**PRESS RELEASE**

**FNU hosts second in a series of panel discussions on COVID-19**

**Suva, Fiji.** The Fiji National University’s (FNU) College of Medicine, Nursing and Health Sciences (CMNHS) this week hosted the second of a series of virtual panel discussions regarding the vaccine, the COVID test and other questions related to the pandemic and prevention of efforts.

Chaired by the CMNHS Associate Dean Research and Director of the Fiji Institute of Pacific Health Research (FIPHR), Dr Donald Wilson, panelists were:

1. Professor Peter McIntyre, who is a paediatrician specialising in infectious diseases and vaccines who is also qualified as a public health physician.
2. Associate Professor James Ussher, who is an immunologist and clinical microbiologist at the University of Otago and Southern Community Laboratories.
3. Ana Rokomokoti, who is a Lecturer in Law at the Department of Law, School of Accounting and Law, College of Business, Hospitality and Tourism Studies at Fiji National University.
4. Dr Alisha Sahukhan, who is Head of Health Protection at Fiji’s Ministry of Health and Medical Services.

The panel discussion was conducted via Zoom and live-streamed on the FNU and CMNHS Facebook pages.

Panelists spoke in their areas of expertise and answered questions from members of the public that were sent through a dedicated email address: covidquestionsfnu@gmail.com and messaged during the Livestream session. Panelists responded to questions by providing scientific explanations based on current evidence.

Below are highlights of the key issues discussed.

**Explain the benefits versus the risks of vaccination. Why is vaccination still being recommended despite the reports of adverse events and maybe even deaths?**

Professor Peter Mclntyre emphasized three important points: firstly that COVID-19 is a severe disease; secondly that we have very effective vaccines, including the AstraZeneca vaccine, (the one that's being used currently in Fiji) and thirdly, the vaccines are safe. He pointed out that the benefits of being vaccinated in terms of protection from disease, both for the individual and the community, are far greater than any potential risks that might be associated with vaccination. COVID-19 deaths across the world in the last 12 months have been about six times the number of deaths that occur with influenza. While influenza has effective vaccines, these are not nearly as effective as those for COVID, especially for older adults and those with other health conditions. Data from early clinical trials did not reveal the true effectiveness of vaccines which is now becoming more apparent as big rollouts in countries such as the UK, US and other parts of Europe occur. The main outcomes of interest in assessing vaccine effectiveness are the prevention of severe disease, hospitalizations and deaths. In this regard, the AstraZeneca vaccine, is up there in terms of its effectiveness compared to any of the other vaccines. Regarding the risk of blood clots and low platelets with the Astra Zeneca vaccine, it was stated that ‘We now have good evidence that this does occur and, it is related to the vaccine, but it is still very rare, at the most two people in 100,000’. The conclusion was that ‘The overwhelming message is that the benefits of the vaccines greatly exceed the risks.’

**With regards to tests, Fiji uses PCR and GeneXpert. Why are these the best tests that we can use for the diagnosis of COVID-19?**

Professor James Ussher described the tests used in the diagnosis of COVID-19, the main one being reverse transcriptase-polymerase chain reaction (RTPCR). Other methods are in use, but all methods involve trying to detect the genome of the virus. The RTPCR amplifies, specifically, the genome of the virus in a sample. It recognises the specific sequences in the genome of the virus and amplifies that up so it can be detected. Theoretically, as little as one copy of the virus in a RTPCR reaction can be detected. There are a variety of different machines or platforms which can test for the virus and GeneXpert is one of them. They use exactly the same technology- amplification of the genome. These are the most sensitive tests as they can detect as little as one virus in a sample and, they are also incredibly specific or very accurate. So, if you get a positive with the test, you can be highly certain that there is in fact virus present in that sample.

