



DONNA WATERS [00:00:00]

Hello and welcome to the Sydney Ideas conversation. I'm Professor Donna Waters, the Head of School and Dean at the University of Sydney Susan Wakil School of Nursing and Midwifery.

Today, Tuesday the 12th of May is International Nurses Day. The World Health Organization has also declared the year 2020 as the Year of the Nurse and Midwife. Both of these celebrations could not have come at a better time and are very appropriate this year, given the current climate that we find ourselves in.

Highly skilled and highly educated nursing and midwifery workforces around the world are demonstrating their unique skills everyday. Skills that nurses and midwives are fully prepared for, but skills which are not always so visible to the public.

I would like to take a moment to share my support and appreciation of nurses for their tireless work and leadership during the COVID-19 pandemic.

We're joined today by Professor Julie Leask. Julie is a social scientist at Sydney Nursing School and an advisor to the World Health Organization.

The purpose of this conversation is to give you access to expert insights and facts about vaccination and the factors that influence immunisation uptake and acceptance.

Scientists are currently working very hard to develop a vaccine for COVID-19. Yet the safest and most effective vaccines will not be of use if the public will not or cannot accept these.

Many of you may be concerned about the impact of anti-vaccination activism and misinformation about vaccine programmes. Professor Leask will unpack some of these issues today and discuss how some of these views might impact COVID-19 vaccine acceptance in the future. She will also outline the absolutely vital role of nurses and midwives in vaccine delivery; and in influencing vaccine acceptance and uptake. Julie thank you and welcome for your time today.

JULIE LEASK [00:02:14]

So I am going to talk to you about the success of vaccines and the promise of them, the gap and what causes it and how to close it. And then briefly touch on what all of this means for COVID-19 vaccine.

Let's start with the success of vaccines. Vaccines eradicated a disease that had been a terrible disease, that it affected the world for many centuries: smallpox.



Smallpox was highly infectious and very deadly, and a vaccination programme and intensive efforts globally to reach all children with this vaccine meant that it was declared eradicated by the World Health Organisation in 1980.

We're at the brink of being able to eradicate another disease, polio, which – as you see from this image from nurses caring for children in iron lungs in the 1950s in California – would come around epidemically and affect whole populations, causing paralysis, sometimes for life. And thanks to vaccines, we are now at the brink of eradicating polio although we're no doubt going to face a hiccup with the disruption of COVID-19. And here you see in this image and showing her patient the news about the vaccine development. So we're looking forward to hopefully seeing that with COVID-19.

But let's keep going with the diseases that are preventable with vaccines now. And these graphs show that in the last nearly century in Australia, we've seen a big decline in deaths from vaccine-preventable diseases like diphtheria, like polio – thanks to vaccines along with better care and treatment of people with these diseases. And so now we have the luxury of not, not having to be as afraid of these diseases as we might have been 100 years ago, more or less.

Let's go right back to the beginning of vaccination as we know it today. This is Edward Jenner depicted giving the first smallpox vaccine but even at the time that the, the first smallpox vaccine was developed –and then distributed and then encouraged and then mandated – you had people who were opposing that vaccine, who would take the fact that the vaccine being a live vaccine could cause a form of a milder form of the disease in rare instances, but they exaggerated that fact. And it depicted the alleged dangers of the vaccine in caricatures, like this from the 19th century.

And this is the sort of the sorts of discourses from opponents of vaccination, you see running through the history of vaccination. And you see them again today, this notion that vaccines cause all manner of modern ills because they're allegedly, these toxic cocktails of chemicals that are put into the body of the person and that this fact is covered up by an alleged collusion for profit and for totalitarian agendas of governments. And it's better to get back to nature.

And these themes from anti-vaccination activism we see through today, they have historical continuity. And globally today, there is a lot of concern about the influence of the anti-vaccination movement. And you will, you know – as the audience – you would have very likely seen headlines like this, that raise concern about the so called anti-vaxxers. Or the idea that anti-vax fake news or misinformation on social media is fuelling the rise in measles.

But let's look at measles with this map that's been put together by the hard work of people at the World Health Organization, who I'm very happy to celebrate and defend in talking about control of diseases because of all the work I've been able to witness them doing. And what

this map shows is that these are some of the key outbreaks of measles in 2019. And they have been caused by a variety of things.

In the US you have high measles coverage generally but you have pockets where there's low coverage for various reasons. And there's multiple importations from endemic countries.

In Venezuela, there's been a collapse of the health system meaning that people have not been vaccinating and when you see vaccination rates go down, you see measles disease come up. And into Brazil, there were cross border importations, particularly into underserved regions where it's harder to access vaccination.

