

# **An Overview of the Mobile Phone Debate in Australia**

Are mobile phones and associated wireless radio technologies as safe as we think they are?

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## An overview of the mobile phone debate in Australia

Are mobile phones and associated wireless radio technologies as safe as we think they are?

My answer to this question is that I believe that there are sound informational reasons why they should be treated with greater than otherwise normal precaution.

### **Prologue**

It seems to me that the contentious issues relating to the international wireless radio technology debate can be refined along the lines of the seven following points as follows...

1. The wider international technologies are seeking to maximise their market's presence and profitability by means of new products, installation services and manufacturing of products, this including replacement and maintenance of such technologies.
2. There is a trade off relationship between this collective technological effort and community and personal safety. For example newer technology energy types often emanate higher levels of harmful radiation than earlier comparative models. The new international 5G wireless radio transmission system is an example of this. Whether or not the technologies widely publicise the increase in wireless energy output seems mostly to be at the discretion of the technologies themselves.
3. In order to achieve these objectives the technologies have decided to scientifically propagate the notion to the wider public that thermal heat radiation is mostly safe, even for children. The industry cites many different studies over numerous decades in order to support such claims to the wider public.
4. It is by choosing this scientific marketing approach that the technologies have been able to successfully claim that brain cancer caused by means of non-ionised\* wireless radiation is unlikely.

\* Quote: "...Non-ionising radiation is found at the long wavelength end of the spectrum and may have enough energy to excite molecules and atoms causing them

to vibrate faster. This is very obvious in a microwave oven where the radiation causes water molecules to vibrate faster creating heat”. Source

5. The technologies have also been able to successfully internationally run with this simple message and in doing so have largely dismissed the non-thermal effects of radio wave radiation that has been repeatedly shown to cause brain cancer. This is brain cancer in laboratory animals such as rats and mice.

6. The technology lobby says that it is impossible to scientifically prove that brain cancer is caused by wireless radiation and vigorously publicly defends this argument, even to Government authorities.

7. The technology lobby has set itself up to be a powerful political player as part of this international marketing and information delivery process. The technology industry and its agents and manufacturers often play a significant role in the drafting of Government policies and legislation with respect to the distribution, installation and management and follow up maintenance of new wireless radio appliances and technology. This includes the determination of what levels and quantities of wireless radiation are safe or not with respect to the wider public. This includes children.

These seven points merely scantily address the wide ranging issues, processes, complexities and political intrigue and market place coercion and tactics associated with this technology debate. With respect to this statement what I have attempted to do today is to at least a little to pry open the lid of this box full of mysterious market place intrigue relating to the international wireless radio industry today. I have primarily focused my attention upon the Australian marketing, scene and its long established history in Australia. This document should be seen as sharing technology with a commentary rather than a formal essay. The work is dominated by quotations principally from primary sources.

Discussion:

It is perhaps not surprising that the technologies in Australia maintain the public theme (quote) “... to date, no adverse health effects have been established as being caused by mobile phone use...”. Ref. 1 However, such statements do not bring to account the cumulative effects of mobile phone use together with other similar wireless technologies such as WiFi technology that is now commonly employed

with computer modems. This includes domestic locations where children are exposed to WiFi radio wave radiation. Ref. 1: [Source](#)

This means that the safety debate relating to mobile phone use should be an ongoing one but this is clearly not the case. It is the cumulative degree and effects of exposure by individuals in the community to *all* wireless radiation from every nearby source to them that should be factored into the radio frequency technology debate. By this I mean all types of technology that is associated with radio wave propagation (radiation). It should also be remembered that some wireless technologies (such as WiFi) generate more energy because it is higher up the radiation spectrum emanating in pulsed radiation than other technologies such as cordless phones, children's wireless toys, televisions, some brands of mobile phones and the like. I have read where it is alleged that WiFi technology gives off electro magnetic radiation in the low-gigahertz frequency range that is potentially more dangerous than other wireless radiation but I am not sure of the reliability of this source.

You may assume that when I talk about the safety risk of mobile phone usage in Australia I am not talking just about mobile phones. I am talking about the wider range of our individual and collective exposure to radio frequency technology with wave propagation that we are all continually being exposed to every day of our lives. I also emphasise the point that from my readings in the science journals that no one clearly knows how safe this cumulative radio wave propagation is in either the short or long term human condition. Does it include brain cancer? It has also been disappointing for me to learn from my science readings that the Australian Government does not insist that the Australian wireless radio industry should demonstrate to it and the wider population that it is seriously attempting to operate within the guidelines of the internationally respected [Precautionary Principle](#) public safety parameters. The Precautionary Principle is a guiding principle that advocates that it is better to err on the side of caution until such and such a technology has been proven to be safe over both the short and longer term.

## **Introduction**

Today I will introduce you to information that I feel supports these words. I am not a physicist and I have no interest nor skills in the fields of medical research or practice. In this instance I see myself as being an amateur journalist attempting to unravel what I feel might be a concerted effort to manage and control the international wireless telecommunications debate. This is in relation to radiation from mobile phones and

similar technologies on behalf of the international telecommunications technology manufacturing community.

[Source for ideas below](#)

My effort is to provide you with a line of thinking on this topic that might encourage you to further conduct your own independent research on the matter. I do not seek to prove anything. The telecommunications industry (hereafter referred to as “The Industry”) is, as I understand it, the second biggest industry in the world. Not only does it embrace manufacturers of telecommunications technology of various types, but it also embraces a huge network of “agents” that support its wider ambitions of marketing for profit. This is technology that ranges from simple domestic products such as cordless and mobile phones, but also sophisticated medical equipment such as MRI units. Obviously the use of wireless technology extends far wider than these examples, and includes military establishments as well as space research.

Today I will be focusing on telecommunications technologies that are principally employed in domestic use. All types of domestic products, in one way or another, employ energy transfer [electromagnetic radiation] transmission between products. In the case of mobile phones, this energy transfer is both inwards and outwards through wireless transmission towers, also called base stations. The energy transmissions transfer between mobile phones and such towers are not at a constant level, and depends on how mobile phones are being used at any given time. By this I mean that when your mobile phone rings, the ring tone is accompanied by a surge of power into your head. The degree of such an inward energy “bounce” also relates to the distance your mobile phone is from the nearest base station as well as its designated power output in a given region

The power of the output points are related to the cell (area) they are providing cover for. Our mobile phones search for the most powerful transmission source and themselves. Our mobile phones have their own inbuilt automatic power control in order to maintain good call quality. It is these consistent inwards and outwards power surges when our mobile phones are switched on that some scientists say is greatest danger to us when we employ our mobile phones. Radiation enters your body [including your head] when you talk on your mobile phone. If you store your mobile phone on your person, you will also receive a temporary boost of radiation when your phone rings.

Medical evidence seems to suggest that exposure to radiation from mobile phones on the human body might lead to some sort of malignant cancer or benign meningioma [non-cancerous tumour]. The wireless radiation debate is not an easy one to understand.

What then do I consider to be the most important information relating to this radiation debate?

This is also a complex area to discuss. I am not capable of fully explaining it but I will do my best in the most general terms. The area of greatest dispute with respect to the cause of malignant cancer tumours and non-malignant meningioma is concerned with the thermal and non-thermal effects of radiation. The Industry postulates that it is only thermal [heat transfer] effects that *might* (unlikely to) cause malignant cancers in human brains and animal life. It also says that with such clearly identifiable and measurable heat transfer radiation, causes (causation) are clearly identifiable and measurable. The Industry says it is for this reason that brain cancers can be considered to have only numerically and reliably changed over the last two decades. Reliably changed means that the trend line is consistent.

The wider Industry generally propagates the notion that such low-level thermal exposures [meaning heat effects caused by radio frequency radiation, not heat/infrared radiation] are of no biological significance and that furthermore they are reversible. On the other side of the debate, however, there is an opposing argument to this single thermal effect cause for the generation of new malignant cancers or benign meningiomas. This opposing argument says that they are related to either unknowable or suspected biological mechanisms that are not able to induce body temperature increases higher than 0.01 degree C.

The non-thermal advocates in the debate say that *both* thermal and non-thermal mechanisms relating to both malignant and non-malignant cancers and tumours should be considered in the debate. Thus it seems to me that there are sound commercial reasons why The Industry continues to hold the opinion that only thermal effects under such conditions should be considered. I think that this is because The Industry can then more effectively control and “massage” the international debate around the simple and easy to explain context of thermal effects as I have just described.

If the debate were to be widened to incorporate non-thermal effects, I feel that The Industry would have no such “manoeuvring” ability within the cancer cause debate. From these words I am implying that The Industry would then have the flexibility to effectively, and in many cases legally, to manage and control the world wide brain cancer/mobile phone use debate as it does today. Without such control and credibility I feel that The Industry would, by necessity, then be compelled to include in its model medical information incorporating both human and laboratory tested animal and plant medical science. Furthermore The wider Industry would then probably have to consider the laws of individual countries and state governments as well its business modelling and research activities.

I suggest that you seriously consider these words with my text that follows.

Insight into what follows

It is my intention, with outside professional help, to write a more specific and detailed paper about this subject in the near future. Today I will confine my discussion along the following lines. The principal sections of my proof of evidence with my submission sits within both the text itself as well as the extended attached references. In each of these respective areas I will provide you with a few hints as to what to look for with respect to my earlier words. There are ten topics that I will introduce to you. Each of these topics should be seen as being merely an indicative illustration to a much wider international debate that exists in the world of international telecommunications industry (The Industry). These topics are:

- 1] The relevance of the debate in the first place.
- 2] The widely recognised international authority with respect to the leading of The Industry.
- 3] What the Council for Europe [the Committee of Environment] thinks about and recommends with respect to this debate. This is what it considers to be the potential dangers of electromagnetic fields and their effect on the environment.

Note: This item principally relates to the role of ICNIRP and the international telecommunications industry within this discussion.



4] The role of the advisory body in Australia with respect to the wireless technology debate.

5] An important appreciation of the ICNIRP and ARPANSA entities with respect to the 2001 Australian Senate debate.

6] The national and international concern relating to the safety of wireless technology.

7] The ferocity of the wireless radiation debate in Australia.

8] How commonly presented data can be misleadingly presented.

9] Contemporary concerns in the medical profession with respect to the unexpected emergence of aggressive brain cancers and benign meningioma tumours.

10] The role of Professor Simon Chapman with respect to the wireless technology radiation debate in Australia.

#### **Item A:**

#### **The relevance of the debate in the first place.**

I believe that the approach that I have taken to address this subject is an unusual one. This is because I believe that looking at the historical dynamics of both the Australian and international Industry provides clues as to what the current debate is all about, as well as perhaps what direction it may take in the future. This is because The Industry both leads the debate as well as it would like to continue to do so in its own interests. I also think my approach to this subject helps to identify the individuals and entities within The Industry as well as the key protagonists. It is from this more exposed historical relationship between the parties [including international] that we might all be able to get a bit better feel about what is occurring at the coalface of the debate. This includes what its multiple layers might be as well. This includes politically.

Also what I feel that my investigative research has done is to identify ballooning tumour effects in commonly recorded and presented data that are hidden by such data. This includes brain cancer in young children from the ages of zero to five. I have found that children in this particular age group are not normally segregated in

the debate. The normal literature seems to mostly consider brain cancers in children under the age of ten [sometimes twelve] whereas most of the incidents of brain cancer in this bracket are under the age of five years. I talk about this and illustrate it more in section H later herein.

In section I I also talk about the same ballooning effect of the highly significant and dangerous ASR [age-standardized incidence rate] rise in glioblastoma [GBM] across all ages, countries and epochs. In order to demonstrate this point I will quote an introductory section of a 2017 United Kingdom research article entitled “Brain Tumours : Rise in Glioblastoma Multiform Incidents in England 1995 to 2015 Suggests an Adverse Environment for Lifestyle Factor”.

Quote:

“Objective

To investigate detailed trends in malignant brain tumour incidence over a recent time period.

Methods

UK Office of National Statistics (ONS) data covering 81,135 ICD10 C71 brain tumours diagnosed in England (1995–2015) were used to calculate incidence rates (ASR) per 100k person–years, age–standardised to the European Standard Population (ESP–2013).

Results

We report a sustained and highly statistically significant ASR rise in glioblastoma multiforme (GBM) across all ages. The ASR for GBM more than doubled from 2.4 to 5.0, with annual case numbers rising from 983 to 2531. Overall, this rise is mostly hidden in the overall data by a reduced incidence of lower-grade tumours.

Conclusions

The rise is of importance for clinical resources and brain tumour aetiology. The rise cannot be fully accounted for by promotion of lower–grade tumours, random chance or improvement in diagnostic techniques as it affects specific areas of the brain and

only one type of brain tumour. Despite the large variation in case numbers by age, the percentage rise is similar across the age groups, which suggests widespread environmental or lifestyle factors may be responsible. This article reports incidence data trends and does not provide additional evidence for the role of any particular risk factor.

## 1. Introduction

The causes of brain tumours in adults remain largely unknown [1]. In 2011, the World Health Organisation (WHO) prioritised the monitoring of detailed brain tumour incidence trends through population-based cancer registries [2]. This article reports recent changes in malignant brain tumour incidence in England that include age, sex, morphology and tumour location.” End of quote.

[Reference source for above](#)

### **Item B:**

**The widely recognised international authority with respect to the leading of The Industry.**

Information about the widely recognised international authority relating to The Industry. This authority is entitled “International Commission on Non-Ionizing Radiation Protection” [ICNIRP].

This Wikipedia article extract provides a pointer as to how the ICNIRP sees itself in the international telecommunications industry. You should note the contrast between how ICNIRP sees itself and how I describe it later throughout this presentation. Also keep in mind what might be seen as the covert role the ICNIRP plays in the world wide wireless radiation settings with respect to safety.

Quote:

[I have emboldened certain passages in this quote]

“The **International Commission on Non-Ionizing Radiation Protection (ICNIRP)** is an international commission specialized in non-ionizing radiation protection. **The**

**organization's activities include determining exposure limits for electromagnetic fields used by devices such as cellular phones.<sup>[1]</sup>**

ICNIRP is an independent non profit scientific organization chartered in Germany. It was founded in 1992 by the International Radiation Protection Association (IRPA) to which it maintains close relations.

**The mission of ICNIRP is to screen and evaluate scientific knowledge and recent findings toward providing protection guidance on non-ionizing radiation, i.e. radio, microwave, UV and infrared. The commission produces reviews of the current scientific knowledge and guidelines summarizing its evaluation.** ICNIRP provides its science-based advice free of charge. In the past, national authorities in more than 50 countries and multinational authorities such as the European Union have adopted the ICNIRP guidelines and translated them into their own regulatory framework on protection of the public and of workers from established adverse health effects caused by exposure to non-ionizing radiation.