**With the recent cases, there is a concern amongst people about the deaths. How are we classifying a death as a COVID death? What’s the protocol that we are using?**

Dr Alisha Sahukhan described that currently, in Fiji, while we have a high number of COVID-19 cases, we have not seen a corresponding increase in severe cases and deaths, although these may still occur. During this outbreak, Fiji has recorded 2 deaths that have been attributed to COVID-19. There have also been 6 deaths in people who tested positive for COVID-19, who also had pre-existing conditions which were severe. Doctors of these patients assessed them as dying from these (pre-existing) illnesses and not of COVID-19. These patients were admitted in CWM Hospital, which currently has an outbreak of COVID-19, that initially affected the acute wards where the most severely ill patients were admitted. Dr Sahukhan said that in making these assessments, clinicians look at patient’s symptoms before they died, blood results, and other investigations to see whether a diagnosis of severe COVID can be made. Fiji is following the WHO criteria for assessing COVID deaths.

**Explain a person’s rights as far as vaccination is concerned.**

Ana Rokomokoti referenced the 2013 Fijian Constitution, which contains a Bill of Rights that includes, the right to freedom from medical treatment without informed consent. This right requires that before an individual gets or gives consent, he or she needs to have the necessary medical or scientific information to guide that decision. In addition, that consent must be made voluntarily and born out of the free will. Any consent that is given under duress, coercion, threat, force or even fraud, affects the validity of that consent. Ms. Rokomokoti discussed the role of public health and public interest in balancing considerations of individual rights. She also described the process whereby individuals who consider that their rights have been contravened, are permitted by the Constitution, to go to the High Court and seek constitutional redress. In Fiji, the Human Rights and Anti-Discrimination Commission is the watchdog of human rights and is empowered to investigate and make recommendations to the government in terms of human rights.

**Does a higher efficacy mean that a vaccine is better?**

Professor Mclntyre stated that although the numbers we see in the media may cause confusion, the focus should be on the efficacy in preventing severe disease. Information from the use of the vaccines in hundreds of millions of doses in other countries, has shown that the AstraZeneca vaccine, is performing very well. In addition, protection against severe disease and death seems to be very similar across all the vaccines.

**The tests that we are doing for COVID-19 and the positivity rate that we are reporting – what is it, and how important is it in terms of the progress or the public health interventions that we have?**

Professor James Ussher described test positivity which is a function of what proportion of all the tests that are done, come back positive. A high test positivity rate, could be either because there's a lot of infection in the community, or because you're not doing enough testing. He mentioned that ideally, as infection comes under control and with community sampling, test positivity rate goes down which means sampling is adequate. This is an indication that enough people are being tested to detect infection in the community.

Dr Sahukhan described the pattern of test positivity in Fiji which started low (0.2%) but is now high at 2%, based on WHO thresholds. Dr Sahukhan attributed this high positivity to the high level of testing being done in the country which is comparable to testing in Australia. She also stated that the high positivity is due to increasing levels of disease in the community and the testing of high-risk individuals.

**There are a lot of questions around the different kinds of vaccines, and particularly AstraZeneca and Pfizer. So if a country like Australia is using both vaccines, why are we focused only on Astra Zeneca. What are the differences between these two vaccines?**

Professor Mclntyre described the technology used in the Pfizer and Moderna vaccines which use messenger RNA. Messenger RNA provides the template to make a protein and in the case of these vaccines, this protein is one that is on the (COVID) virus surface. Once the body sees that protein it can make an antibody to it. The vaccine is delivered by having it (messenger RNA) coated in a particle with a high-fat content, which means that once it's injected, it can get across into cells. For instance, muscle cells which once injected, will use the messenger RNA to produce the spike protein from the virus. The body will then respond to this protein by producing antibodies for the virus.

