, we're getting more productive if people are having better outcomes. And we found that they are there. There have been big improvements in life expectancy after treatment.

And secondly, it allows us to take into account the fact that we might be shifting care to lower cost settings. So, if we move something out of the hospital into the home or out of the hospital into primary care, that's going to save a lot, and if we can do that while getting similar outcomes, that's a big productivity gain.

So those are two forms of productivity gain that we can capture that you can't capture with the normal methods. And what we find is that from 2011 to 2018, a time by which we had measured

productivity gain of about 1% per year using these older methods. We have productivity gain of about 3% per year, so that's really exciting and that's mainly in the form of better life expectancy and to a lesser extent better quality of life for people who have these diseases.

Jason McDonald: So, I mean in context of the productivity in the market sector, which is you know, trending around 0 or a little bit above 0 at the moment, 3% is quite incredible. And this is not this is just something that's been happening. We haven't properly seen or properly measured, right.

Catherine de Fontenay: Correct.

Jason McDonald: How do you reconcile such strong productivity growth in this part of the non-market sector, when you've got such low productivity growth in in the market sector?

Catherine de Fontenay: No, that's a really good question. I would probably agree with you that there's some unmeasured quality improvements in the market sector as well, but it’s not as big of an issue in the market sector because we're selling things for prices and prices are somewhat reflecting the quality of the goods that people are getting.

So, in the non-market sector, these quality adjustments are more important. We think one thing we notice when we look down at the level of individual diseases is we notice that there's a lot of variation.

So, there's big increases in productivity in some areas in particular, cancer treatment over this period, there's less improvements in productivity in areas such as cardiovascular diseases. And so, when you see all this variation and you think about what technological change there's been over this period, it seems most likely that a lot of this is being driven by innovations overseas that we're quickly adopting in Australia.

So new treatment techniques, new medication and new surgical approaches. So, essentially the healthcare system has done a good job of absorbing these sorts of cutting-edge innovations and making sure we're getting the benefit of them.

Jason McDonald: So. With that help. But we were just talking a little bit beforehand about the contrast between US productivity using these measures and Australian productivity, which is, you know, close to the top.

Is one of the reasons that their productivity is measured so low is that they're actually bearing all the capital costs and input costs of developing the ideas, and then we absorb them. Is that one, or is there? Are there other reasons you could see for why they're working you so low?

Catherine de Fontenay: I think that's a small part of it. Yeah, I think I think that's a small part. I think the larger part is that, so Jason's referring to the last part of that report where we compare productivity across countries to see how we rank. Australia comes out about third in, in the sort of large high income. Countries, of which there are about 28 and the US is dead last by a considerable margin.

I think that's because what we're looking at healthcare spending and we're looking at the average life expectancy outcomes of the population controlling for behavioural factors like obesity and smoking and so on. And so, if you think of the US and the inequality that unfortunately exist there - I'm American, as you can tell by my accent - what unfortunately happens is there's relatively good health care for, say, the top 50% of the population, but much less good healthcare for the bottom 50%. And as a result, the average health outcomes are not that great for the amount you're spending. So, you're overspending on one group and under spending on another.

Jason McDonald: So that that's kind of one of the questions I had when you were sort of just trying to adjust for these international comparisons, are you picking up all of the factors or are you making the right attributes about what's happening at the at the outcome to what what the inputs are?

So what you said then seems to be that US inequality is affecting their productivity outcome, but are there hospitals really that less productive because of that?

Catherine de Fontenay: I think it's more a question of access. So, if your access to Healthcare is relatively poor when you're low income then that is going to be reflected in the average health outcomes of the population.

Jason McDonald: OK. Alright, maybe one other question about the QALY itself. So, the quality adjusted life year, that is a subjective measure of quality, isn't it?

Catherine de Fontenay: It is.

Jason McDonald: Like the people have to sort of rank how they fit or feel about certain procedures and certain outcomes and aren't there some, haven’t some economists got some issues about whether your stated preference for something relative to your experience preference, so I think some of the work I've seen is that people might say that if they were quadriplegic, they would give it a certain rating, but then after the if you ask quadriplegic how they feel, then the ratings are different. So, there's difference between stated and experienced wellbeing. oes that cause some problems for the use of the QALY it is a measure of output?**Catherine de Fontenay:** That's an excellent question. I think it does cause some problems for certain areas. So we haven't. We've only done estimates of productivity for about 1/3 of the healthcare sector. I think there's areas such as mental health or back pain where self-reported QALYs are maybe not an ideal, sort of self-reported life satisfaction and self-reported health outcomes are not that good for certain areas. In fact, the team has done this work in using two different data sets, so one is the National Health Survey, where people make respond to questions about their how they're functioning and their wellbeing.