**ICNIRP consists of a main commission which membership is limited to fourteen** to ensure efficiency and four Standing Committees of each up to 8 members covering the fields of epidemiology, biology and medicine, physics and dosimetry and optical radiation. Its members are scientists employed typically by universities or radiation protection agencies. They do not represent their country of origin, nor their institute and can not be employed by commercial companies.

ICNIRP is widely connected to a large community working on non-ionizing radiation protection around the world. Its conferences and workshops are widely attended. ICNIRP presents its draft guidelines online for public review and comment before publication. It has ties to IRPA and is formally recognized by the World Health Organization (WHO) and the International Labour Office (ILO) as partners in the field of non-ionizing radiation.<sup>[2]</sup> Its advice is requested by many national and multinational organizations such as the European Union (EU). Standard bodies also refer to ICNIRP health protection guidance for setting appliance standards.

**To preserve its independence from vested interests ICNIRP applies fundamental principles as provided by its Charter and statutes:** it does not receive financial support from commercial entities. Its fundings consist solely of periodical or project grants from national and international public bodies and to a lesser extent of the income derived from its publications and scientific congresses and workshops. The

members are not allowed to be employed by commercial entities. To enforce this rule, they are requested to fill in a declaration of personal interests and report any changes as they occur. Declarations of interests are publicly available on the ICNIRP website.

**ICNIRP's activities are of scientific nature and deal with health risk assessment only. Policy or national or international risk management are considered outside of its scope.** Balanced evidence based health risk assessment requires to screen the totality of the available science in an evaluation process. In this process the published literature is carefully read and interpreted in light of a set of quality criteria widely agreed by the scientific community.” End of quote.

[Reference source for above](#)

**Item C:**

**What the Council for Europe [Committee of Environment] thinks about and recommends with respect to what it considers to be the potential dangers of electromagnetic fields and their effects on the environment.**

[This principally relates to the role of the ICNIRP within the European Union in the debate].

[You will find the full 67 points in this document here](#)

I have copied and pasted what I consider to be the most important and interesting points in reference one at the rear of this document. I have emboldened the key features that you should give closer attention to in this reference with respect to the general thrust of the argument I am presenting to you throughout this document. As a lead into reference one, the following quotations from this reference are provided to give an an example of some of the ideas and material types you will find within it.

Quotes:

“...the response of top executives of electricity companies and mobile telephone operators is to deny that their industrial and commercial activities have any adverse effect on human health...”

“...It appears that these European and national organisations or international bodies have **based their thinking on the threshold values and recommendations advocated by the ICNIRP...**”

“...that the Committee on the Environment, Agriculture and Local and Regional Affairs is currently **working on the question of conflicts of interest** and the urgent need for real independence of scientists involved in the official agencies tasked with evaluating the risks of products prior to licensing...”

“...a number of comparative studies do seem to suggest a fairly strong correlation between the origin of their funding...”

“...The operators’ representatives **totally deny the existence of nefarious long-term biological effects for electromagnetic fields** below the threshold values in force...”  
End of quotes.

#### **Item D:**

#### **The role of the advisory body in Australia with respect to the wireless technology debate.**

ARPANSA was responsible for the contemporary Australian National Radiation Emissions Standard

On the seventh of May 2002 Mr. John Loy, CEO of the Australian radiation protection and nuclear safety agency [ARPANSA] signed a document that was later to become the Australian national standard with respect to wireless technology electromagnetic radiation emissions. This was then presented to the relevant Australian authorities and regulatory bodies for adoption through their legal processes. This was done in the following way.

I quote from the forward of this [wider 136 page document](#) as follows:

[I have emboldened certain passages in these quotes]

“...Foreword

This Radiation Protection Standard (hereafter referred to as ‘the Standard’) sets limits for human exposure to radiofrequency (RF) fields in the frequency range 3 kHz to 300 GHz. The Standard includes:

“...mandatory basic restrictions for both occupational and general public exposure involving all or part of the human body;...”

“...There is currently a level of concern about RF exposure, which is not fully alleviated by existing scientific data. **It is true that data regarding biological effects, at levels below the limits specified in the Standard, are incomplete and inconsistent. The health implications for these data are not known and such data could not be used for setting the levels of the basic restrictions in the Standard...**”

“...Whilst public concern about human exposure to RF fields has focussed on mobile phones and their base stations, it is important to stress that the Standard applies across the RF spectrum and to the full range of activities that use RF fields. The drafting of the Standard needed to bear in mind the sophisticated and complex applications of RF in telecommunications and broadcasting through to small businesses using RF welders that may in fact be much less amenable to proper control...”

**“...The Standard has been specifically devised to protect everybody, including children.**

The Standard was developed by a working group of the Radiation Health Committee. The starting point for their deliberations was a draft document initially prepared by the TE/7 committee of Standards Australia. **As with the TE/7 draft, the limits specified in the Standard are based on the published 1998 Guidelines of the International Commission on Non-Ionizing Radiation Protection (ICNIRP)...**  
End of quotes.

## **Item E:**

### **An important appreciation of the ICNIRP and ARPANSA entities in the 2001 Australian senate debate.**

This section is an extension of item D

I see this section as being the most important part of my presentation today. What I have attempted to do in this section is to firmly entrench in your mind just how interrelated and assimilated the ICNIRP, ARPANSA and Australian Mobile Telecommunications Association [AMTA] are. AMTA is the body that represents the organisations involved on the wireless telecommunications industry in Australia.

There are two parts to this section

#### **A] An introduction to the historical Australian standard TE/7 committee**

The Australian standard with respect to the safety standards regarding electromagnetic radiation emissions was first published in 1985. It dealt with human exposure to radiofrequency fields. It is from this standard [AS277: 1995] an Australian technical committee was formed [TE/7] to look into whether Australia should adopt that of the American National Standards Institute [ANSI] The TE/7 committee elected not to do so. It considered that the ANSI exposure level for non-ionising electromagnetic radiation emissions was too high. It is from this historical perspective that the joint ICNIRP and ARPANSA submission was presented to the Australian senate for adoption [the TE/7 standards committee had earlier collapsed because it could not get the required minimum numbers on the committee to adopt the more conservative recommendations. The conservative committee members feared the higher ANSI standard].

Before it collapsed the TE7 committee created a report that summarised the key line of thought and debate that took place during its formation. This complete document can be found here. I have copied and pasted what I consider to be the sections I feel would be of most interest. A summary of these sections appear in reference 2 in the reference section. I have emboldened parts that I feel you should pay special attention to with respect to the objectives of this presentation. As a lead into reference 2 I have copied and pasted certain sections of this reference below. They provide an insight as to what types of ideas and statements you will find in this reference.



Quotes:

[I have emboldened certain passages in these quotes]

**“...Uncertainty about potential of low intensity, long-term exposure to RF from telecommunications technology was found by the Committee to be the basis of the continuing argument for a sensible precautionary approach (principle)...”**

“...The technical committee did not reach agreement on the last revision of the Standard in 1999, which sought to introduce the more lenient ICNIRP Guidelines...”

“...This concept still fails to take into account more subtle interactions with biological systems that have nothing to do with the effects of absorbed energy being turned into heat...”

“...Another useful feature of the 1985 Australian standard was to establish reduced exposure limits for the general population than for the occupationally exposed population...”

**“...The CSIRO informed the Committee that in recent years there have been various attempts to relax the acceptable limits of radiofrequency exposure in the Australian Standard...”** End of quotes.

Please consider these quotations in association with what I have discussed with regard to the ICNIRP already, and also section B that follows:

[Reference source for above](#)

**B]** The link between ARPANSA, ICNIRP and AMTA

Quotations from the AMTA submitted to the Australian Senate on 2001. These quotations are cited below. You will note how these quotations embrace references to well known institutions. More significantly these institutions include ICNIRP, the WHO, ARPANSA and the original TE/7 standards committee [the latter other members helped to destroy]. If you care to understand the wider political dynamics that was occurring around that period Maisch does a very good job in explaining it in chapter five (page 209) of his PhD presentation.

Quotes:

[I have emboldened and italicise certain passages in these quotes]

“...1. The Australian Mobile Telecommunications Association (AMTA) is the national representative body for the mobile telecommunications industry. It represents carriers, manufacturers, retailers and associated industries. Membership includes transnational and Australian firms servicing around 8 million mobile subscribers.

2. Consumer and community confidence in mobile products and services are important to the long-term success of the industry. Community uncertainty on health and other issues is necessarily of concern to the industry. In that context, the Senate Inquiry is a timely and welcome opportunity to address community and industry issues in an inclusive, public process. AMTA supports the Senate Environment, Communications, Information Technology and the Arts Committee Reference: EME Inquiry (Senate Inquiry) process as a means of facilitating open debate on specific electromagnetic energy (EME) issues including national and international research and standards...”

“...7. Media and community attention has been drawn to speculation about whether mobile radio transmissions have a health impact, particularly with regard to cancer. *It is the assessment of the world’s leading expert and health advisory bodies that there is no substantiated scientific evidence that either using a mobile phone or living near a mobile phone base station is harmful to human health.*

8. **This assessment has been made by numerous international authorities including the International Commission for Non-Ionising Radiation (ICNIRP), the European Commission (EC) Expert Group, WHO, the Royal Society of Canada and most recently the UK’s Stewart Inquiry.** This is additional to independent experts in the field such as Moulder, Brusick, Elwood and others.

9. **Industry standards offer benefits to business, consumers and the general public.** These include product efficiencies, enhanced safety and security, more efficient public controls, and interoperability. There are established international procedures, which are followed in Australia, to ensure that the standard setting process is consultative, inclusive of relevant expertise, consistent with international developments and developed in the spirit of furthering the common public interest.

10. In Australia, the TE/7 Committee responsible for drafting the Australian Standard, AS2772.1, for human exposure to RF emissions only just failed to reach the requisite 80% consensus agreement. The AS2772.1 Standard was subsequently withdrawn, leaving Australia with no official RF exposure Standard. To fill this vacuum, the Australian Communications Authority (ACA) mandated its own RF exposure Standard for telecommunications, based on the limits of the previous AS2772.1 Standard...”

“...14. With the absence of agreement on Standards Australia TE/7 Committee, the Government acted responsibly in seeking a new standard from ARPANSA and requesting an industry code from ACIF on the siting of new infrastructure.

15. **The composition of the ARPANSA committee overseeing the development of the new Australian exposure standard has appropriate participation and takes into account relevant expertise.**

16. **The harmonisation of standards on a global basis is a worthwhile objective and AMTA would welcome a replacement Australian standard being developed within the guidelines recommended by the ICNIRP.** The ICNIRP guidelines are based on the need to avoid known adverse health effects and provides a safety factor of up to 50...”

[Reference source for above](#)

**Item F:**

**The national and international concern relating to the safety of wireless technology.**

i] The international concern

There is growing international concern with respect to wireless telecommunications technology. This is perhaps best exemplified by a Guardian newspaper article dated the 15<sup>th</sup> of July 2018. I strongly urge you to read this article [Ref 1]. Apart from a general discussion about the history and danger of mobile phones, The Guardian reported as follows:-

Quote:

“...Eleven independent scientists spent three days at Research Triangle Park, North Carolina, discussing the study, which was done by the National Toxicology Program of the US Department of Health and Human Services [Ref. 2] and ranks among the largest conducted of the health effects of mobile phone radiation. NTP scientists had exposed thousands of rats and mice (whose biological similarities to humans make them useful indicators of human health risks) to doses of radiation equivalent to an average mobile user’s lifetime exposure...”

[Reference source for above 1](#)

[Reference source for above 2](#)

“...The peer review scientists repeatedly upgraded the confidence levels the NTP’s scientists and staff had attached to the study, fuelling critics’ suspicions that the NTP’s leadership had tried to downplay the findings. Thus the peer review also found “some evidence” – one step below “clear evidence” – of cancer in the brain and adrenal glands.

Not one major news organisation in the US or Europe reported this scientific news. But then, news coverage of mobile phone safety has long reflected the outlook of the wireless industry. For a quarter of a century now, the industry has been orchestrating a global PR campaign aimed at misleading not only journalists, but also consumers and policymakers about the actual science concerning mobile phone radiation. Indeed, big wireless has borrowed the very same strategy and tactics big tobacco and big oil pioneered to deceive the public about the risks of smoking and climate change, respectively. And like their tobacco and oil counterparts, wireless industry CEOs lied to the public even after their own scientists privately warned that their products could be dangerous, especially to children.” End of quote.

I feel that this particular research by the National Toxicology Programme of the US Department of Health and Human Services is likely to be one of the most recent scientifically authoritative documents globally relating to the dangers of mobile phone radiation.

Additionally, I draw your attention to an article entitled “Scientists warn of potential serious health effects of 5G”. The article is dated 13<sup>th</sup> September 2017. The introduction to the article states:-

Quote:

“...We the undersigned, more than 180 scientists and doctors from 35 countries, recommend a moratorium on the roll-out of the fifth generation, 5G, for telecommunication until potential hazards for human health and the environment have been fully investigated by scientists independent from industry. 5G will substantially increase exposure to radiofrequency electromagnetic fields (RF-EMF) on top of the 2G, 3G, 4G, Wi-Fi, etc. for telecommunications already in place. RF-EMF has been proven to be harmful for humans and the environment.” End of quote.

[Reference source for above](#)

You will find that the article especially draws attention to what it sees as the “... massive increase of mandatory exposure to wireless radiation...” with respect to the new 5G wireless telecommunications technology...”

The Russian Federation is much more concerned about wireless radiation than the west is. This is especially so with respect to children. What follows are two items relating to RF/EMF radiation that the Russians feel are important to let the west know about in order to help to standardise the safe limits of exposure to wireless technology. One is dated September 2002 and the other one is dated August 2014. You will notice between these dates that the Russians have maintained their line of thinking with respect to radiation in these in between years.

1.

Quote:

**“The Third International Conference ELECTROMAGNETIC FIELDS AND HUMAN HEALTH – FUNDAMENTAL AND APPLIED RESEARCH Held in Moscow and St. Petersburg, Russia, September 17-25, 2002.**

**OPINION OF THE RUSSIAN NATIONAL COMMITTEE ON NON-IONIZING RADIATION PROTECTION ABOUT THE QUESTION OF BIOLOGICAL EFFECTS OF THE ELECTROMAGNETIC FIELDS OF CELL PHONES**

**At the session on September 19, 2001**, the Russian National Committee on Non-Ionizing Radiation Protection (RNCNIRP) discussed and for the first time approved the recommendations for the population and organizations of the cellular communications industry:

1. Supporting the Precautionary Principle of the World Health Organization, relying on the published data of foreign studies, scientific generalizations, opinions of the international scientific organizations, and expert opinions of members of the RNCNIRP, to distribute on behalf of the RNCNIRP the following information for the population about the key safety and hygienic rules regarding use of cell phones:

1.1. Non-use of cell phones by children under the age of 16.

1.2.

