

TEST TEST TEST – The NZ diagnostic laboratory response to the COVID-19 Pandemic.

On the 26th March the whole of NZ prepared to lock down under level 4 restrictions. The NZ diagnostic laboratories were already underway with their own targeted lock down in preparation for the fight against the Covid-19 virus. Staff had been assigned into pods, plus shifts and hours worked were moved to allow for the round-the-clock testing requirements that a pandemic response requires.

The New Zealand Institute of Medical Laboratory Science (NZIMLS) oversees the professional affairs of the over 3,000 Medical Laboratory Scientists and Technicians in NZ. Medical laboratory workers have a wide role, but in basic terms we perform and oversee the testing requirements for all the specimens submitted to diagnostic laboratories in NZ. It is worth remembering that on a normal pre-Covid day that the laboratories routinely receive, test and provide decisions on diagnosis for over 200,000 specimens per day. Almost every medical diagnosis requires some form of laboratory testing and often a number of different specimen types.

New Zealanders started 2020 with the optimism that every new year brings for our busy lives. In the background there was a growing medical emergency emerging from Wuhan in China. Most of the public would have been taking a scant glance and not giving those events much notice, thinking this would be no different to the previous viral disease outbreaks from this part of the world. If only we all knew what the implications of this Covid-19 virus outbreak was going to have on all aspects of society.

Very quickly NZ was caught up in the outbreak and this has led to the situation we are now in. You would have heard both Jacinda Ardern and Dr Ashley Bloomfield talking about the need to mobilise and up our Covid-19 testing response. During this time, you would have also listened while they thanked Medical Laboratory Scientists (MLS) and Technicians (MLT). Most of the press and public would probably have wondered who these frontline essential workers actually are and why have they never rated a mention in mainstream media discussions in the past. I am sure that most of the public previously had the misconception that the testing was being performed by the nurses who take the nasal swabs in the collection tents. Away from these collection sites medical laboratory scientists and technicians are providing the evidence for subsequent decision making.

There is a very good reason why there has been few issues with the quality and speed of testing from our NZ medical diagnostic laboratories. All these laboratories have a capacity to mobilise staff and resources quickly to cover outbreaks and specific sector testing increases. Recent examples include the response to the Whakaari eruption, the Christchurch Mosque shootings, last year's measles outbreak, plus the various screening programmes that are instigated.

All New Zealanders have watched the media questioning our leaders about Covid-19 laboratory testing capacity. We have ingrained protocols within our laboratories to deal with these issues and although we are not immune to logistical challenges, we are also experienced at working through these. All diagnostic laboratories deal with these types of challenges routinely for the thousands of different diagnostic tests that are performed. NZ diagnostic laboratories have, up to the 26th April 2020, performed over 120,000 Covid-19 PCR and no doubt many thousands more to follow.

Our Medical Laboratory Scientists and Technicians are all highly qualified registered health professionals and in many cases are internationally recognised for their skill and expertise. The medical diagnostic laboratories we work in are all accredited facilities with stringent quality and safety requirements providing the efficiency and accuracy that all healthcare decisions rely upon. We all have been directly involved with the diagnosis of thousands of patients within the wider

healthcare setting and have an enormous bank of intellectual knowledge from our experience. We as a profession are more likely to get stuck in and work through a problem than make a lot of noise about it. This approach however doesn't help us when we are looking to increase both our public and political profile. However, we do all know that our job and work with Covid-19 is far from over.

One of the oddities of the whole Covid-19 process has been hearing from so many academic experts in all aspects of infectious diseases, epidemiology and public health but little or no input about actual medical laboratory science. It was very disappointing that our profession was not given the opportunity of an airing in front of the Epidemic Response Committee to clarify several of the testing questions. Our Medical Laboratory Scientists are the experts in diagnostic testing for the Covid-19 virus, and indeed all types of virus, bacteria and other infectious agents. Many public health academics have never performed a diagnostic test in an accredited laboratory and therefore have limited understanding of this unique and challenging environment. If I could get a dollar for every time I have heard that a new laboratory test was going to be the golden egg in my career I would be a very wealthy scientist. The reality is that until a thorough independent validation and verification of any new test or kit-based assay is undertaken, that test is not able to be used within the diagnostic environment. This type of work is our bread and butter in that it is a routine part of our every day job.

Now is the time for Medical Laboratory Scientists and Technicians in NZ to take the credit for their essential role in ensuring the success the Covid-19 health response. Our wish is that one day, the public will thank the diagnostic scientists and technicians that they don't see, in the same breath that they thank their doctors and nurses. Be rest assured the diagnostic samples from all New Zealanders are in safe, caring and experienced hands. Every sample is treated as if it is our own and we will continue to give the first-class service that has helped New Zealand laboratories stand out amongst our peers on the world stage.

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