And then we figure out from that what their QALYs are. But the other way they've done it is they've done it using the burden of disease data from the Australian Institute of Health and Welfare and there it's much more of an objective thing.

So, for example, for patients who are suffering with cancer, the question would be, well, how many people are in stage one, stage two, stage 3, stage 4, and then we've made a QALY assessment. We've made an assessment of what are the QALYs that you're experiencing from being in those stages. And that QALY may not be absolutely perfect, but we are measuring a real thing when someone moves from stage 1 to stage two, unfortunately. And so, if we have more patients who are at stage 1 and fewer at stage 4, that's going to be a substantive improvement, even if we haven't got the QALYs perfectly right.

Jason McDonald: So, some questions. About what does it mean for policy? Which is where I'm at. if productivity in healthcare is getting so much better and that's we can take those gains in a couple of ways, we can take it as spending less or we can take it as you know, spending more and enjoying the fruits of longer lives. What do you think it means for the budget if the quality of healthcare is going up and it's enabling me to enjoy my life more and not necessarily true that we're going to have a reduction in budget spending It could mean that this could be something we could spend more on?

Catherine de Fontenay: Yeah, that's absolutely true. It does say that spending on healthcare has gone up and it's gone up faster than GDP. So, we've all been anxious about that. The good news is, is that we've been getting real value for that money that we've been spending in healthcare. So, we can feel a little more relaxed about what we've spent.

However, that obviously can't keep growing forever, so currently spending on health care is about 10% of GDP. It can't become 90% of GDP, right? So, we still do need to address ways to reduce cost. And that's why we wrote this second report, which is about what technologies are out there that might make a real dent on the cost side.

Jason McDonald: Yeah. Or maybe come back to the I love the first report so much, but since you raised this the second report, what are some of the barriers to the take up of new technologies? And you're talking about a costs saving of something like $5 billion a year.

I guess my key question would be why do you have to do a report on it? Why doesn't the system automatically adapt and absorb it and you and we don't have reports on cafes adopting new technology or you know they they've got incentives at the margin to do it. Why do you need this this sort of top-down approach from the PC?

Catherine de Fontenay: That's a great question look, I think anywhere in the non-market sector the incentives are usually less sharp than in the market sector to adopt cost-reducing technologies.

We've also kind of equated hours that we spend on something with quality. So, minutes of care. Number of staff that are on the floor in the hospital and so it becomes very difficult to think of labour saving as an option, even if that's an important way that we save cost.

Jason McDonald: Speaking of labour saving, so we were just talking about a report around at the moment around AI doing better at both diagnosis and empathy, for doctors, some, I think, was for 500 doctors services.

Now admittedly the patients did know that they were being assessed, but if AI is so good at diagnosis and maybe in actually helping doctors express that diagnosis to people. Will we eventually get to the point where not using AI as a sign that your doctor's not doing a good job?

Catherine de Fontenay: I think that's very possible. I think. I think once we build better levels of trust with AI, we'll get to a point where consumers will want to know that the doctor has looked at AI and heard from the AI. That many patients who have these symptoms generally have this condition. They'll want the doctor to have considered the information from the AI. They'll want the doctor to have used AI where appropriate, so possibly transcribing notes from the meeting, possibly searching their records. The AI will get more folded into our normal way of working. But I think in the short term the main thing that's going to do is augment skills that are, it could potentially serve a role where it augments skills.

So, for example, if you think of driving so most drivers of taxis and Ubers now are using predictive software to get you to your destination. That's part of the reason that you're happy to let someone drive you who doesn't have much experience. It could be that nurses and other practitioners are able to do more thanks to AI.

Jason McDonald: Yeah, yeah, that, that is interesting. I mean, it doesn't. What isn't one of the benefits of AI is not only can they have a broad sweep of everything that's happening immediately, but at the they can legitimately report on the cutting edge of healthcare.

When you mention the word, the trust. If my doctor is, say my age in his early 50s and or her early 50s and hasn't has been out of sort of the latest cutting-edge medical profession for a while. I do have trust in them maybe as a person and looking after my interest, and because they, you know, may look like me as a person, but the AI itself might have a level of accuracy and accountability and access to the latest treatment that the doctor themselves may not have. Isn't that a form of trust that you would be missing without AI?

Catherine de Fontenay: Yeah, I think I think it'll be interesting to see how valuable experience is versus being able to draw on AI as things evolve. But clearly the challenge right now is building that trust. So right now, there's quite a low level of trust in AI in in Australia.

It's even lower when we start talking about healthcare and it's even lower if we talk about AI provided by for profit providers. So, we do need to set up regulatory guard rails and rules that will reassure people and make them comfortable with using AI.

Jason McDonald: Something was in your report I found it really interesting about the potential uses for data for obviously healthcare outcomes. But what about the use of health data for non-healthcare outcomes outside of outside of direct provision of healthcare.