1.2 Non-use of cell phones by pregnant women.

1.3. Non-use of cell phones by persons suffering from neurological conditions or diseases, including neurasthenia or dysthymic disorders, mental disorders, neuroses, intellectual and memory impairment, sleep disorders, epilepsy, and epileptic predisposition.

1.4. Limiting the duration of phone calls to a maximum of three minutes, and allowing a period between calls of a minimum of 15 minutes. Preferred use of headsets and hands-free systems.

2. The cell phone manufacturers and retailers should include the following information to accompany engineering specifications:

2.1. All of the above recommendations regarding use.

2.2. Data and conclusions on relevant health and epidemiological testing of the name of the test lab.”

Reference for above

[https://www.buergewelle.de/assets/files/electromagnetic\\_fields\\_and\\_human\\_health.pdf](https://www.buergewelle.de/assets/files/electromagnetic_fields_and_human_health.pdf)

2.

Quote:

### **RNCNIRP to issue report on Russian RF research**

23 AUG 2014

(I emboldened and italicised)

#### **From the International EMF Alliance:**

Professor Yury Grigoriev calls for order and the world needs to listen:

“Man conquered the Black Plague, but he has created new problems – EMF pollution”

The Russian National Committee on Non-Ionizing Radiation Protection has agreed to provide a detailed report for the world containing clear information on **the most important Russian research results in RF/EMF radiation over the past 50 years.**

RF/EMF researchers and environmental activists, Eileen O’Connor, Director for the UK Radiation Research Trust charity and Sissel Halmøy, Chairman for the International EMF Alliance and Secretary General for the Citizens’ Radiation Protection in Norway recently returned from a trip to meet with top scientists at the Russian Federation.

Halmøy said: “According to the RNCNIRP, the following health hazards are likely to be faced by children who use mobile phones in the near future: disruption of memory, decline of attention, diminishing learning and cognitive abilities, increased irritability, sleep problems, increase in sensitivity to the stress, increased epileptic readiness.

**Action must be taken immediately to adopt biologically based guidelines to protect children.” Current standards are based more on engineering needs than biological studies.**

O’Connor said “The Russian report is a gift to the world. The UK Radiation Research Trust will present the report in the Autumn to the Rt Hon Iain Duncan Smith MP and will be forwarded to the UK Chief Medical Officer, Professor Dame Sally Davies.” She added “Russian scientists are advanced in their knowledge on RF/EMF radiation

and have extended the hand of friendship and are willing to share their expertise and knowledge. I hope decision makers from the western world accept this great honour and work together.”

Russian research offers crucial and important aspects of developmental relevance that conveys a sense of urgency for the global RF/EMF framework. Without it, national governments may not be able to ensure the health of future generations are protected, especially that of our children.

**Russian warnings exists urging pregnant women to avoid using mobile phones entirely along with children under eighteen.** Likewise, Germany, India, the United Kingdom, Israel, Finland, Belgium and Toronto, Canada, have issued health warnings for children to not use mobile phones, or for emergency use only. Unfortunately, most children, parents, doctors and teachers are not aware of this important information.

**Furthermore, in May 2011 the World Health Organisation and IARC issued a classification stating that radio frequency – electromagnetic fields are possibly carcinogenic to humans (group 2B). This warning is issued not only for mobile phones and phone masts, but for Wi-Fi, smart meters, wireless computers and all applications of technology on the RF/EMF Spectrum (radio-frequency radiation to electromagnetic radiation.)**

Chairman of Russian National Committee on Non-Ionizing Radiation Protection, member of International Advisory Committee of WHO “EMF and Health” Professor Yury Grigoriev said: “The brain is a critical organ. Vital brain structures are under EMF exposure daily when using a mobile phone. The brain is made up of permanent complex biophysical processes and vital functions. We need to take care with mobile phones and use distance and reduce time. Children should use mobile phones for emergencies only and also use hands free.”

Deputy Chairman, Russian National Committee on Non-Ionizing Radiation Protection, Professor Oleg Grigoriev said: “We need correct control and assessment of electromagnetic pollution. There are currently a lot of new frequencies containing modulation and no one knows the results which could be a serious problem.”

***Russian scientists are also warning countries throughout the world including ministries of health and other organizations, responsible for the population safety (including children), to pay attention to the regulation of mobile phones and Wi-Fi use in kindergardens and are recommending the usage of wired networks in schools and educational institutions, rather than a network using wireless broadband systems, including Wi-Fi.***



The Russians stand by their solid research which has consistently shown that prolonged exposure to RF/EMF radiation disturbs cognitive function.

**For protection from RF/EMF non-ionizing radiation, many countries have adopted a set of guidelines provided by private group of industry-friendly scientists known as ICNIRP. The ICNIRP guidelines are for short-term, acute thermal RF/EMF exposure. *The current ICNIRP, IEEE standards are based on the preconceived and out dated view of government authorities that the only possible established biological effect of RF/EMF exposure is tissue heating.***

The Russian standards are supported by science as a result of extensive research and take into account the dangers of non-thermal exposure. The standards are also backed by the Russian Ministry of Health and are a small fraction of what is allowed by ICNIRP and the IEEE which is currently adopted in many countries.

Research clearly underlines the need for action on mobile phones and wireless technology. We need to launch global government backed hard-hitting advertising campaign especially for children, and large health warnings should be clearly visible on all RF/EMF emitting= equipment. Mass media campaigns can also create awareness.

O'Connor said: "I am grateful to the Rt Hon Iain Duncan Smith for offering to submit the Russian report to the UK Chief Medical Officer and hope that Government and health agencies worldwide listen to concerns raised by Russian and independent scientists and urgently adopt health based RF/EMF standards to protect human health. We need to provide as swift solution to this problem as soon as possible. We simply cannot afford to wait."

Russian scientists recognise the value of non-Government groups in discussion and research. Deputy Chairman, Russian National Committee on Non-Ionizing Radiation Protection, Professor Oleg

Grigoriev said: "We need to include non-Government groups in discussion and research. Non- Government groups play an equal importance to Government and the scientific community. NGO's are a new power and are representing people with electrosensitivity (ES) and should be an equal player." He added that "If the decisions are not made together with the NGOs, then decisions may have no value."

The UK Radiation Research Trust, Citizens' Radiation Protection in Norway and International EMF Alliance are calling for the Governments to engage with NGO's and Independent (non- telecommunications funded) scientists.

It's time for action!

Professor Oleg Grigoriev, Head of Department of Non-Ionizing Radiation, Federal Medical Biophysical Center of Federal Medical Biological Agency of Russia and Deputy Chairman, Russian National Committee on Non-Ionizing Radiation Protection and Director, Center for Electromagnetic Safety

Professor Yury Grigoriev, Chairman of Russian National Committee on Non-Ionizing Radiation Protection, a member of Int. Advisory Committee of WHO “EMF and Health”

Sissel Halmøy, Secretary General for the Citizens’ Radiation Protection in Norway [www.stralevern.org](http://www.stralevern.org) and founder and Chair of the International EMF Alliance <http://www.iemfa.org>

Eileen O’Connor, Founder and Board member for the International EMF Alliance and Director of UK EM Radiation Research Trust [www.radiationresearch.org](http://www.radiationresearch.org)

Reference for above

<https://www.emfacts.com/2012/08/rncnirp-to-issue-report-on-russian-rf-research/>

ii] The national concern

In Australia there exists an organisation called Oceania Radiofrequency Scientific Advisory Association [ORSAA]. ORSAA represents the scientific interests of scientists and individuals who are concerned about the direction in which the wireless telecommunications debate is heading in Australia today. It is important that you read the following ORSAA quotation. You will probably see how its aims and objectives seem to sometimes run counter to ARPANSA’s scientific beliefs and activities (not necessarily its stated objectives) in the wireless radiation debate in Australia). The objectives of ORSAA are as follows:

Quote:

“...Objectives of ORSAA

1. To promote the preservation of health and human rights by advancing the knowledge and expertise pertaining to the science of non-ionizing radiation through education and other lawfully charitable means. This will be achieved by promoting social and environmental responsibility when adopting new High Frequency (HF) technology with a view to harm minimization.

2. To promote the establishment and maintenance of a program to educate scientists, medical professionals, education professionals, and interested laypersons, by making available and disseminating as widely as possible, all available information relating to scientific research covering man made sources of non-ionizing radiation, environmental impacts and public health and well-being. This will be achieved by the following:-

a. Assemble a broad range of scientific experts within the scientific community relating to HF radiation exposure and potential health effects;

b. Provide a forum for discussion and education;

c. Provide educational seminars on the safe use of HF radiation devices; including bringing to Australia the latest overseas researchers to talk on the emerging health issues that are being associated with HF radiation exposure.

3. To promote the establishment of ethical and professional RF Standards that are biologically based for long term benefit of the general public. This association will have no vested financial interest in wireless technology and will investigate research studies relating to radiofrequencies with an independent and unbiased view.

4. To promote the support and encouragement of scientific research applicable to man-made non-ionizing radiation, health and well-being.

5. To assist in research objectives that will identify potential impacts relating to exposure of man-made non-ionising radiation and to establish a sound basis for explaining potential harm(s).” End of quote.

#### [Reference source for above](#)

I also think that this quotation from the 22<sup>nd</sup> September 2018 ORSAA newsletter provides sound complementary evidence that supports my wider message to you today.

Quote:

[I have emboldened certain passages in this quote]

“From Dr. Priyanka (Pri) Bandara who is on our ORSAA Executive Management Committee and is well published in this research area. She states:

"The only independent scientific organisation investigating the health risks of wireless radiation (microwave radiofrequency EMR) in our region, [www.orsaa.org](http://www.orsaa.org) has presented the empirical scientific evidence showing harm at currently permitted levels of exposure. Scientists at ORSAA have built the world's largest categorised database of peer-reviewed scientific publications on RF-EMR. A snapshot of our database (12 February 2018), showed that most studies (n=1283, 67.1%) out of 1913 studies (in vitro/in vivo experimental studies on human/animal/plant systems and population studies) reported statistically significant biological effects while 24.4% reported no effect and 8.5% uncertain effects. **I have personally presented the irrefutable evidence that currently permitted level RF exposure causes oxidative stress in living cells and would contribute to chronic diseases such as cancer.** These findings are published: Bandara P, Weller S. Biological Effects of Low-intensity Radiofrequency Electromagnetic Radiation – Time for a Paradigm Shift in Regulation of Public Exposure. *Radiation Protection in Australasia* 2017; 34: 2-6. **This evidence indicates that ARPANSA judgement is flawed on RF-EMR and the health of Australians is at risk. In the meantime, the latest data from the WHO shows that Australia has the world's highest cancer rate - yes, Gold medal out of 185 countries - What a shame!** As a society, we have to move towards safer wired technology reducing our wireless use if we want to be serious about chronic disease prevention. Some countries have banned WiFi in schools, yet, we're pushing it more and more on vulnerable children. I have highlighted some of the concerning evidence related to WiFi in a scientific letter.

A study with a long observation period (1996-2006) in Brazil found a marked increase in cancer death rate near mobile phone base stations (MPBS). University academics and local government authorities studied 7191 cancer deaths. It took 1 km for the observed cancer death rate to come down to the expected cancer death rate. **Based on their findings, the investigators claimed current ICNIRP public exposure guidelines that Australian ARPANSA standards are based on, are not protective and urged immediate changes.** The EMR levels varied between 0.4 – 12.4 V/m ( $4.2 \times 10^{-4}$  – 0.4 W/m<sup>2</sup>) in this study, only a small fraction of the allowed levels by the ARPANSA standards and very common in Australian locations and Australian homes/schools near wireless transmitters. (Dode A.C. et al., *Science of the Total Environment* 2011; 409:3649–3665). There are similar studies from elsewhere showing increased cancer near these RF transmitters. Indian academic researchers

recently reported increased DNA damage and oxidative stress in healthy young people living near mobile towers (Zothansiana et al. Electromagnetic biology and medicine. 2017;36(3):295-305.; Gulati S, et al., Mol Cell Biochem. 2018;440(1-2):1-9).

**Australia has not conducted a single study like this to investigate if there is a problem.** And the latest data from the WHO shows that Australia has the world's highest cancer rate - out of 185 countries. This is a serious public health issue. See what a senior oncologist (who has done extensive research on mobile phone use and brain cancer) from Sweden has to say about the questionable way the WHO is handling this issue.” End of quote.

[Reference source for above](#)

### **Item G:**

#### **The ferocity of the wireless radiation debate in Australia.**

The ABC Catalyst programme encourages debate about health, science and technology. On the 16<sup>th</sup> of February 2016 Catalyst featured a story about the mobile telecommunications technology issues. What the presenter Dr. Maryanne Demasi probably didn't expect was the instantaneous fierce response from the telecommunications technology industry and its supporters. If you recall what I wrote about in item C [what Europe thinks about ICNRIP] perhaps such a response was not unexpected.

I have chosen this ABC TV story to share with you because I feel it is representative of the general thread of this document. By this I mean that the wireless telecommunications technology community is determined to protect its wider interests under all circumstances.

I will share this ABC TV story in the following way. On the 19<sup>th</sup> of February 2016 the Executive Producer of the Media Watch program [Timothy Latham] asked the Catalyst Producer [Aidan Lavery] to provide answers to seven questions about the show. Timothy Latham wanted to know why there was so much widespread criticism of the Catalyst TV show. This criticism was based around the programme being “inaccurate, misleading, sensationalist and lacking scientific rigour” Timothy Latham's seven questions were:-

Quote:

“...MW QUESTIONS

Why did Catalyst have six people arguing that Wifi and or, mobile phones, are dangerous and only one arguing otherwise?

Why was the time given to each side so unbalanced? (we counted 14 mins for critics, 2.5 to ARPANSA)

Why wasn't more weight given to experts who argue there is NO evidence mobile phones pose a health risk?

After initially approaching Rodney Croft, why did Catalyst not interview him for the programme, given he is an expert in this field?

Why did Catalyst not interview members of the NHMRC 'Centre of Research Excellence: Population Health Research on Electromagnetic Energy' - the recognised Australian experts in this field?

Why did you give so much time to the views of Devra Davis who is regarded by many experts in this field as lacking credibility?