The Ukraine has seen a combination of both inadequate services and hesitancy about vaccination. Yemen has seen access to vaccines limited for children because of conflict. Madagascar is the country with the largest number of cases of measles in 2019, largely caused by a weak health system. And the Philippines has had inadequate services and hesitancy as well. So as you can see, there's a number of reasons why people don't vaccinate and why we have outbreaks of measles.

We've tried to depict the things that influence vaccination with this model that's based on work led by Noel Brewer. That way we have been using in helping us to develop measures of the causes of low vaccination in work with the World Health Organisation through the behavioural and social drivers of vaccination working group.

And what this model basically says is that you can be motivated to vaccinate, but whether you do vaccinate, whether you act on that motivation, is influenced by various practical issues. But let's go back to the beginning of this model, because the motivation itself, of course, is influenced by what people think and feel about vaccines, particularly their safety. It's influenced by social processes, the influence of health professionals, family, community, gender roles.

And then the practical issues include whether you know, where the vaccine is available, when you should have it, how easy it is to access the service, the number of miles you might have to walk in some countries, the convenience of the clinic hours for working parents, the affordability of the service, or even the vaccine, the quality of the service, and the respect that you're given from a provider while you're receiving that you that service.

And all if those things influence vaccination uptake, so when you think about hesitancy that's a motivational concept. But it's not the only thing. And it's not a behaviour. So we try to sort of pass the language quite carefully using psychological science in this field.

So let's take those two issues of practical and motivational issues and see how they apply to vaccination rates in Australia.



TRANSCRIPT

Sydney Ideas podcast

The vaccination gap: increasing uptake and acceptance

Tuesday 12 May 2020

We have nearly 94% of our kids fully vaccinated for their age. But there's this persistent gap. And those who fall in that gap roughly equally are estimated to be those who face these practical issues. They want to vaccinate but they can't on time for various reasons, or motivational issues, where they're concerned about the safety of vaccines.

So it's perhaps not surprising then that the things that improve vaccination coverage align with the different layers at which health behaviour is influenced, as you can see through what we call the social ecological model here, that you start with things like reminding people a vaccine is due before it's due. That can make a difference according to research studies, trials, systematic reviews.

Educational communication is often thought to be the thing that people need. We just need to better educate people. But in fact, education on its own has very limited effects on vaccination uptake has to be used in combination with other things. Home visiting can help vaccines reach the families who are very homebound for various reasons. At an organisational primary care level, providers – the people, the nurses, the doctors, the other health care workers – who give vaccines need to be supported and trained. Their performance assessed; them receiving feedback and reminders and prompts for them to recommend vaccination.

Standing orders enabled suitably qualified professionals to give a vaccine without a doctor's order each time such as nurses who are the majority givers all vaccines in Australia now. School and childcare based delivery is important and successful. For example, with our adolescent vaccination in high schools, and combined interventions work, and they do at the community level as well.

In communities, the best thing you can do to improve coverage if you have low coverage is to use a combination of interventions. At the policy level, making vaccination or simply the records of whether someone is vaccinated or not a requirement, will improve coverage as will incentives and reducing any out of pocket costs for vaccination.

So as you can see, the way to improve vaccination coverage is ideally with a multifactorial approach; many different things because there are many different reasons why people don't vaccinate. And at the heart of these sorts of interventions are health professionals and today of course, we're celebrating nurses who are central to vaccination programmes.

So the top left [referring to slide], here's a nurse from Western Sydney who's giving a young lad a vaccine in a high school programme. At the bottom there are two nurses on the right there, the late Karen Webb, who worked in vaccination coordination then as a Clinical Nurse Consultant at the Children's Hospital at Westmead and National Centre for Immunisation Research. And in the red skirt, Sonya Ennis, who runs the vaccination programme for all of New South Wales.



So these nurses are essentially saving lives as we do in public health – a thousand at a time – and this tweet from Gemma Lea Saravenos emphasises the fact that nurses and midwives are central to reaching children in all countries with life-saving vaccines. So I'm very proud to be a nurse and a midwife. And then to have gone into public health and looked at vaccination and to keep finding all these nurses hiding in plain sight around me.

So, given that there are many different things that influence vaccination uptake, what does that mean for the impact of COVID-19 and all the disruption that's caused on childhood vaccination? Well, we know that the majority of countries have suffered some kind of disruption to their routine immunisation programme and millions of children missing out on routine immunisations because of that disruption.

