Opinion piece: A response to the Demasi ABC Catalyst situation

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I am shocked with the way Dr Maryanne Demasi of Catalyst programme "Wi-Fried" has been treated. I am a researcher who has been working in the field of radiofrequencies and health for some years. My PhD thesis was titled *Wireless phone use by young New Zealanders: Health and policy implications.* This was followed by a post-doctoral fellowship at Monash University. I have many papers in the peer reviewed literature.

The programme explored extremely important questions regarding health and safety and was, I believe, presented in a balanced way, as discussed below. While some of those interviewed were clearly extremely concerned, most of their comments were well handled. For instance, after Dr Davis showed an illustration of how far radiofrequencies can penetrate a child's head, Dr Demasi reasonably enough showed surprise and asked, "Now, do we know that this translates into health effects for the child?" Dr Davis said, "No, we don't ….". Dr Demasi followed the response by explaining, accurately, that radiation exposure drops off exponentially with distance, distance matters. One comment from an interviewee I take issue with is Frank Clegg's claim that the Standard in some countries is 100 times safer. The power density limit is indeed 100 times lower, but this does not necessarily translate into 100 times safer.

The programme also provided comment from ARPANSA, often to follow up a comment by another interviewee. Examples are after Dr Armstrong's comment on the IARC 2B decision; after Dr Davis' comment of radiofrequency exposure on sperm; and after Frank Clegg's comment on international Standards; and both before and after talking to Drs Davis and Teo about brain cancer associations.

This is responsible reporting. Let's look more closely at ARPANSA'S line.

Dr Karapidis said, "We've been doing research in this area for a very long time, and our assessment of the evidence suggests that although <u>some studies do show effects</u>, there is no established evidence that the low levels of radiofrequency radiation from tablets and phones and Wi-Fi and what-have-you, causes <u>health effects</u>" (my emphases). Just a note: Dr Karapidis does not seem to have personally done relevant research resulting in published any papers in the academic literature.

To be understood by a general audience, Dr Karipidis' statement needs to be read with background knowledge of what ARPANSA means by "health effects" and "established evidence".

ARPANSA has a very specific meaning for "health effect" which can be quite misleading, and undeservingly reassuring, if you are not aware of it: "an adverse health effect results in detectable impairment of the health of the exposed individual or of his or her offspring. A biological effect on the other hand may or may not result in an adverse health effect." (ARPANSA, RPS3, 2002).

It is noteable that Dr Karipidis agreed that research does show “effects”. The studies showing effects is actually an extensive body of literature. Just two of many demonstrated and re-demonstrated effects include sperm damage and increased production of free radicals (Reactive Oxygen Species which can lead to oxidative stress and there on to inflammation and a variety of diseases). Oxidative stress is what people take fish oil to counter.

Effects such as sperm damage have been demonstrated from mobile phone emissions as well as from WiFi, although there is less literature specifically examining this source. For instance, at least one WiFi study (and many phone studies) found sperm did not move properly after exposure and DNA was broken. This could and should be regarded as a health effect using ARPANSA’s definition but has not been acknowledged as such by them or other bodies such as WHO. These are not regarded by the regulators as “established evidence”.

Inflammatory effects have been reported from radiofrequency exposure in a variety of situations. Just this year, research from three research groups has found inflammation or inflammatory markers after exposure in the liver of rats, and the eyes and salivary glands in people.

The general public (the ABC’s viewing audience) would I suspect consider increased free radicals leading to inflammation, and damage to their sperm, as health effects (and these are just two examples of many). ARPANSA does not.

What I suspect many members of the public, industry and regulators don’t like is that they don’t want to hear that their mobile phone and other devices may affect them adversely, so they shoot the messenger. The point is that safety (in terms of a wide variety of health outcomes) is by no means sure, and many biological effects which could lead to disease have been repeatedly demonstrated.

An important point in terms of the findings of breaching the broadcasting standards is the concept of consensus; in this field, consensus depends on whose conclusions you are referring to. The “scientific” consensus among Government and industry is that there is “no established evidence” – hardly reassuring when they are the ones who decide whether and when it’s established! However, if you were to ask all independent scientists internationally researching in this field I believe you would find a majority who are concerned by the existing evidence, and a great many who are convinced that problems exist.

The documentary may have been regarded as more challenging if radiofrequency radiation had been referred to as microwave radiation, even though this is a more specific and accurate name for most emissions from everyday transmitting devices. But it did not take this route.

The public knows very little about how the technology they use regularly works or may affect them. Most know very little about how to minimise their exposure without giving up using it. The Catalyst programme went a little way towards helping this situation. We need people like, and including, Dr Demasi bringing such well-researched documentaries on challenging issues to our attention. In my opinion, the points above invalidate the breach claims upheld in the ABC review committee report.