What evidence does Catalyst have to support the assertion that Australian standards regarding mobile phones 'only protect people from thermal damage that can occur through overheating'." End of quote. [Reference source for](#) this item

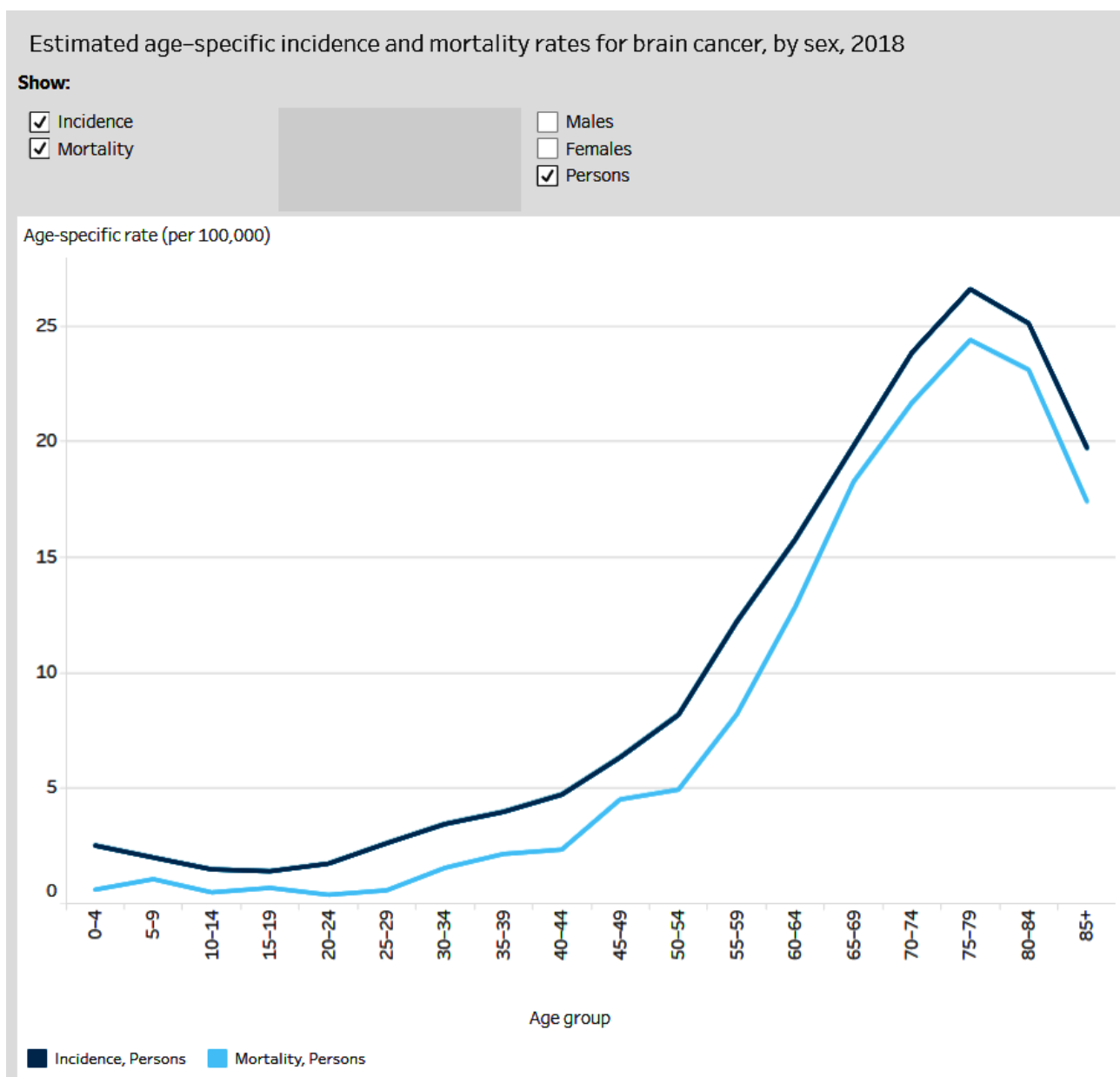
Dr. Demasi made a vigorous response to Timothy Latham's questions as seen in reference 4 in the reference section. I urge you to read this reference because the hyperlinked references Dr. Demasi cited in her response are informative and interesting. I also think that at least some of these responses add to the worth of the scientific debate about wireless telecommunications technology and in many ways a significant supplement to the contents of this document.

## Item H:

### How commonly presented data can be misleadingly presented.

I have provided you with the four graphs below in order for you to consider my claim. My commentary and independent separation of data are embraced within original Australian Bureau of Statistics information. Each graph therefore is self-descriptive.

A comparison between the estimate brain cancer mortality and incident rates by age is from the Australian Bureau of Statistics follows below.



Age	0 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29
Mortality	1	1	0	1	0	1
Incidence	3	2	1	1	2	3
Age	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59
Mortality	2	2	2	4	5	8
Incidence	3	4	5	6	8	12
Age	60 to 64	64 to 69	70 to 74	75 to 79	80 to 84	85 +
Mortality	13	18	22	24	23	17
Incidence	16	20	24	27	25	20

A comparison between the mortality and incident rate of malignant brain cancers from 1965 to 2015 [benign meningiomas are not included in these results]

In the graph below, the incidence rate is available from the Australian Bureau of Statistics only from 1983 onwards. However, the Australian Bureau of Statistics does have death rates in its archives from as far back as 1965. In the graph below, the incidence rate in relation to the mortality rate per 100,000 persons demonstrates an average steady increase between both over the respective periods.

[The graph follows on the next page]

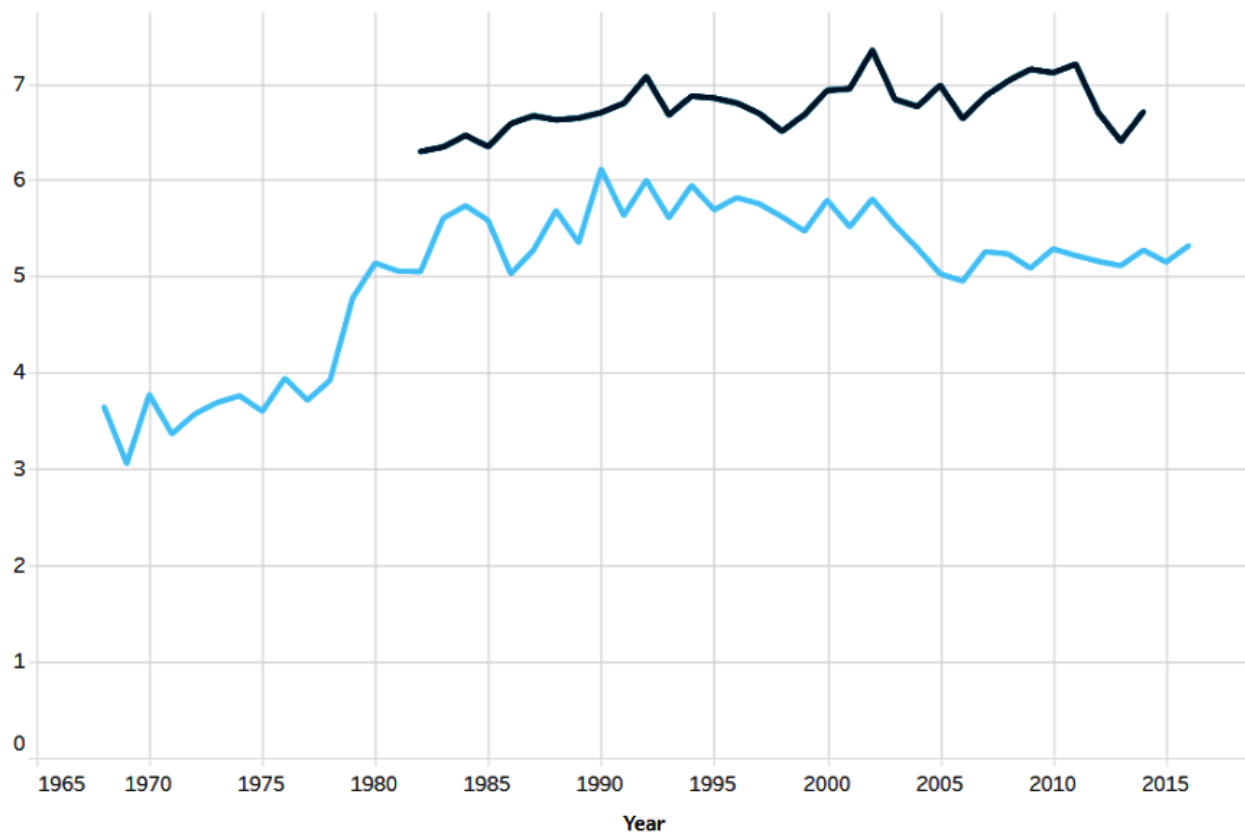


Age-standardised incidence rates for brain cancer 1982–2014 and age-standardised mortality rates for brain cancer 1968–2016, by sex

Show:

- Incidence
- Mortality
- Males
- Females
- Persons

Age-standardised rate (per 100,000)



■ Incidence, Persons ■ Mortality, Persons

Year	1965	1970	1975	1980	1985	1990
Mortality	3.6	3.8	3.6	5.1	5.6	6.1
Incident	-	-	-	6.3	6.6	6.7
Variation	-	-	-	1.2	1.0	1.6

Year	1995	2000	2005	2010	2015
Mortality	5.7	5.8	5.1	5.3	5.1
Incident	6.8	6.8	6.8	7.1	6.7
Variation	1.1	1.1	1.7	1.8	1.6

Commentary:

Data of this type are never completely reliable. For example, improvements in medical survival techniques improve over time and newer medical diagnostic equipment [like MRIs] can influence survival and detection rates as well.

Notwithstanding this, I think that if you look at the data relating to the graph above you may wonder why the mortality rates of malignant brain cancer jumped from 3.6 per 100,000 in 1965 to 5.1 in 1980. It has generally hovered around this mark ever since.

The incidence rate rise over the demonstrated period is not large, however I feel that it is significant, as the graph demonstrates.

Can these overall results be aligned with the increasing mobile phone usage in Australia?

[Reference Source for above](#)

These two graphs below relate to the incidence of malignant brain cancers of both males and females

Graph 3a:

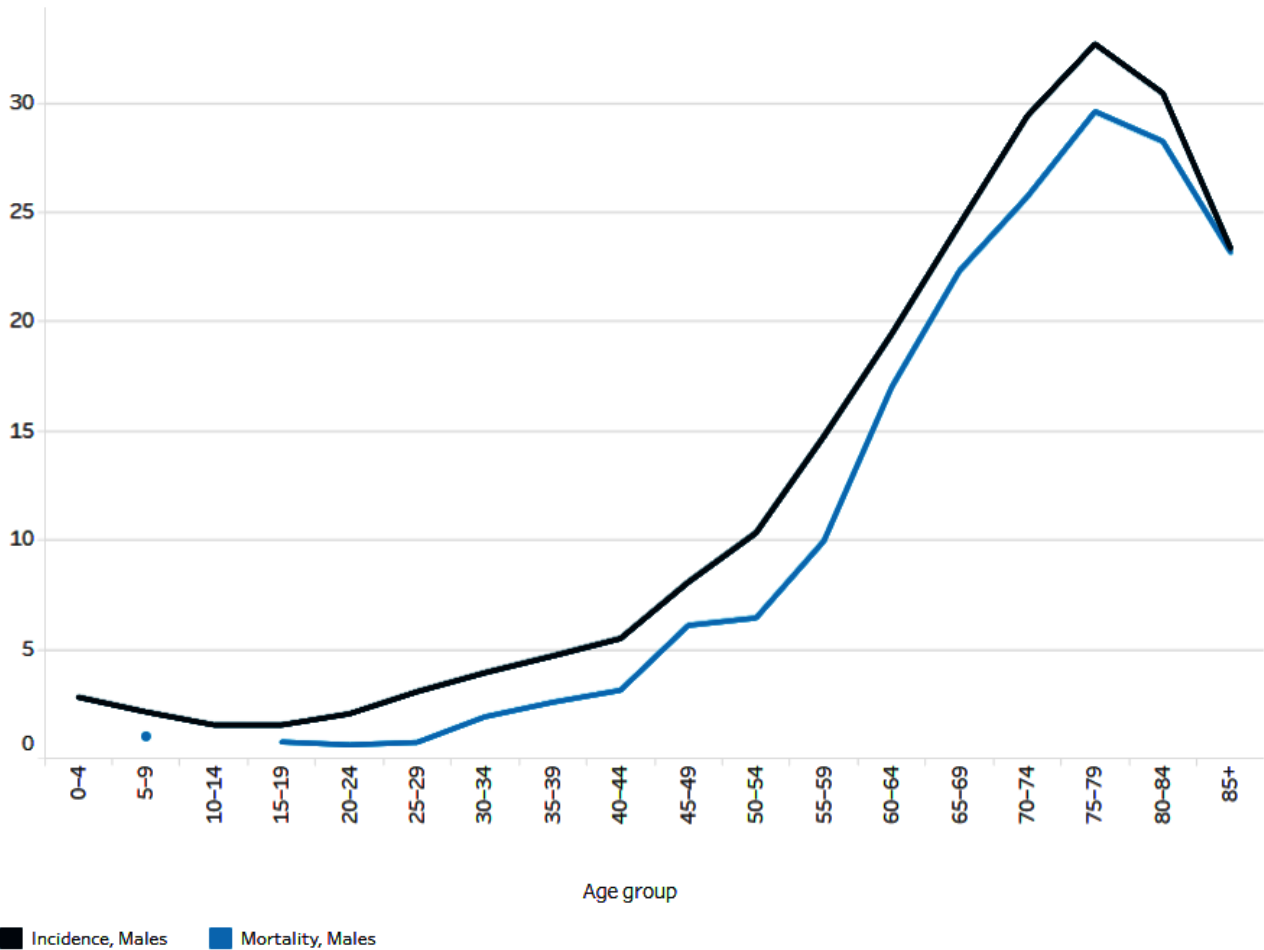
[The graph follows on the next page]

Estimated age-specific incidence and mortality rates for brain cancer, by sex, 2018

Show:

- Incidence
- Mortality
- Males
- Females
- Persons

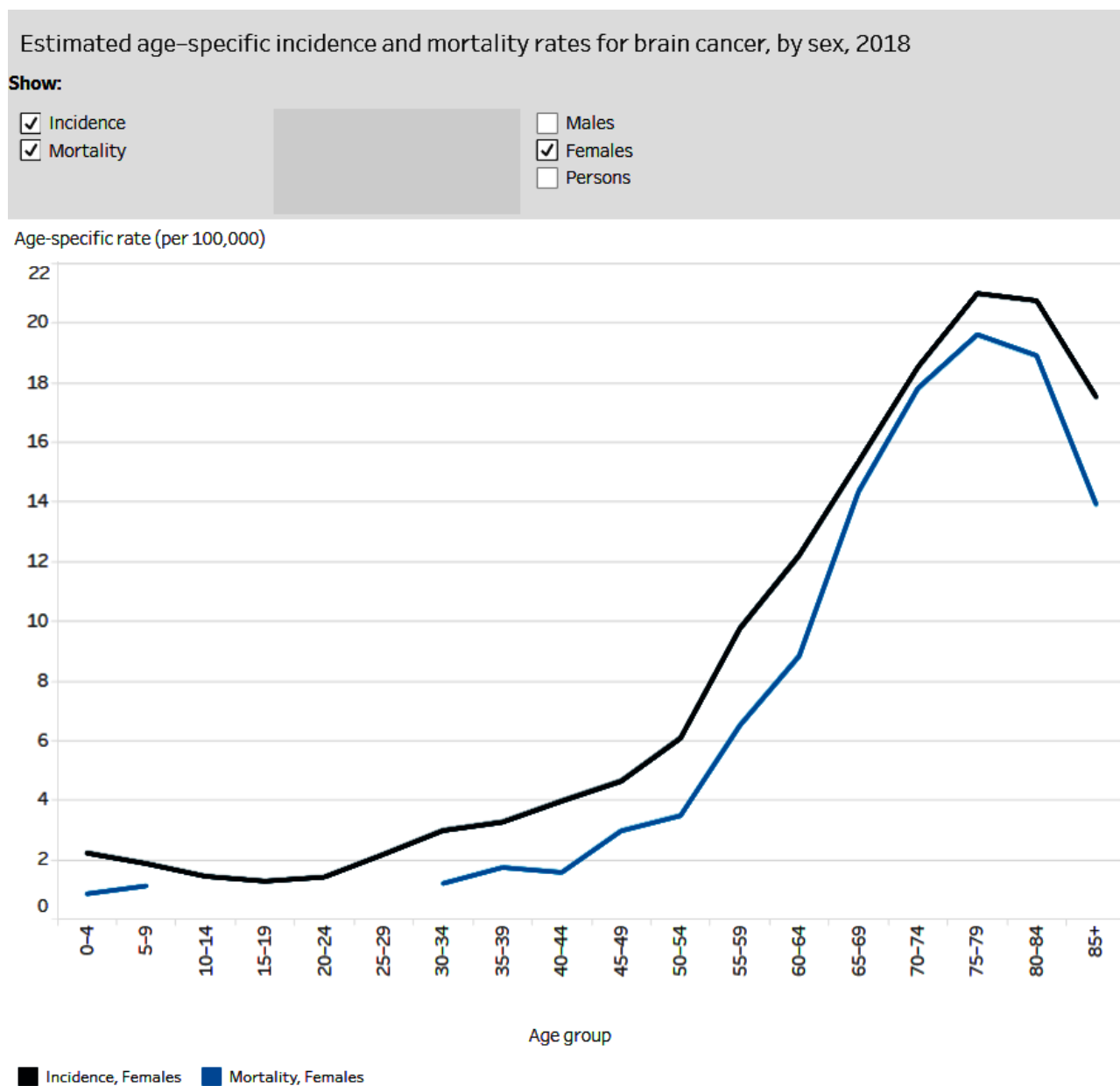
Age-specific rate (per 100,000)



Males per 100,000:

Age	0 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29
Mortality	0	1	0	1	1	1
Incident	3	2	2	2	2	3
Age	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59
Mortality	2	3	3	6	6	10
Incident	4	5	5	8	10	15
Age	60 to 64	64 to 69	70 to 74	75 to 79	80 to 84	85 +
Mortality	17	22	26	30	28	23
Incident	19	24	29	33	30	23

Graph 3b:



Females per 100,000:

Age	0 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29
Mortality	1	1	0	0	0	0
Incident	2	2	1	1	1	2
Age	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59
Mortality	1	2	2	3	3	6
Incident	3	3	4	5	6	10

Age	60 to 64	64 to 69	70 to 74	75 to 79	80 to 84	85 +
Mortality	9	14	18	20	19	14
Incident	12	15	19	21	21	18

Commentary on the above two graphs

Graph 3a:

You will notice from this graph that no males [except for a glitch at the ages of 5 to 9] between the age of 9 and 15 are predicted to die from brain cancer. In contrast to this you will notice that no females are predicted to die of malignant brain cancer until the age of 30. Why is this? Is it lifestyle differences?

Graph 3b:

Here you will notice that males are more likely to suffer the incidence of brain cancer than females. Furthermore, this gap between both rises significantly from the 40<sup>th</sup> year of their lives onwards. Are environmental reasons responsible for this? Are mobile phones and WiFi responsible for this? Are occupational health and safety issues responsible for this? Are all of these factors responsible for this variation?

Graphs by courtesy of the Australian Bureau of Statistics

[Reference source for above](#)

Commentary

Commonly released data in the mobile phone radiation debate never seem to address the question of children's brain cancer. I feel that the ballooning of data effect (random variations of the incidents of brain cancer over a given time frame) in very young children in relationship to older children is both interesting and disturbing. Whilst historical records do not seem to be available from the Australian Bureau of Statistics, I have submitted to you this *comparison* of mortality, incidence and age with respect to all individuals from birth to age 85 and older.

I think that there are two interesting questions raised by these statistics.

1] Are the incidences of cancerous brain tumours compared to death as a result of environmental issues such as mobile phones and WiFi radiation emitting devices?

2] Why do individuals suffering from malignant brain cancer when compared to the mortality rate of cancer sufferers always remain significantly higher? It seems difficult to speculate why this might be the case.

[Reference source for above](#)

**Item I:**

**Contemporary concerns in the medical profession with regard to the unexpected emergence of more aggressive brain cancers and benign meningioma tumours.**

Evidence relating to new more aggressive brain cancers (except for one) seems to be rare in Australia. However, what can be said is that the information in the four sections below is probably representative of all that has been internationally professionally published

A] An international medical forum [The Environmental Health Trust] has assembled a wealth of information about suspected brain cancer that has allegedly emanated from mobile phones and similar wireless technology. There is a significant number of seemingly high quality links incorporated in this document that you might find of value.

[Reference source for all of Item I](#) cited below.

B] Below is a series of quality references relating to wireless communication radiation and its alleged damaging effect on the human condition.

A cross-sectional case control study on genetic damage in individuals residing in the vicinity of a mobile phone base station. Electromagn Biol Med. 2015;34(4):344-54. doi: 10.3109/15368378.2014.933349. Epub 2015 Aug 28. <https://www.ncbi.nlm.nih.gov/pubmed/25006864>

Impact of radiofrequency radiation on DNA damage and antioxidants in peripheral blood lymphocytes of humans residing in the vicinity of mobile phone base stations. Electromagn Biol Med. 2017;36(3):295-305. doi: 10.1080/15368378.2017.1350584. Epub 2017 Aug 4. <https://www.ncbi.nlm.nih.gov/pubmed/28777669>

Mobile Phone Base Station Tower Settings Adjacent to School Buildings: Impact on Students' Cognitive Health. *Am J Mens Health*. 2018 Dec 7:1557988318816914. doi: 10.1177/1557988318816914. [Epub ahead of print]  
<https://www.ncbi.nlm.nih.gov/pubmed/30526242>

Use of laptop computers connected to internet through Wi-Fi decreases human sperm motility and increases sperm DNA fragmentation. *Fertil Steril*. 2012 Jan;97(1):39-45.e2. doi: 10.1016/j.fertnstert.2011.10.012. Epub 2011 Nov 23.  
<https://www.ncbi.nlm.nih.gov/pubmed/22112647>

Electrophysiological Assessment of the Impact of Mobile Phone Radiation on Cognition in Persons With Epilepsy. *J Clin Neurophysiol*. 2018 Nov 28. doi: 10.1097/WNP.0000000000000545. [Epub ahead of print]  
<https://www.ncbi.nlm.nih.gov/pubmed/30507655>

Microwave frequency electromagnetic fields (EMFs) produce widespread neuropsychiatric effects including depression *Journal of Chemical Neuroanatomy* 75 (2016) 43–51  
<https://doi.org/10.1016/j.jchemneu.2015.08.001>

C] Below is a series of quality references similar to number 2 but relating to animal studies

Increased blood–brain barrier permeability in mammalian brain 7 days after exposure to the radiation from a GSM-900 mobile phone *Pathophysiology* 16 (2009) 103–112  
<https://www.ncbi.nlm.nih.gov/pubmed/19345073>

Exposure to 900 MHz electromagnetic fields activates the mmp-1/ERK pathway and causes blood-brain barrier damage and cognitive impairment in rats *Brain Research* Volume 1601, 19 March 2015, Pages 92-101  
<https://doi.org/10.1016/j.brainres.2015.01.019>

Mobile phone (1800MHz) radiation impairs female reproduction in mice, *Mus musculus*, through stress induced inhibition of ovarian and uterine activity. *Reprod Toxicol*. 2017 Oct;73:41-60. doi: 10.1016/j.reprotox.2017.08.001. Epub 2017 Aug 2.  
<https://www.ncbi.nlm.nih.gov/pubmed/28780396>

The chronic effect of pulsed 1800 MHz electromagnetic radiation on amino acid neurotransmitters in three different areas of juvenile and young adult rat brains. Toxicol Ind Health. 2018 Oct 21:748233718798975. doi: 0.1177/0748233718798975. [Epub ahead of print]  
<https://www.ncbi.nlm.nih.gov/pubmed/30345898>

D] Rare Acoustic Neuroma is now thought to be on the increase. Sometimes it is difficult to medically detect.

D1]: <https://rarediseases.org/rare-diseases/acoustic-neuroma/>

D2]: <https://brainfoundation.org.au/disorders/acoustic-neuroma/>

D3]: <https://www.ncbi.nlm.nih.gov/pubmed/24434752>

E] There is a changing mix of brain tumours. Malignant GBM brain cancers are going up and other malignant glioma are going down.

E1]: <https://microwavenews.com/short-takes-archive/changing-mix-uk-bts>

F] There is a serious recorded rise in glioblastoma multiforme malignant cancers.

F1]: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6035820/>

G] Benign meningiomas are rarely included in brain cancer statistics because they are widely considered in non-ionising electromagnetic radiation science as being non-thermal. Around six percent of all meningiomas are malignant. Around one quarter of all primary tumours is benign non-malignant meningiomas.

G1]: <https://meningiomaauk.org/meningioma-fact>

D. What might be the definitive Australian study with respect to brain cancers and meningiomas? Through investigation I suspect that this is as follows



Quote:

**“Increasing incidence of glioblastoma multiforme and meningioma, and decreasing incidence of Schwannoma (2000-2008): Findings of a multicenter Australian study.”**

2011

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3263004/>

Individual Quotes:

Background:

The incidence of primary brain tumors by subtype is currently unknown in Australia. We report an analysis of incidence by tumor subtype in a retrospective multicenter study in the state of New South Wales (NSW) and the Australian Capital Territory (ACT), with a combined population of >7 million with >97% retention rate for medical care.

Methods:

**Data from histologically confirmed primary brain tumors diagnosed from January 2000 through December 2008** were weighted for patient outflow and data completeness, and age standardized and analyzed using joinpoint analysis.

Results:

A significant increasing incidence in glioblastoma multiforme (GBM) was observed in the study period (annual percentage change [APC], 2.5; 95% confidence interval [CI], 0.4–4.6, n = 2275), particularly after 2006. In GBM patients in the ≥65-year group, a significantly increasing incidence for men and women combined (APC, 3.0; 95% CI, 0.5–5.6) and men only (APC, 2.9; 95% CI, 0.1–5.8) was seen. Rising trends in incidence were also seen for meningioma in the total male population (APC, 5.3; 95% CI, 2.6–8.1, n = 515) and males aged 20–64 years (APC, 6.3; 95% CI, 3.8–8.8). Significantly decreasing incidence trends were observed for Schwannoma for the total study population (APC, –3.5; 95% CI, –7.2 to –0.2, n = 492), significant in women (APC, –5.3; 95% CI, –9.9 to –0.5) but not men....”

“...The limitations of our study have been described in our preceding publication.[9] **Briefly, the main limitations we encountered involved the uncertainty regarding the completeness of case capture rates due to lack of standardization,** lack of independent pathological review of diagnoses, lack of multiple sources of notification, the presence of cross-talk between databases, and lack of control for re-entry of data from the one patient visiting multiple different institutions in the study

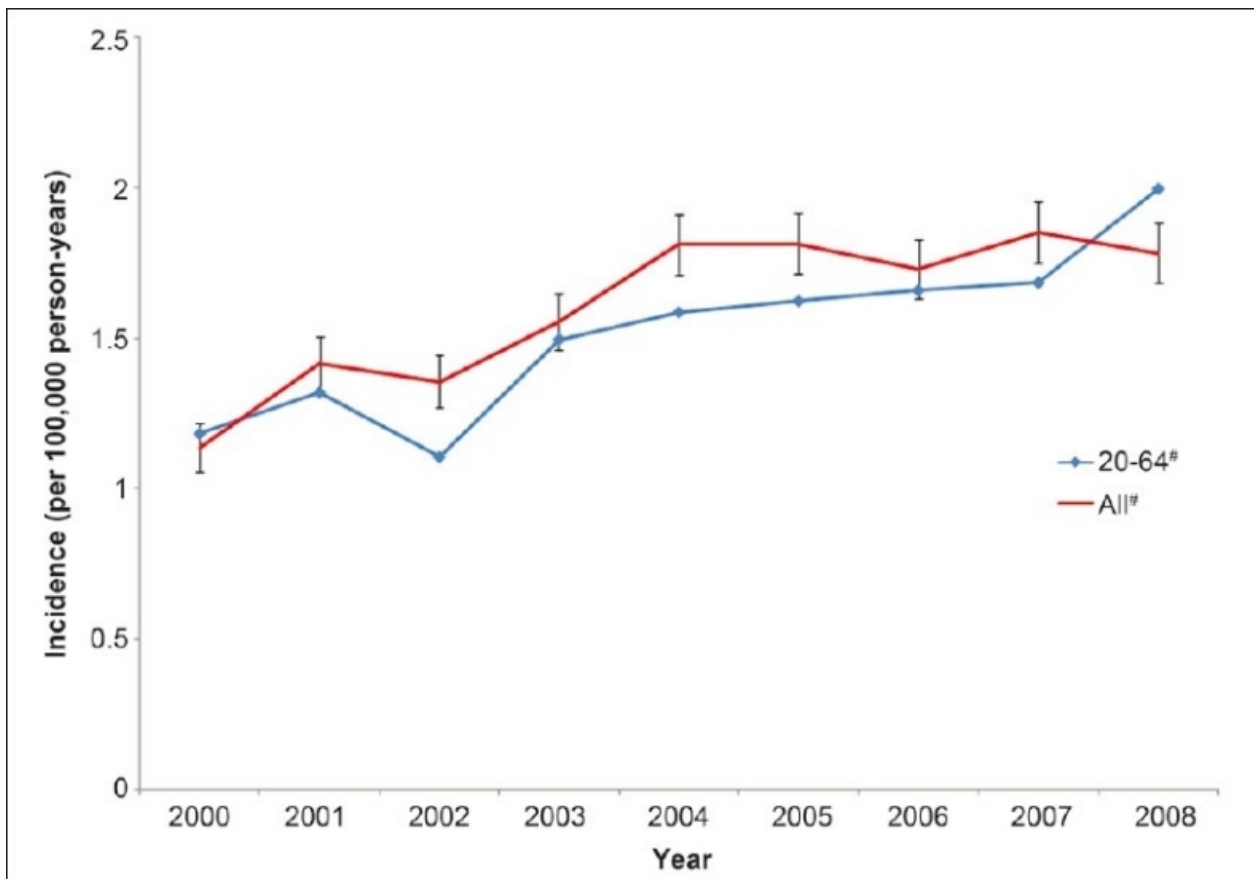
area (an uncommon situation anecdotally). Although we have attempted to validate our incidence rates through direct comparison of malignant rates with our gold standard in Australia (i.e., the cancer registries), **we acknowledge that there is no such comparator for nonmalignant tumors in Australia.** This implies a cautious approach when interpreting our published nonmalignant tumor rates but at the same time provides the first Australian insight into their “ball-park” incidence rates....