And already in the US, we're seeing data from the vaccines for children's programme. And this is from the CDC, showing that the number of measles containing vaccine doses administered has gone down substantially in early March, for both the under two-year-olds and the over two-year-olds. So these are concerning trends. And this will mean that children will need to be caught up once access to primary care is made easier.

But we're also emphasising through work done with UNICEF, WHO and so forth, that if parents can get their get to a vaccination service, they really should prioritise it because the vaccination is important and we can't drop the ball on this. What happens when you do drop the ball on vaccination is that the diseases will come back and Samoa had a big measles outbreak at the end of last year, and that was largely because they had a vaccine administration error which caused a suspension in their vaccination programme, which took a while to recommence.

And because of that time when whole cohorts of children were not getting their measles vaccines, they saw a large outbreak in a country of just 200,000 where over 5,700 people were infected with measles and there were 83 deaths mostly of children. So this shows that it's very concerning when vaccination rates drop, and the disruption from COVID-19 is a concern.

Let's turn to Australia. And here again is an image of nurse immunisers at an annual accreditation training day. Nurses who vaccinators must receive an update in their knowledge each year. And we often do workshops with those nurses and GPs and other providers, around how you have conversations with parents who are very hesitant about vaccination. And so here they're doing some role plays around that.

And its nurses again, who have contributed, among other things to our high vaccination rates in Australia. So we have, since the late 90s, implemented what was called a seven point plan to improve vaccination rates and among other things that included establishing a register. So we could document vaccination very readily, and be able to see how we were going how we were performing with high quality data. We had incentives, we had requirements, we had reminders, campaigns and we established the National Centre for



Immunisation Research and Surveillance. And so we have had high and stable vaccination rates for children for many years. And in fact, the biggest uptick was not in 2016 with no job no pay. It was with in 2009, when there was a change in the way people were reminded about due and overdue roles.

And here's another good news story, which is about the leadership from New South Wales health and Aboriginal health workers in closing the gap in immunisation coverage for Aboriginal children; through intensive efforts to put Indigenous immunisation workers in every local health district in the state to encourage their communities to vaccinate on time, to address register recording error; to provide culturally safe support and engagement around vaccination and this is what happened.

This was celebrated in the *Sydney Morning Herald* a few years ago. In the yellow bars [referring to slides] are the immunisation rates for Aboriginal one-year-olds in New South Wales. And the black line is non-Aboriginal one-year-olds, and it just shows essentially a literal closing of the gap. And it's now nationally, it's reversed. So we have higher vaccination rates for five year olds among Aboriginal and Torres Strait Islander children than non-Indigenous children. So that's a great news story showing also what can happen when Aboriginal people lead in communicable disease control as we've seen with the excellent work in preventing COVID-19 in Aboriginal and Torres Strait Islander communities.

So I'm just going to break briefly touch on the motivational issues. We've talked a lot about those practical issues. And we've done a lot of work in this area, in first trying to conceptualise the fact that it's not just about being pro or anti vaccine, that in fact, there's a spectrum of positions that people can have on vaccination. From those who are unquestioning acceptors; through to those who are cautious or very hesitant, but they all still vaccinate; through to those who are so hesitant that they might select out certain vaccines or delay them deliberately; through to those who declined all vaccines.

And then there are anti-vaccination activists who are very loud – a small but very loud group – and they appear to be more activated with COVID-19 for various reasons. But they're not the same as people who declined vaccination. There's often not a lot of overlap, and we've done a lot of work now with parents who have chosen not to vaccinate their children in Australia. And we could crudely group their reasons into three major reasons.

One is that they've had some kind of an experience with the healthcare system, which has made them lose trust in the process and in vaccines. And this dad talked about an episode where his daughter was despondent and floppy and then he just tried to find the right information. He fell down a bit of a rabbit hole, as he said, and he ended up not vaccinating at all. And some parents are very vigilant when it comes to their child's health. Most parents are, but in this case that is expressed through looking heavily into vaccination.

As this mum from the Byron shire described, and then other parents have always had an alternative approach to parenting. So this mum from the Adelaide Hills 'I grow vegetables,



chicken, I have chickens. I give don't give them processed food, the children. We have no chemicals in the house, we don't drink fluoridated water. Why would I get go then and put all those chemicals in my child?', she said. And these are the sorts of parents who will also be refusing COVID-19 vaccine. Because they're concerned about vaccines more generally. And they've made some fairly strong decisions and fixed decisions to not vaccinate.