So, you could be linking into some complementary services in the social sector access to housing, access to community support programmes and the ability to use that data and share that data in the wider community, particularly as we move from an era when it's not just the health system that

delivers your health outcomes but your lifestyle and all sorts of other parts of the of your of the world outside of you know, direct care.

Catherine de Fontenay: Yeah, I think I think the perpetual challenge for all of us is there is incredible potential from sharing data more effectively. You know we want for instance, we like AI to be scanning our chest X-rays and using every chest X-ray that's ever been taken in order to compare that and ensure that the diagnosis is accurate. At the same time, people have very valid concerns about privacy and in the area of health, some of that information is extremely sensitive, so we do need good rules for sharing data that are going to protect people's privacy and give people the option to choose when to share.

Jason McDonald: And what about the I mean, randomised controlled trials have been around and as it's sort of held up as the as the benchmark for all sorts of economic and social assessments of policy.

The big data you're talking about here is actually admin data and data that could be used to drive policy as well. Does this actually reduce the need for RCT's and drawing conclusions about treatments and even also broader policy outcomes?

Catherine de Fontenay: I don't think so, because I think that one of the things AI really struggles with is properly attributing causality. The thing that we can get from an RCT that a randomised control trial that we can't get from AI from kind of administrative data is we can be relatively confident that we've correctly attributed causality. whereas some of the some of the places where AI can make really large mistakes is in is in misattributing causality.

Jason McDonald: Isn't another problem with RCT's and actually making sure that what you've learned you can actually apply it in the circumstances that you're trying to apply it in? And anyway it's an interesting debate between the admin data versus the RCT, certainly when the when the use of the admin data might be a lot. Lower cost than doing a bespoke RCT.

Catherine de Fontenay: Yeah.

Jason McDonald: So, one of the other issues with the data and the health data that I that I'm particularly interested in is the benefits to the community from sharing my data seem quite large, profoundly large, and solving particular cancers, maybe giving particular treatments that were not that were not known before. But there's a small cost to me. And actually, my risk to my privacy, and even just the pain of having to authorise that people can use it, how do we get around or how do we adapt or make sense of that kind of policy trade off?

Catherine de Fontenay: Yeah, absolutely. So two of the big areas that we identified as having big potential, so electronic medical records that share your medical information across the providers you might be using and then artificial intelligence, they both suffer from an externality problem.

So, my GP has to do the work to upload my data into my health record. But that does not give them any benefit. That gives me a benefit if I am hit by a bus and taken to hospital and the hospital

needs to know what medication I'm on and what my last set of scans was. But it doesn't benefit my GP. So, there's an externality there my GP has to do the work. But the benefits come to me, the individual. And then AI likewise, it's an externality problem.

So, I share my data, the benefit is infinitesimal for me, but the benefit of everybody sharing their data is huge. And so, we do have to overcome that. I think in the case of my health record, we've overcome that at the individual level.

We've given people the option to opt out, which some people have, but many people have not. We probably will end up with similar type of rules for sharing data in AI where you can make a choice not to share your data, but that it's more of an opt out type of system is a possibility.

Jason McDonald: One last question and it's bringing both papers together. So are the papers linked in some way, so if. One of the papers argues for better measurement of the outcomes from healthcare, measuring that through time and the methodology I think is that, you know, world class. And is the better use of data on the input side? Would that actually help that process are we are we moving to an area where that better collection and use of data can actually give us better outcome measurements and so we know where the gains from are coming in the future?

Catherine de Fontenay: Yes, absolutely. So better data will make us much better able to to estimate productivity and see where we're making gains and see where we're falling behind. Part of the reason that this project was only done now is that some of this data has only recently become available. Some of the data on expenditure on different diseases. So, breaking down all of our health expenditure by specific disease is quite hard for example. The more digital we go the, the easier those types of calculations will be.

Jason McDonald: Great. Thanks. Thanks very much. Really as I said, you know, really love both reports, more power to better healthcare cause I'm moving into the bracket, we're much more likely to use it. So, keep up, keep up the good work, healthcare sector. I don't know, Catherine, if you wanted to take any questions.

Catherine de Fontenay: Sure. At the moment, no one's typed in a question, but if anyone has any questions for me, please drop them into the box. If not, I'll have to ask Jason to ad lib. Why don't you think of another question?

Jason McDonald: Well, I do. I do have. I do have a question. I've got one of my questions I think is I think the PC's been interested in for a while is impact on intergenerational welfare. So, if the Healthcare is getting, if healthcare services are getting better and my life expectancy is going up, not only life expectancy but the quality of my life in my outer years is going up. What does this mean for consumption through time for the different generations? Should we, should young people be saving more now to, you know, play pickleball in their 90s?