## “Conclusions

**The current study represents the most contemporary collection of primary brain tumors in Australia and underpins the importance of continued monitoring. We observed significant increases in incidence rates for GBM, particularly after 2006,** and meningioma with overall incidence rates comparable to recent US and European data. Incidence trends for Schwannoma, in contrast to the European experience, were observed to be significantly decreasing, but were akin to overall Schwannoma incidence rates from the United States. We are unaware of any recent peer-reviewed publications reporting a significant increase in primary brain tumor incidence, including GBM, during surveillance years as recent as those reported in the present study, which distinctively analyzes primary brain tumor incidence data as recent as December 2008. We support a direct, uniform, and centralized approach to monitoring primary brain tumor incidence by histopathological subtype, including the introduction of nonmalignant data collection....”

## “Meningioma

**A weighted total of 1865 meningiomas were collected during 2000–2008,** with a 2.6:1 female:male predominance. Of these tumors, 92% were WHO Grade I, 7% WHO II, and 1% WHO III. From 2000 to 2008, a significantly increasing incidence trend in meningioma in men, both for total male population (APC, 5.3; 95% CI, 2.6–8.1,  $n = 515$ ) and in males aged 20–64 years (APC, 6.3; 95% CI, 3.8–8.8), was observed [[Table 1](#); [Figures 1b1b](#) and [and3](#)].3]. Incidence rates ranged from 1.1 to 1.8 cases per 100,000 person-years during 2000–2008 for all meningioma cases, and 1.2 to 2.0 cases per 100,000 person-years for men aged 20–64 years...”



<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3263004/>

The above example is [Figure 3](#) from a series of figures. Click above to find the complete series.

Quote:

“US standardized brain tumor incidence rates for meningioma for the total male population and male population aged 20–64 years by calendar year from the Australian Capital Territory and New South Wales populations. Confidence intervals are displayed. Both trends show a significant (FNx01) increase using joinpoint analysis”

## **Item J:**

### **The role of Professor Simon Chapman with respect to the wireless technology radiation debate in Australia.**

Professor Simon Chapman is a well-known and highly respected scientist in the international scientific community. Because I am not a scientist I am not qualified to say whether Professor Chapman's scientific beliefs are credible or sustainable or not.

However, from the literature that I have read with respect to the international wireless telecommunications debate I suggest as follows:

i] Professor Chapman seems committed to supporting the international nexus of institutions and agencies that work under the auspices of ICNIRP [International Commission on Non-Ionizing Radiation Protection] that has been discussed in section B herein. (Also see the Council for Europe criticism of the ICNIRP in section C)

ii] As a professional scientist and leader in the Australian community I feel that Professor Chapman has in the past not provided over arching fair-minded leadership to his colleagues and the wider general public in Australia with the wireless radiation debate. By this I mean that Professor Chapman has not employed his extensive knowledge about wireless telecommunications technology to help people to objectively understand and manage the possible dangers of wireless telecommunications technology radiation in terms of respective thermal and non-thermal effects. Professor Chapman's pins his radiation debate solely upon thermal wireless effects. I suggest that information herein demonstrate that this is only one small part of the wider wireless radiation and brain cancer debate. (the non-thermal effects of wireless radiation are demonstrably much more wide spread and dangerous).

iii] I understand that in the physics community it is broadly accepted that all 'things' and associated events in the universe are somehow governed and influenced by energy types of one kind or another. These energy types can change but they cannot be separated from the 'whole' of the wider ability to work, influence and change of the holistic universe itself (energy is always a type of movement or potential to move and change). All energy types act as though they were one. Furthermore all of these different energy types are associated with different conditions (like some sort of

weakness in body tissue for example), influences (like someone running at a given time or place) and related effects (such as someone not adequately looking after their diet). With respect to our everyday existence it is for these reasons I cannot see how thermal and non-thermal effects relating to wireless radiation can be treated separately, as Professor Chapman and his colleagues seem to postulate they can be.

Furthermore thermal and non-thermal effects relate to the same original condition (such as weak flesh in a particular part of the body as per my above example) and they influence this same flesh in different organic and chemical ways. Some of these effects are short-lived, some effects have a little longer life span and some may extend into decades before they manifest themselves as a body disorder of some sort of physiochemical (combined physical and chemical) type. This is a physical/chemical type relating to matter in physics. Some of these effects may be malignant cancers of one form or another, and others might be non-malignant meningiomas. As a principle in medicine I cannot see how causation can be seen as being any different from this.\*

\* Note:. As a complementary and convenient analogy today this connectedness of all things in the universe has also been demonstrated by experiment (see below) in quantum non-locality (entanglement) theory. Non-locality theory is a completely different and deeper physics theory from that to which Professor Chapman and his colleagues are referring in their contemporary wireless radio debate. I mention it today because the interconnectedness idea of all things in the universe that I cited immediately above is not new in science... at times it is merely forgotten. It is an important feature of holistic (theory of everything) physics discovery endeavours. Three recent experiments in physics demonstrate these words. These are experiments one, two and three respectively. All three relate to physics non-locality physics.

iv] Denis Henshaw  
May 14, 2016

Quote:

1. Dr Chapman is quoted as stating: "The radiation from cell phones is nonionising, so it is unlikely to cause cancer"

If this is true, how then do numerous well-known carcinogenic chemicals cause cancer and how do cancer viruses cause cancer, because neither of these classes of

cancer causing agents ionise in the same way as ionising radiation? In fact, with the exception of radon and lung cancer, very little cancer in the population is caused by ionising radiation.

2. Dr Boice says "There is no biological mechanism and no animal study or cellular study that finds reproducible evidence of an effect"

If this is true:

(i) how is it that magnetic fields have been shown to engender genomic instability just as is well known for ionising radiation (see: Luukkonen et al 2014. Induction of genomic instability, oxidative processes, and mitochondrial activity by 50 Hz magnetic fields in human SH-SY5Y neuroblastoma cells. *Mutation Research* 760 (2014) 33– 41)

and...

(ii) how is it that reproducible effects on oogenesis in *Drosophila melanogaster* and *Drosophila virilis*, following short-term exposure to mobile phone and related RF EMFs were reproducibly demonstrated in a major study co-financed by the European Union (see: Margaritis et al 2014, *Drosophila* oogenesis as a bio-marker responding to EMF sources. *Electromagn Biol Med*, 33(3): 165–189)?

Denis L Henshaw

Emeritus Professor of Human Radiation Effects

University of Bristol, UK

v] Professor Chapman might have managed his invitation much better to be a participant in the “Wi-Fried” Catalyst program on ABC television on February 16<sup>th</sup> 2016. Professor Chapman declined this invitation because he said he was busy elsewhere. The Catalyst programme went to air and was almost immediately condemned by some important sections of the Australian scientific community. A commentator from the ABC belatedly said in respect to this matter:

Quote:

“...It is also important to note that at least two of the current critics of the programme [Drs Bernard Stewart and Simon Chapman] were invited to participate, but declined. Had they agreed to be interviewed, their views would have been included as well...”  
End of quote.

On the 16<sup>th</sup> of September 2016 Professor Cameron was interviewed by “The Conversation” in respect to this ABC Catalyst incident. I quote the complete article below. As you read it, try to keep in mind my wider debate with respect to this subject today. Look for important variations, more especially so those that might relate to public health and the relevance (medical completeness and accuracy) of the data that he brings forward.

Quote:

“...Mobile phone health alarmists bereft of credible arguments

September 1, 2016 3.11pm AEST

In May this year, I led a paper published in Cancer Epidemiology, which looked at the incidence of brain cancer in Australia between 1982 and 2012.

The first mobile phone call was made in Australia in 1987 and today their use is all but universal.

Cancer is a notifiable disease: all newly diagnosed cases are gathered from doctors by state cancer registries and nationally aggregated by the Australian Institute of Health and Welfare in publicly available data.

I summarised our study in this column, which to date has had more than 44,700 readers.

New study: no increase in brain cancer across 29 years of mobile use in Australia

We found that with extremely high proportions of the population having used mobile phones across some 20-plus years (from about 9% in 1993 to about 90% today), age-adjusted brain cancer rates have flatlined over nearly 30 years.

There were significant increases in brain cancer incidence only in those aged 70 years or more. But the increase in this age group began from 1982, before the introduction of mobile phones in 1987 and so cannot be explained by it.

The most likely explanation of the rise in this older age group was improved diagnosis that happened with the introduction of imaging machines that (for example) could more accurately diagnose some strokes as brain cancers.

In the days and weeks after publication, our paper received massive global news and social media attention, achieving an Altmetric score of 835. On the basis of the most media-covered research in all fields in 2015, this would have put it just outside the 100 highest Altmetric scores if we'd published it last year (2016 figures are published early next year).

It also drew the ire of the close-knit international network of mobile phone and wifi alarmists, who are utterly convinced mobile phones are deadly and won't hear otherwise. Their opening salvo was to accuse me of being an undeclared phone industry stooge.

In 1997 I had been given a small grant by AMTA, the Australian Mobile Telephone Association, to conduct a national survey of how many mobile phone users had ever used their phone to call emergency services such as ambulance, police and fire. Large proportions of people had done so, probably saving many lives by alerting these services far more quickly than when having to find a landline.

I didn't report this because I got the one-off grant 19 years ago, and all reputable journals and research agencies rule that competing interests are not lifetime but extinguish typically between one and three years after such support has expired. The grant also had nothing to do with cancer.

I also got a series of mostly verbally incontinent email. One from an excitable correspondent in Swaziland, insisted that I answer his many eureka moment insights into why what we had published was wrong in every respect. We should withdraw our paper, he demanded and tell the world we were wrong.

Predictably, several wrote to Cancer Epidemiology, setting out a litany of our egregious errors and failures to understand that an epidemic of brain cancer, comparable to the deluge of smoking-caused cancers, was just around the corner.



Three of these were published this week with our response (open access until October 20, 2016).

[I emboldened the below]

**The three letters were written by five individuals, three of whom are affiliated with a non-accredited Environmental Health Trust, headed by Dr Devra Davis, the alarmist doomsayer who featured in the much-criticised ABC Catalyst program which has now been withdrawn.**

**Assuming they got their heads together to rain blows on our heretical findings, it was amusing to see the barely audible blanks they decided to fire.**

Their main arguments were:

‘It’s too soon to see an epidemic of brain cancer’

One argued several decades of widespread phone use were needed before increases in cancer might be seen. She seemed intent on diminishing the number of years that large numbers of Australians have used mobile phones, in order to preserve her argument. She argued that only the last nine years of data since 2001 when mobile subscriptions reached 50% of the population ought to be considered in any analysis. And nine years was not nearly enough.

But by 1996, some 20% of Australian adults (some 2.9 million) were using mobile phones. Apparently we ought to have joined her in seeing this as a trivial exposed population, unworthy of consideration. Quite obviously, there’s no alleged carcinogen where 20% of the population is exposed where any credible scientist would seriously maintain such widespread exposure should be ignored in assessing population attributable risk.

Further, in one of the studies cited in a review published by our critics, excess risks of brain cancer from mobile phone use are argued as occurring following exposures of as little as between five and ten years of mobile phone use. These critics even suggested in the same paper that the international INTERPHONE study may suggest a cancer “promotion effect”, with use as few as one to four years being dangerous.

We concluded that:

This therefore looks like an argument trying to walk on both sides of the street: if a short latency period show excess risks they are deemed to be credible, while if they show no excess (as with our study) they are to be dismissed.

‘Various case-control studies show evidence of increased risk’

Case-control studies in this field have been criticised because they rely on users’ recall of the extent of phone use going back many years. Just try recall your own mobile phone use in, for example, 2003 and you will immediately understand how data obtained this way are hugely problematic.

Moreover, people with brain cancer often have memory loss. And if you have brain cancer, are part of a study considering its cause, and have been exposed to frequent claims about the hypothesis that mobile phone use causing brain cancer, the likelihood of recall bias resulting in recall of high mobile phone use is probably going to increase.

The strength of our study was the ability to look at *all* \*cases of brain cancer in Australia in the 29 years since the first call was made here. The inconvenient fact for the alarmists is that there has been no significant increase in brain cancer in either men or women compatible with the mobile phone hypothesis.

\* All cases is misleading. What Professor Chapman is really saying is that his research only embraces malignant cancers. Furthermore he does not discuss different malignant types or benign meningiomas that are potentially medically hazardous as well.

Decreased use of X-rays is masking an increase in cancers caused by mobiles.

Perhaps the silliest argument thrown at us was an unreferenced hypothesis that “discontinued or reduced use of established carcinogens such as X-rays” may have reduced the incidence of brain cancer from such exposures while, simultaneously, the rise of mobile phone use would have replaced those cases, thereby explaining the largely flat line incidence across our data period.

This hypothesis would need to account for how reductions in a very uncommon radiation exposure (full head X-rays) could ever possibly produce the exact same decreased incidence of brain cancer that they claim arise in daily exposure to an alleged carcinogen by most of the entire population would add to that incidence.

Our Swaziland critic finished one of his missives writing that “it behooves you, as a scientist, to take note of fatal errors in your work.” It would “behoove” mobile phone alarmists to stop unnecessarily alarming people with their weak arguments.” End of quote.

[Reference source for above](#)

## Summary

I summarise what I consider to be the ten most important points for you to consider with my presentation today.

1] There appears to be an international network of telecommunications radiation safety authorities. The leading radiation safety authority in Australia is the Australian Radiation Protection And Nuclear Safety Agency [ARPANSA]. ARPANSA is the Australian Government’s primary authority in radiation protection and nuclear safety. The world’s leading authority in telecommunications safety authority is located in Germany. This authority is titled the International Commission of Non-Ionising Radiation Protection [ICNIRP]. The reputable European Council considers that ICNIRP has questionable origins.