So what to do about this? Well, we've done a lot of work in developing support for nurses and doctors in primary care, to have conversations with parents who are ready to vaccinate, who have questions, or those who won't vaccinated at all. And for those who won't vaccinated at all, we still recommend that healthcare professionals recommend vaccination to them.

It's just the timings different that you don't want to go in straight away and remonstrate with them or decide that you're going to try and get them to vaccinate when they're unlikely to, and that kind of conversation may actually backfire. We say suggest an approach, which is finding out where they're coming from, what led to their decision in a respectful way. And then working with them to see where whether they might have some motivation to vaccinate, and then coming in with a recommendation regardless, so we have tips for health professionals where we say you should share your recommendation, even though it's after you've had a bit more of a conversation beforehand with phrases like 'can I tell you why I recommend a vaccination' or 'would you consider vaccinating Stefan if there's an outbreak or you're planning travel', as does happen with some of these parents who have chosen not to vaccinate.

So this group is a small group, you know, it's estimated to be around 2% of all parents. And the task is really to make sure that we have good robust, resilient programmes so that we minimise the number of people who end up rejecting vaccination. There will always be a small group who do this. There always has been, but it's about attending to good process and addressing the needs of people who want to vaccinate but can't on time.

So what about what does all of this mean for a COVID-19 vaccine? Well, when I think about COVID-19 vaccine, I think that I personally, I'm looking forward to us having one if one can be found, and that's no guarantee. And I think of images like this from the 50s where people lined up for polio vaccines. We will certainly have, if we can find a safe effective vaccine; high demand for COVID-19 vaccine because of the promise that it brings us some semblance of return to what we had before.

Because we will, you know, for the time being keep having to live with COVID and have our lives disrupted in some form or another. So, there's a big international effort that is going on right now, with more than 90 vaccines under development. And they are using different platforms for doing so. And two of them are a ride ahead and they've already interfaced to trials where you are giving them to people looking at the safety and effectiveness of the vaccine.



So there's promise there, but there's no guarantees and that's why with the COVID-19 vaccine, the task is first of all, to find an effective and safe vaccine to produce enough vaccine for the people who need it, and that will mean us having to have good reliable supply chains and all the products in stock which as, we know now can be an issue when there's a sudden surge in demand for products like the glass vials or the rubber bungs, and prioritising the groups who should receive the vaccine, hopefully with processes that engage with citizens, and then reaching all eligible people in in all countries, not just wealthy countries, and addressing any concerns that come up about vaccination.

So they're the major tasks with potential COVID-19 vaccine. So just to summarise you it's not just opposition to vaccination that causes this gap. It's both motivational and practical issues. And they're each quite complex and they sometimes interrelate as well, the best way to improve coverage is with multiple strategies. And that is the case for any vaccine, whether it be the child vaccines that I focused on today, or vaccines for adults, where we see much lower vaccination rates, including in Australia.

People will mostly willingly vaccinate; some are hesitant and some refuse for a range of reasons. And each of these groups need different approaches, as we've shown without sharing knowledge about immunisation work. Misinformation is a concern and it does need to be addressed and there's some excellent research that is being done around this showing that if misinformation is getting out there then addressing it proactively with a focus on the facts is very important.

And finally nurses at the cornerstone of vaccination programmes and I want to just acknowledge a few nurses that I've had a bit to do with in the vaccination sphere, people like Kath Tapper, clinical nurse specialist, who has worked in both vaccination coordination and in specialist clinics which see children who have had a reaction from a vaccine; through to people like Dr Susan Thomas, who's a researcher using a guidance produced by the World Health Organization to tailor immunisation programmes and she's been working in the Hunter New England, along with her colleague, Patrick Cashman, who's the coordinator of immunisation for that Local Health District.

So it's just such a privilege to work with all of the health professionals, my nursing colleagues, my medical colleagues and other professionals in the vaccination field, and I want to leave you with one last slide, which is information about the next pledging conference for vaccines for the world's poorest children.

This happens every few years and the GAVI – the vaccine alliance – ask countries to pledge money to support the world's poorest children and countries receiving vaccination reliably. And this year, some of that money will be going towards support for COVID-19 control in low income countries in particular.

So Australia is being asked to pledge \$300 million and those of us in vaccination very much support this, because it will not only help others, it will be neighbourly. It will be right. But it



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will also be a way of protecting health security globally. And we know from COVID that health security globally is such an important issue that we can't act as single countries.

ANNA BURNS (PODCAST HOST) [00:30:20]

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Finally, we want to acknowledge this podcast was made in Sydney, which sits on the land of the Gadigal people of the Eora Nation. It is upon their ancestral lands that the University of Sydney is built.