Catherine de Fontenay: You know, I think I think this is one where it's a great question. I probably need more data to answer it. I guess thinking myself, I sort of think I'd probably want more disposable income if I was in poor health than if I was in good health because Healthcare is quite

you know, so some things. There are. expensive, but obviously it certainly means that future generations will be better off.

So, in terms of this, what this report means, it means that you'd much rather go to the hospital today than 25 years ago, and it could be that 25 years from now we'll be we'll be even better. But that's those are the types of questions that those are the types of questions that one might ask.

Jason McDonald: I think I've seen some questions come in. Can you see them, Catherine?

Catherine de Fontenay: OK. Yeah, I'll have a look. So, one from Dani Wood and the chair of the PC, so I'll Take that one. Hey, Catherine, you mentioned that you controlled for risks like obesity and smoking rates. How does Australia compare on these risk factors and are there any policy implications?

So that's a great question. We did control for those things. Australia looks terrible in terms of its obesity rates. It looks quite good in terms of its smoking rates compared to other countries, bad in terms of its consumption of fruits and vegetables. But our population is younger than most comparable high-income countries.

So, once we if we control for those things we look third out of this group of 28 countries we don't control for those things we're sort of middle of the pack if you will. And then we have a question from Allison Knight. How do these results change when comparing the regions versus the cities? And is there's more scope for AI in one area or another? So that's a great question.

We've mainly looked at the regional areas in terms of telehealth and remote monitoring technologies. But AI has also been important in regional areas that have been travelling. There's a company called Skin Check Champions that has travelled around and. On site, scanning of skin to verify for skin cancer using AI to detect anything.

But we think we think there's huge potential of digital technology to improve care for people in regional areas in particular telehealth. Remote monitoring could mean you can go home and let's say you have gestational diabetes. You could have glucose monitoring and you could have glucose, continuous glucose monitoring and perhaps adjustments for that. People with diabetes, we think that those technologies to monitor your diabetes and make adjustments, they're currently being used for type one diabetes. But we also think high risk patients with type 2 diabetes could benefit.

So what's interesting is right now telehealth is used more by rich yuppies in the city than it is by people with real access issues. But we think that overtime adoption is growing in in regional areas and we think it has lots of potential for levelling the playing field in terms of access.

I'll just I think people are putting in questions in chat as well. OK, here we go. Sorry, so how can we use the workforce better to increase productivity from Siobhan Dickinson?

So, we think AI has been estimated by the OCD to potentially reduce the number of hours that healthcare staff have to use on administration by a third, so save them a third of their work week,

which would be huge. Would really free up time to better deliver care. So that includes kind of a lot of administrative tasks that could be done by AI with relatively low risk. So transcription, clinical coding, writing up the basis of a letter, a lot of different tasks that could be done through AI.

Also a number of sort of streamlining of processes in in hospitals. So there's huge potential there to save us. To save time and really free up free up hospital resources and GP resources, which is exciting.

I'll skip the budget question if that's OK. Were chronic conditions considered as a subset, and if yes, how much did they skew the overall productivity analysis? So we did not consider many chronic conditions. We did consider a few. Essentially, chronic conditions similarly to other conditions are going to be are going to have certain effects on quality of life and certain effects on life expectancy. So we treated them in a similar way to other diseases.

Question productivity at a disease level is great, but what if we invest in at the primary care to prevent or limit disease developing? So that's a great point. Sorry I should have said this in terms of Dani's question. One thing that it tells us that if Australia has higher obesity and that affects our health, if we have other issues that preventative investments can really make a difference in terms of our overall quality of life. So, what we probably took away from that comparison across countries is that we could potentially be making more investment. And to preventative healthcare that that might be somewhere where we want to look in terms of. Bang for our buck.

Jason McDonald: Catherine, that's not picked up in your stats. I thought that the way the methodology excludes things which actually affect future or the prevalence of disease.

Catherine de Fontenay: So, there's two parts to that productivity paper. The first is, yeah, the first is we just take the incidence of disease as given. So, we say well, what is the conditional on having cardiovascular disease, how well do you do you do after that? And that probably underestimates the productivity of our investments in cardiovascular disease because we've reduced hypertension and high blood pressure and so on. But the second part of our analysis just does this comparison across countries controlling for risk factors and there we do control for these risk factors.

Jason McDonald: Right. So, I think we're at 1:29 might be the time to finish it. Look, thanks very much for inviting me here Catherine. I learned a lot from the papers and from the conversation. It's a lot of fun.

Catherine de Fontenay: OK.

Jason McDonald: And thanks very much to all the attendees as well. I hope you got out of it as much as I did. The recording of this will be available from the Commission's website in coming days. Thanks to all the technicians who put it on as well. And thanks very much for attending good and folks, say goodbye.