2] I have identified the leading roles that ICNIRP and ARPANSA played in the setting of the Australian radiation standards in the Australian Senate in 2002. This standard was also supported by the Australian Mobile Telecommunications Association [AMTA].

3] I discussed the differences between thermal and non-thermal effects of non-ionising radiation with brain cancer. [This is not to be confused with infra-red radiation.] In this context I mean the radio type of frequencies emitted by various telecommunications technologies. Also included are the reasons why ICNIRP and its associated representatives and agents say that thermal heat radiation is mostly not responsible for causing brain cancer. They say that it has never been scientifically proven otherwise.

4] ICNIRP and its international affiliates deny that non-thermal radiation might cause cancer because it too has never been proven otherwise. ICNIRP radiation safety standards only apply to malignant cancers. It also denies that thermal heat radiation

might be responsible for causing benign brain meningiomas. This also includes the contemporary significant incidents of glioblastoma multiforme [GBM] across all age groups. This type of malignant glioblastoma multiforme cancer is mostly incurable and can kill people in as little as six months from the time of the initial diagnosis.

5] ICNIRP and its affiliates do not differentiate between the safe energy power input of non-ionising radiation between adults and children. In many incidences ICNIRP and its associated entities say that its prescribed safety threshold for adults is not likely to affect children. However, on the other hand the same entities advise people owning mobile phones to keep these phones as far away from their ears as is possible.

6] ICNIRP and its associated entities have an international reputation for being mostly indifferent to other international non-ionising radiation safety studies. This includes in Australia by such well know scientists as Professor Simon Chapman.

7] I have shown how data can be “manipulated” in favour of the persons or entities seeking to demonstrate the merits or otherwise of their own safety standard frame of reference.

8] I have shown how multiple studies have shown that non-ionising radiation causes brain cancer and other maladies in animals. This includes in scientific laboratory conditions.

9] I have pointed out how the Oceania Radiofrequency Scientific Advisory Association [ORSAA] is pushing back against the ARPANSA radiation standards. This is because it believes that the ARPANSA radiation safety limits are too low. This is more especially so for children. I have also noted that there is now an international movement of professional scientists and doctors who are also pushing back against the same low radiation danger thresholds. This is more especially so with the new international 5G telecommunications technology rollout that is currently under way around many parts of the world.

10] I feel that from my investigation at this time that there are at least some grounds in Australia for the wider community to be concerned about the role that the telecommunications technology industry is currently playing with respect the safety threshold of non-ionising radiation. I feel that the internationally respected Precautionary Standard should be employed in Australia with respect to the dangers on non-ionising radiation. This especially applies to mobile phones and WiFi technologies.\*

\* A] Note:

For ARPANSA the precautionary principle is stated to be “... a risk management policy applied in circumstances with a high degree of scientific uncertainty, reflecting

the need to take action for a potentially serious risk without awaiting the results of scientific research...”

### Source

Whereas the more internationally accepted description of the words precautionary principle are...

Quote:

[I have emboldened certain words in this quote]

“...The principle implies that there is a social responsibility to protect the public from exposure to harm, **when scientific investigation has found a plausible risk**. These protections can be relaxed only if further scientific findings emerge that provide sound evidence that no harm will result...”

### Source

You will note the important difference of word use between both quotations.

References commence on the following page

## Reference 1:

### Council of Europe

#### Parliamentary Assembly

Committee on the Environment, Agriculture and Local and Regional Affairs  
The potential dangers of electromagnetic fields and their effect on the environment

#### [Reference source for reference 1](#)

Quotes:

[I have emboldened certain passages in this quote]

Page 2 - 3

“8. In light of the above considerations, **the Assembly recommends** that the member states of the Council of Europe:

8.1. in general terms:

8.1.1. **take all reasonable measures to reduce exposure to electromagnetic fields, especially to radio frequencies from mobile phones, and particularly the exposure to children and young people who seem to be most at risk from head tumours;**

Page 4

18. In the face of fast-growing concerns and opposition in many Council of Europe member states, **the response of top executives of electricity companies and mobile telephone operators is to deny that their industrial and commercial activities have any adverse effect on human health.** At the hearing in Paris on 25 February 2011, the official representatives of French and European mobile telephone operators passionately argued that the official threshold values applicable in most countries in the world were adequate to protect human beings from the thermal effects of mobile telephones and that any biological effects, if these could be demonstrated, would not have any adverse effects on human health.

19. **To back up their argument, the experts quoted the scientific assessments carried out by associations such as the International Committee on Non-Ionisation Radiation Protection (ICNIRP), a small private NGO near Munich, or by official organisations: the World Health Organization, the European Commission and a number of national protection agencies. It appears that these European and national organisations or international bodies have based their thinking on the threshold values and recommendations advocated by the ICNIRP when that private association was set up near Munich at the beginning of the 1990s.**

Pages 5 - 6

28. Indeed, it is in this connection that **the Committee on the Environment, Agriculture and Local and Regional Affairs is currently working on the question of conflicts of interest and the urgent need for real independence of scientists involved in the official agencies tasked with evaluating the risks of products prior to licensing.**

29. The rapporteur underlines in this context that it is most curious, to say the least, that **the applicable official threshold values for limiting the health impact of extremely low frequency electromagnetic fields and high frequency waves were drawn up and proposed to international political institutions (WHO, European Commission, governments) by the ICNIRP, an NGO whose origin and structure are none too clear** and which is furthermore suspected of having rather close links with the industries whose expansion is shaped by recommendations for maximum threshold values for the different frequencies of electromagnetic fields.

30. **If most governments and safety agencies have merely contented themselves with replicating and adopting the safety recommendations advocated by the ICNIRP, this has essentially been for two reasons:**

- in order not to impede the expansion of these new technologies with their promise of economic growth, technological progress and job creation;
- and also because the political decision-makers unfortunately still have little involvement in matters of assessing technological risks for the environment and health.

31. With regard to the frequently inconclusive if not contradictory findings of scientific research and studies on the possible risks of products, medicines or, in this case, electromagnetic fields, **a number of comparative studies do seem to suggest**

**a fairly strong correlation between the origin of their funding – private or public – and the findings of risk assessments, a manifestly unacceptable situation pointing to conflicts of interest which undermine the integrity, the genuine independence and the objectivity of scientific research.**

32. Concerning the assessment of health risks resulting from mobile telephone radio frequencies, for example, in 2006 Swiss researchers from Bern University presented the findings of a systematic analysis of all research results and concluded that **there was a strong correlation between how the research was funded and the results obtained: 33% of studies funded by industrial concerns conclude that exposure to mobile telephone radio frequencies has an effect on our organism. That figure rises to over 80% in studies carried out with public funding.**

33. Accordingly, in this field and in others, **one should call for genuine independence on the part of the expert appraisal agencies and for independent, multidisciplinary and properly balanced expert input.** There must no longer be situations where whistleblowers are discriminated against and renowned scientists with critical opinions are excluded when experts are selected to sit on expert committees or no longer receive funding for their research.

Page 6

34. **It seems obvious that economic and financial parameters such as profits and market shares are the prime considerations for societies dependent on electricity, mobile telephony and telecommunication. Understandably, in this context more stringent regulations and threshold values which ostensibly inhibit their business dealings are viewed with disfavour and forcefully resisted** – as could be seen from the irritated and sometimes emotional statements of a representative of French mobile telephony at our committee's hearing for contrastive expert opinion.

35. The representatives of mobile telephony have for years espoused the same paradigm and the same line of argument, in which they invoke the soothing discourse of most international agencies and institutions. For example, the threshold values of 100 microtesla for low or high frequency electromagnetic fields and 41/42 volts/metre for the very high frequencies of mobile telephony on 900 megahertz (MHz) are claimed to be quite adequate for protecting the public against thermal effects. At very high levels, the radio frequency fields are plainly liable to produce harmful thermal effects on the human body, in the estimation of all parties moreover.



36. Of course there remains the vexing question whether there are non-thermal or athermic, hence biological, consequences for the environment and the human body. **The operators' representatives totally deny the existence of nefarious long-term biological effects for electromagnetic fields below the threshold values in force.**

Pages 6 - 7

39. **The operators' arguments on the whole can be summed up as follows:**

- the threshold values recommended by the ICNIRP are values ensuring health security;
- child mobile phone users are no more sensitive than adults;
- there are no significant biological effects apart from thermal effects;

if there were any possibly harmful biological effects, moreover, there would be no scientifically acceptable mechanism of action to account for them.

Page 7

46. The term "biological effect" is used to refer to a physiological, biochemical or behavioural change brought about in a tissue or a cell in response to an external stimulus. Not every biological effect necessarily poses a serious threat to health; it may simply show the normal response of the cell, tissue or organism to that stimulus.

47. A medical or pathological biological effect, on the other hand, is an effect that may imperil the organism's normal functioning by causing more or less severe symptoms or pathologies. Precisely, a growing number of scientific studies made by teams of high-level academic researchers demonstrate the existence of potentially or definitely pathological biological effects.

49. **A major programme of research into the specific features of these effects** such as genotoxicity of waves (REFLEX programme), funded by the European Commission and involving 12 European research teams, was launched and the results were made public in December 2004. **The conclusions of the report were disturbing on several counts as the results bore out genotoxic effects of mobile telephone waves, and in particular greater frequency of chromosomal deletions and breakup of DNA molecules in different types of cultivated human and animal cells. In addition, stress protein synthesis was greatly increased and gene expression was modified in various types of cells."**

## Reference 2:

Australian standard on radio frequency fields exposure levels

[Reference source for reference 2](#)

Page 1

Introduction

4.1 **Uncertainty about potential of low intensity, long-term exposure to RF from telecommunications technology was found by the Committee to be the basis of the continuing argument for a sensible precautionary approach (principle).** With the inadequate research data currently available, it has not been possible to estimate or quantify with any degree of accuracy the extent of a safety margin that needs to be prescribed in standards to be properly protective of the risk to the public.

4.2 **Central to the question of the adequacy of our standards was whether or not they dealt with non-thermal emissions which have been shown by a growing body of research to show biological effects.** Dr Michael Repacholi of the World Health Organization explained that the scientific studies on which our standards are set were observations of behavioural change in primates exposed to heat emitting devices. **The Committee Chair found the progress of standard development to have been somewhat arbitrary and inadequate in dealing with non-thermal effects.**

Pages 1 - 2

Development of the standard

4.4 The Australian Standard, first published in 1985, deals with human exposure to radiofrequency fields. It was developed and subsequently revised by a technical committee of Standards Australia. **The technical committee did not reach agreement on the last revision of the Standard in 1999, which sought to introduce the more lenient ICNIRP Guidelines, and the responsibility for setting a new standard was transferred by the Government to the Australian Radiation**

**Protection and Nuclear Safety Agency (ARPANSA) which will formally adopt the Standard as an ARPANSA standard and incorporate it into its regulations once it is accepted by the ARPANSA Radiation Health Committee.**

4.5 In the meantime, both ARPANSA and the Australian Communications Authority have legislative instruments in place to limit human exposure to radiofrequency fields. These instruments (Radiocommunications (Electromagnetic Radiation — Human Exposure) Standard 1999 and Australian Radiation Protection and Nuclear Safety Regulations) are based on the limits previously contained in the interim 1998 standard (AS/NZS 2772.1(Int):1998). **These limits represent a weakening of protection for both occupational and public exposure.**

Page 3

4.12 According to the ARPANSA draft standard,[3] early exposure standards were inadequate because they failed to account for important physical aspects of electromagnetic wave interaction with the body. In addition to the magnitude of the applied fields, absorption of radiofrequency energy depends on the physical geometry of the body relative to the direction of the applied fields and also upon frequency dependent electrical properties of the absorbing tissue. In particular, the body, or parts of it, can act like a tuned antenna with specific radiofrequency bands. **This concept still fails to take into account more subtle interactions with biological systems that have nothing to do with the effects of absorbed energy being turned into heat.**

Page 4

4.15 **Biological responses from exposure to radiofrequency fields do not merely depend on the intensity of the fields outside the body, but on the subtle effects of the electromagnetic energy on the blood forming immune, nervous and endocrine systems inside the body.** Exposure to a uniform electromagnetic field results in a highly non-uniform deposition and distribution of energy within the body. Research has shown that electromagnetic fields can be divided into four ranges, as regards absorption of energy by the human body[5] which illustrates the inadequacy of the SAR dosimetry system. It is currently assumed that different frequencies have different bioeffects because of the heating effects they cause. These frequency ranges and effects are:

Pages 6 – 7

4.25 To formulate standards, Standards Australia convenes a technical committee representative of relevant stakeholders, by securing the participation of those interested parties concerned with a particular project. The majority of individuals who serve on technical committees are representatives of sectors of interest nominated by government bodies, industry associations, community-based and consumer organisations, trade unions and professional, technical or trade associations. Such technical committees should operate under internationally accepted principles of transparency and consensus.

Pages 8 – 9

4.34 In formulating AS 2772: 1985, the Standards Association of Australia technical committee (TE/7) reviewed but found inadequate an American National Standards Institute (ANSI) proposal for exposure limits in the frequency range 300 kilohertz (300 kHz) to 100 gigahertz (100 GHz).

4.35 **The 1985 Australian Standard took a conservative approach** to setting exposure levels. It differed from the maximum exposure levels proposed by ANSI by choosing lower exposure levels for the higher and lower frequency ranges; and an averaging time of one minute was adopted for all exposure conditions, regardless of the field strength, rather than the six minute averaging time suggested by ANSI. **It also contained reference to the ALARA Principle whereby all doses should be kept as low as reasonably achievable, economic and social considerations being taken into account.**

4.36 **Another useful feature of the 1985 Australian standard was to establish reduced exposure limits for the general population than for the occupationally exposed population.** This is because the occupationally exposed population consists of adults who are exposed under controlled conditions, and who are supposed to be trained to be aware of potential risks and to take appropriate precautions. The duration of occupational exposure is limited to the length of the working day or duty shift per 24 hours, and the duration of the working lifetime.[15]

4.37 **The general public (the non-occupationally exposed population) comprises individuals of all ages and different health status. The resonant range is different for adults and children and so is the distribution of radiofrequency**

**energy absorption in various body parts.** Some individuals may be particularly susceptible to radiofrequency radiation. In addition, members of the public are not always aware that exposure takes place and they can be exposed 24 hours per day, and over their entire lifetime. They cannot reasonably be expected to take precautions against radiofrequency and particularly burns and shocks. For these reasons lower basic (and derived) exposure levels are adopted for the non-occupational population than for the occupationally exposed population.[16]

Page 10

4.40 According to Mr Alexander Doull, a member of the TE/7 Committee, **the 1985 Australian Standard tightened and reduced the then allowable exposure limits and incorporated explicit, fundamental principles of radiation safety. It also explicitly acknowledged:**

**the limitations of a standard based only on preventing heating and burns; and a possibility of harmful non-thermal effects on living systems.[18]**

4.41 **The CSIRO informed the Committee that in recent years there have been various attempts to relax the acceptable limits of radiofrequency exposure in the Australian Standard.** The rationale has been to align it with international guidelines although, according to the CSIRO, there is no substantial new scientific evidence on which to base such a proposed change.[19]

4.42 **Mr Doull suggested that since 1985, the Australian Standard has come under sustained industry pressure to revert to much higher levels of exposure to radiofrequency radiation; to completely delete any references to fundamental principles of radiation safety; to minimise any explicit references to harmful effects; and to delete the previous acknowledgment of the existence of non-thermal effects on living organisms.[20]** He believes that the changes in the official Standard that the industry has wanted would probably have the effect of protecting the industry from future litigation. Mr Doull referred to a precedent setting case of fatal microwave disease in New York which had been the first jurisdiction to recognise asbestos diseases in exposed workers.

