

Michael Vaughan

By email: fyi-request-11761-e47efba5@requests.fyi.org.nz
Ref: H201910257

Dear Mr Vaughan

Response to your request for official information

Thank you for your request of 30 November 2019 to the Ministry of Health (the Ministry) under the Official Information Act 1982 (the Act) for:

"1) Who was/were the person/people responsible for researching the material included in the Factsheet and for writing the Factsheet?

2) Regarding the statement '5G is simply a new application of radio technology'.....while this is an accurate statement in that 5G is indeed a new application of radio technology, I am concerned that there is a strong IMPLICATION that it's very similar to 3G and 4G. In reality, the higher 'millimetre wave' frequencies are very different from the 3G and 4G frequencies in their technical characteristics - so different, in fact, that tens of thousands of transmitters would have to be brought into people's neighbourhoods to roll out a functional 5G network. I would like to know why this is not acknowledged in the MOH Factsheet rather than a deliberate implication that it's just a slightly different version of 3G and 4G.

3) Regarding the statement "Existing research on the possible health effects of radiofrequency (RF) fields applies as much to 5G as to any other radio system in use".....I would like to know on what basis scientifically is this statement made? The behaviour and characteristics of the higher frequencies proposed for 5G differ markedly from 3G and 4G as mentioned above. The large body of existing research (tens of thousands of studies) relates to the lower frequencies used for 3G, 4G and wi-fi. The research on health effects of these frequencies (which is very mixed and open to differing opinions - hence the vast discrepancy in Safety Standards adopted in countries around the globe) CANNOT be ASSUMED to apply to the health effects of higher frequencies with markedly different characteristics. There is nothing scientific about this assumption. Therefore, I request an explanation of the logic and science used to make the above statement in the Ministry of Health's 'Factsheet'. Please note that a response along the lines of 'the higher frequencies proposed for 5G are non-ionising radiation just like 3G and 4G, so they can be viewed in the same way' would be TOTALLY UNACCEPTABLE. That would be like saying that a Suzuki Swift and a Ferrari can be treated as the same because they are both cars. Just as a Suzuki Swift and a Ferrari are very different in their behaviour and performance even though they are both cars, the behaviour, performance and health effects of 5G cannot be assumed to be the same as 3G and 4G just because they fall under the broad heading of 'non-ionising radiation'."

Several Ministry officials and scientists were involved in researching the material for the 5G factsheet that was published in August 2019. These included officials from the Ministry's public health group in the Population Health and Prevention directorate, as well as an independent medical physicist. The research used for developing the factsheet can be found on the Ministry's website here: <https://www.health.govt.nz/our-work/environmental-health/non-ionising-radiation/research-non-ionising-radiation>.

Additionally, health officials used the information developed by the Interagency Committee on the Health Effects of Non-Ionising Fields in its addendum to Ministers. This can be found here: <https://www.health.govt.nz/publication/interagency-committee-health-effects-non-ionising-fields-report-ministers-2018>. Information about the members of the Interagency Committee can be found in the terms of reference, which is publicly available on the Ministry's website here: <https://www.health.govt.nz/our-work/environmental-health/non-ionising-radiation/research-non-ionising-radiation>.

In response to part two of your request, the difference with the existing technology is a matter of the way the information is carried by the radio signal. 5G will operate at frequencies similar to those used currently for 3G and 4G, as well as higher frequencies such as millimetre wave (mmWave). mmWave frequencies are already commonly used for other purposes, such as point to point communication links and vehicle radars.

In response to part three of your request, the existing research database includes studies that have looked at the effects of mmWaves. These have formed the basis for exposure standards covering those frequencies. The research into non-ionising radiation can be found here: <https://www.health.govt.nz/our-work/environmental-health/non-ionising-radiation/research-non-ionising-radiation>.

I trust this information fulfils your request. Under section 28 of the Act, you have the right to ask the Ombudsman to review any decisions made under this request.

Please note that this response may be published on the Ministry website.

Yours sincerely



Astrid Koornnef
Acting Deputy Director-General
Population Health and Prevention