The Astra Zeneca vaccine is different and uses a type of common cold virus called the adenovirus, that has a bit of viral DNA unit. This allows the virus to get into the cells, switch on the cell's machinery and make that spike protein for the body to respond to. In both types of vaccines both the template material (messenger RNA) and the adenovirus will disappear from the body. These are not retained so there’s no risk of them causing damage to any other cells in the body or transmitting to anyone else. Vaccines allow the body to respond to the protein on the virus by developing antibodies that are protective, without being exposed to the risk of (COVID) infection. Professor McIntyre has been reassured by the story that has emerged from the use of both types of vaccines in large populations and over hundreds of millions of doses. Due to close monitoring, a rare side effect of the AstraZeneca vaccine did crop up which may be related to the fact that it uses an adenovirus. It is known that adenoviruses can cause clotting problems. Fortunately, this side effect is very rare. Furthermore, he stated, “Now that we know about it, we can detect it, and we know how to treat it so this side effect, although it sounds scary, is something that is both rare and treatable”. He contrasted this to COVID infection which causes a lot of problems with clotting. In fact, clotting and problems with the arteries in the heart are one of the major and really bad effects of COVID. So compared to COVID it’s a very small risk and, balanced against protection you get from the vaccine against COVID, it's a very small risk. The Pfizer vaccine, on the other hand, turned out to have a higher rate of another rare side effect, which is anaphylaxis – having an allergic reaction to the vaccine. All vaccinators are trained to recognize this and to be able to treat it effectively.

**What does it mean that you need to amplify the PCR? About the PCR test, is there a risk of or what's the possibility of false-positive tests?**

Discussed by Professor James, the virus genome needs to be amplified to improve its detection by the test. As little as one copy of a viral genome can be detected in a reaction. To be able to detect that single molecule, the numbers need to be amplified through a process called polymerase chain reaction reaction (PCR). This works by having bits of matching DNA that bind to a target sequence and then making a copy of that target sequence. This is cycled through again, making multiple copies of that sequence, which can be detected by determining the growth of or increased numbers of that product and, the reaction. Hence, the sole reason for amplification is to try and detect the presence of a viral genome.

From his experience Professor James said that this type of testing is highly accurate and false positives are incredibly rare. However, the PCR cannot tell whether the person is currently infectious or not, it only detects whether the part of the genome of the virus is present. Sometimes the virus can be detected at high CT values. The CT value is the cut of the number of cycles of amplification that is needed before the virus can be detected. Theoretically, if there is one copy there at the start, all things being equal, it should be detected by 40 cycles, and that's usually as far as PCR tests go. If it is detected very late, the CT values hide, and it means there was not very much virus there to start with. There are some reasons why this might happen, but this does not affect the accuracy of the PCR test.

Dr Sahukhan mentioned that in Fiji six labs do PCR and open PCR is only done at the CDC. She emphasized the accuracy of the test and clarified that in Fiji, at CT values above 40, cases are called weak positives and investigated further. This was seen a lot in border quarantine testing of repatriated citizens who may have had COVID months and weeks prior to their arrival.

**Every Fijian is entitled to refuse vaccination if they so feel. Can an employer terminate the employment of an employee because they don't want to be vaccinated? What does the law say to that?**

According to Ms Rokomokoti the law prohibits discrimination based on health status and this is enshrined in our Constitution. Although businesses and employers put in place policies and processes that protect business interests, they also must be aware that there is a constitutional law in national law that binds them. The law prohibits discrimination on the basis of circumstances, health status and conscience and this applies to both government and non-government employees. The Human Rights and Anti-Discrimination Commission is empowered as the legal authority to look at private and public institutions the same.

**Explain the science behind lockdowns? You know what is the effectiveness of lockdowns in terms of the control of an outbreak like COVID and when should they be used?**

Dr Sahukhan described the use of lockdowns in Fiji which have largely been curfew lockdowns and a foru day lockdown on the Suva-Nausori area. While the outbreak of 2020 was contained, the outbreak in 2021 has not been contained even with the use of these lockdowns. She stated that while lockdowns are an important tool we have now reached a limit where the impact on the population needs to be considered. Professor Peter emphasized that use of lockdowns has to be proportionate to the problem to be solved and the availability of vaccines provides some balance to the need for lockdowns and other measures. Professor James stated that in the long-term strict border controls may not be feasible and, the best way forward is to get people vaccinated.

**Is there a legal angle to lockdowns?**

Ms Rokomokoti confirmed that the Constitution guarantees freedom of movement and while the government has imposed lockdowns in the past we have learned that it is important to give sufficient notice to members of the public. These measures can appear to be draconian but might also be considered necessary for the protection of the public interests and the public at large.

**Why do some patients who test positive not have symptoms?**

Professor James stated that the biological explanation for this is not entirely known. It is known that maybe one third of people (with COVID) may be asymptomatic. The virus is able to replicate throughout the respiratory tract both in the upper respiratory tract, the naso- pharynx, back of the throat and the lower respiratory tract. If the immune response, particularly in the early innate immune response, is able to control virus replication, then there may not be enough tissue damage or inflammatory mediators released to causes symptoms. The difference in types of immune responses to COVID was compared by Professor Peter who pointed out that children are less likely to get infected with the COVID virus and when they do they are less likely to transmit the virus compared to other age groups.

Dr Sahukhan emphasized that Fiji has a relatively young population and, that young people can spread the virus to villages and communities. The risk is that they will spread it to people who have chronic conditions who are at higher risk of getting the severe form of illness. She emphasized the importance of vaccination and urged people to get vaccinated.

**About the Panelists**

**Professor Peter Mclntyre**

Peter McIntyre is a paediatrician specialising in infectious diseases and vaccines who is also qualified as a public health physician. Before moving to Dunedin in 2018, he was Director of Australia's National Centre for Immunisation Research and Surveillance based in Sydney and since 2019 has been a member of the World Health Organisation Strategic Advisory Group of Experts (SAGE) for vaccines. He is currently a Professor at the University of Otago, a medical advisor for New Zealand's IMAC and an Honorary Professor at The University of Auckland.

**Associate Professor James Ussher**

Associate Professor James Ussher is an immunologist and clinical microbiologist at the University of Otago and Southern Community Laboratories. He is the Director of the Webster Centre for Infectious Diseases and the Science Director of Vaccine Alliance Aotearoa New Zealand – Ohu Kaupare Huaketo (VAANZ). He is a member of the New Zealand Government’s COVID-19 Vaccine Science and Technical Advisory Group and was a member of the COVID-19 Vaccine Strategy Taskforce. In his clinical role at Southern Community Laboratories, he was heavily involved in establishing diagnostics for COVID-19. His research interests are in infection and immunity. He is also interested in the antimicrobial resistance and is currently supervising a Fijian doctoral candidate who is studying the transmission of antimicrobial resistant bacteria in Fiji.

**Dr Alisha Sahukhan**

Dr Sahukhan is an infectious disease epidemiologist and public health physician. She is the Head of Health Protection at Fiji’s Ministry of Health and Medical Services. Dr Sahukhan led the Ministry’s response to epidemics of meningococcal C in 2018, and measles in 2019-2020. The response included the vaccination of hundreds of thousands of Fijians, which was essential to ending both epidemics. More recently she has been part of the Ministry’s leadership team for Fiji’s response to the COVID-19 pandemic.

**Ms Ana Rokomokoti**

Ana is a Lecturer in Law at the Department of Law, School of Accounting and Law, College of Business of Fiji National University. She has BA, LLB from the University of Tasmania Australia, a Post Graduate Diploma in Legal Practice from Australian National University, Australia and LLM from Victoria University of Wellington, New Zealand. Ana has over 23 years of work experience. Ana has experience as an army officer of the RFMF, lawyer, civil servant, adjudicator, diplomat and peacekeeper. She also a former head of the Department of Law at the College of Business, Hospitality and Tourism Studies. Ana has worked at FNU for the last 6 years. Ana is also an Accredited Mediator with the Fiji Mediation Center.

**About the Moderator:**

**Dr Donald Wilson**

Dr Wilson is an epidemiologist and a public health physician by background. He is currently the Associate Dean Research and Director of the Fiji Institute of Pacific Health Research (FIPHR) for the College of Medicine, Nursing and Health Sciences (CMNHS) at FNU.