### Reference 3:

Correspondence between Timothy Latham from ABC Media Watch and Dr Maryanne Demasi from the Catalyst programme

[Reference source for reference 3](#)

Note: I have treated this item as being a single quote as I located it on line

Quote:

**...From:** Timothy Latham

**Sent:** Friday, 19 February 2016 4:54 PM

**To:** Nick Leys; Dylan Brookes

**Cc:** Richard Finlayson; Paul Barry

**Subject:** Media Watch - Catalyst

Hi Nick & Dylan,

We've had a lot of complaints about this week's Catalyst so we're looking at some of the criticisms for Monday's show.

As you will have seen across the week, those criticisms are based around the program being inaccurate, misleading, sensationalist and lacking scientific rigour.

A response by Sunday afternoon would be appreciated but if that is not possible then 9am Monday morning.

#### MW QUESTIONS

Why did Catalyst have six people arguing that Wifi and or, mobile phones, are dangerous and only one arguing otherwise?

Why was the time given to each side so unbalanced? (we counted 14 mins for critics, 2.5 to ARPANSA)

Why wasn't more weight given to experts who argue there is NO evidence mobile phones pose a health risk?

After initially approaching Rodney Croft, why did Catalyst not interview him for the program, given he is an expert in this field?

Why did Catalyst not interview members of the NHMRC 'Centre of

Research Excellence: Population Health Research on Electromagnetic Energy' - the recognised Australian experts in this field?

Why did you give so much time to the views of Devra Davis who is regarded by many experts in this field as lacking credibility?

What evidence does Catalyst have to support the assertion that Australian standards regarding mobile phones 'only protects people from thermal damage that can occur through overheating.'

Call if you need to.

Cheers

Tim Latham

Executive Producer ABC Media Watch

Statement provided to Media Watch by Dr Maryanne Demasi

Attached are responses to any **claims** of "factual inaccuracies" in the program (by Devra Davis).

Catalyst consulted with ABC's editorial policy department in the first week of working up the concept. We then consulted them again for advice one the first draft had been written.

Yes, Dr Demasi worked on a story about antidepressants which never aired. We asked two high profile psychiatrists to refute the claims of the Nordic Cochrane collaboration but they only agreed to debate privately, they did not want to engage in an "on-air" debate.

Since HEART OF THE MATTER aired in 2013 and following the Media

Watch article, the programs have been vindicated by several reports. Even high profile Australian Cardiologist went public about

her defense.

<https://soundcloud.com/drmaryannedemasi/cardiologist-dr-ross-walker-on-2ue>

Both programs were found to be factually accurate and in one section of part 2, we were found to breach impartiality, mainly because we did not include "factually erroneous" information into the program.

Maryanne’s personal response countering claims that the story was “fearmongering”.

[http://www.huffingtonpost.com.au/maryanne-demasi/sometimes-asking-questions-provides-you-with-answers-that-may-be-uncomfortable\\_b\\_9267642.html?utm\\_hp\\_ref=au-blog](http://www.huffingtonpost.com.au/maryanne-demasi/sometimes-asking-questions-provides-you-with-answers-that-may-be-uncomfortable_b_9267642.html?utm_hp_ref=au-blog)

Media watch has indicated that there have been “calls on social media” for Dr Demasi’s “sacking”. Catalyst does not take anonymous claims on social media as credible criticisms of the program.

The critics say it’s a fringe view, but this is not sustainable. A petition to the WHO and UN has been signed by over 200 scientists in a bid to draw attention to what they perceive as a looming public

health crisis. They say current safety standards aren’t protective enough. Some countries like Switzerland, Russia and China have 100 times more stringent standards than Australia.

### **Why did Catalyst have six people arguing that Wifi and or, mobile phones, are dangerous and only one arguing otherwise?**

No-one argued that mobile phones were dangerous.

Catalyst included six people who had differing interpretations on the published scientific evidence regarding mobile phone health risks, and Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) who clarified the government safety standards.

Dr Devra Davis and neurosurgeon Dr Charlie Teo, called for caution until further scientific studies. A view, which was also made by Dr Rodney Croft in his article in the Conversation...

*“Based on that glioma result, we have to step back and wait and hopefully we’ll know if this is a problem in the future”*. <http://theconversation.com/dont-panic-mobile-phones-are-still-only-as-carcinogenic-as-pickles-1600>

### **Error: Reference source not foundError: Reference source not found**

We also invited two high profile critics of Dr Davis, Professor Bernard Stewart, and Professor Simon Chapman onto the program but they declined.

Professor Chapman, (who specialises in the SOCIAL aspect of medicine) in an email to Catalyst indicated he wasn’t 100% qualified to comment on this area, asking us to “bring in the heavy artillery of cancer epidemiologists who live, eat & breathe this debate”. He suggested Prof Mark Elwood (NZ), who also declined and Prof Bruce Armstrong (who appeared in the program).



Prof Steward Barnard agreed to look at the evidence we presented. He admitted he was unaware of some of the papers we presented, yet remained steadfast in his scientific opinion despite contradictory evidence.

In an email to Catalyst he wrote:

*“I have considered the information you provided, and must immediately acknowledge that some papers were new to me. Obviously, I did not presume knowledge of all papers. That said, I have not changed the conclusions I drew in the first instance..... So I think I’m better left out”*

They have since passionately attacked the program in print and on social media. In these articles they did not disclose they weren’t across all the literature or weren’t as qualified as others to speak on this matter as they did to Catalyst. You can’t have it both ways, claim “public harm” from the program, but not think that “potential harm” is important enough to appear on air to dispute.

For the record, we asked the industry body, Australian Mobile Telecommunications Association (AMTA) and the Department of Education for an interview. Both issued statements and were included in the program to refute claims made by others in the program. We also saw that the regulator, A Australian Communications and Media Authority (ACMA) refers people on to ARPANSA.

We also sent the final grabs that we were using in the show to ARPANSA before the story went to air. They were satisfied with the response and did not query the grabs.

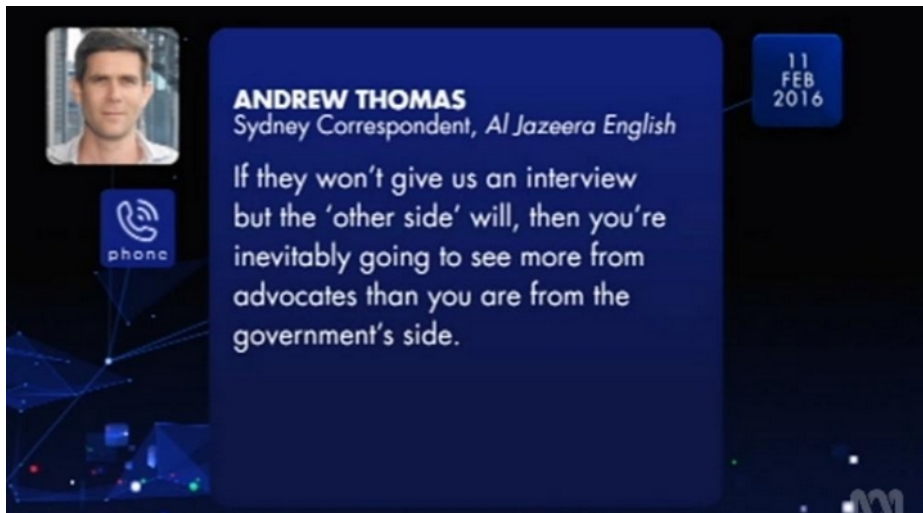
**Why was the time given to each side so unbalanced? (we counted 14 mins for critics, 2.5 to ARPANSA)**

You can not divide this argument into “sides”.

Dr Davis and Charlie Teo urged caution with phones, Dr Bruce Armstrong represented International Agency for Research on Cancer (IARC)’s views, Dr Ken Karapidis reflected ARPANSA’s stance, and we included the industry body AMTA and Dept of Education, all of who referenced ARPANSA’s guidelines. We also were aware that the regulator, ACMA refers to ARPANSA for advice.

When critics of Davis refuse to appear on air, it can give a sense of her not being challenged to some critics “satisfaction”. It misrepresents the opportunities given to critics and the program when some of those very critics are the

ones who declined to appear in the first place. We refer you to the Media Watch piece on Nauru last week.



**Why wasn't more weight given to experts who argue there is NO evidence mobile phones pose a health risk?**

From the review of the scientific literature, no-one across the scientific literature credibly argues there is NO evidence mobile phones pose a health risk. They say no ESTABLISHED evidence that wireless technology causes health effects” which is distinct from say that there is no evidence at all.

Again I refer you to Rodney Croft’s previous article (Q1).

Most importantly our own safety authority, ARPANSA, acknowledges that there is an association between heavy mobile phone use and malignant glioma (see story).

*KARIPIDIS: There is some epidemiological evidence of a possible association between prolonged mobile phone use and certain brain tumours. That evidence is not good enough to say mobile phones do cause cancer, but the possibility remains, so there is merit for those that are concerned in reducing your exposure to mobile phone use against the head, and in fact will provide advice in doing that by using your hands-free kit or putting the phone on speaker mode or various other ways.*

ARPANSA also acknowledges there is not enough evidence around mobile phones and their effect on children so our government regulator says (see story)....

KARAPIDIS: *When it comes to children, there's not enough evidence in this area, so our recommendation is slightly stronger. We do recommend that parents limit their children's mobile phone use.*

The backlash by a small minority on social media has robbed the public of an important health debate.

Mobile phones themselves provide warnings on Radiofrequency (RF) exposure, and insurance companies exclude cover for injury or illness caused by RF Electctormagnetic Energy (EME).

So despite the commentary by a few here in Australia, the prevailing global view is there is a “watch and wait” policy.

**After initially approaching Rodney Croft, why did Catalyst not interview him for the program, given he is an expert in this field?**

Dr Rodney Croft is NOT an expert in this area. Our program didn't end up covering any of Dr Croft's research, so we used him for background only (like others who didn't appear in the show). He is also a psychologist which does not make him an expert on epidemiology and he has no experience in oncology or neurology. As cancer (brain tumours) is one of the themes that was being investigated on the program Rodney Croft is not an appropriate person to interview. He was not a member of the IARC panel that classified RF EME as a possible human carcinogen. Dr Croft has disclosed to ABC in the 2009 Lateline program that he has ties with industry:

*FULLARTON; Not so easy is explaining close ties with the industry. The ACRBR was created with Telstra funding and Telstra lab equipment. Rodney Croft denies the industry buys influence.*

His research is focused on Electrohypersensitive (EHS) and the psychological effects such as the nocebo effect. Catalyst did NOT cover these areas in the story. Accordingly, Dr Croft was not a relevant expert for the material covered in the program.

**Why did Catalyst not interview members of the 'Centre of Research Excellence: Population Health Research on Electromagnetic Energy' - the recognised Australian experts in this field?**

This question is linked with the previous question and answered to some extent previously.

We did interview Dr Rodney Croft from the organization over the phone and he appeared to be out of his depth with regards to commentary on cell biology, epidemiology and physics. His research is in psychology and EHS. This was irrelevant to the debate. Dr Croft also continually referred us to ARPANSA's safety guidelines.

**Why did you give so much time to the views of Devra Davis who is regarded by many experts in this field as lacking credibility?**

We strongly reject the premise of this question. "Many experts" in the field do NOT believe that Dr Davis is lacking credibility. This is a defence used by those who disagree with her view.

On the contrary, Dr Davis is highly credentialed. As a cancer epidemiologist, Dr Davis has performed research in this area, unlike Croft and many of her critics. She was:

a senior scientist at the National Academy of Sciences,  
a presidential appointee of the Clinton Administration,

a contributor to the IPCC report, which was awarded a Nobel Peace Prize with Al Gore in 2007 and  
a

recognized internationally for her work on environmental health and disease prevention.

Dr Davis qualifications have led her to appear on a raft of other credible broadcasters, Channel 10, 9, SMH. <http://www.smh.com.au/good-weekend/why-devra-davis-wants-the-world-to-hang-up-and-take-notice-20151125-gl7ojl.html>

Also, Dr Davis received more airtime because her critics refused to come onto the program to dispute her views.

In a rush to discredit this program many critics on social media have sought to personally smear the reputation of Dr Demasi and Dr Davis, two highly qualified scientists and females in the media.

Dr Davis previously appeared on Australian 60 Minutes and ABC in 2009 and 2011 but there were no calls to sack those reporters on social media.

<https://www.youtube.com/watch?v=wXiumonAirc> <http://60minutes.ninemsn.com.au/article.aspx?id=8284858>

ABC lateline in 2009

<http://www.abc.net.au/lateline/content/2008/s2533725.htm>

Then again on (2011)

<http://www.abc.net.au/lateline/content/2011/s3183275.htm>

She was also on ABC Radio. None of these so-called health experts raged against her, like they did with this story.

**What evidence does Catalyst have to support the assertion that Australian standards regarding mobile phones ‘only protects people from thermal damage that can occur through overheating.’**

This is not an “assertion”. This is an established fact.

The ARPANSA standard rp#3 is based on the heating of tissue SAR and in turn, is based on the amount of energy deposited in tissue. Direct quote from page 6 (**attached**).

“In the frequency range between 100 kHz and 6 GHz, basic restrictions on whole body average SAR are provided to prevent whole-body heat stress. Basic restrictions on spatial peak SAR, in the head and torso and in the limbs, are intended to prevent excessive localized temperature rise in tissue. Due to thermal

inertia of tissue, a six minute averaging time is appropriate for time averaged SAR measurements “

At the International Conference, "Mobile Communications and Health: Medical, Biological and Social Problems" held in Moscow, Sept 20 – 22, 2004, Paulo Vecchia, then chairman of ICNIRP stated the following:

“ICNIRP only considers acute effects in its precautionary principle approach. Consideration of long term effects not possible”. [http://www.emfacts.com/download/moscow\\_conf.pdf](http://www.emfacts.com/download/moscow_conf.pdf) **From: Timothy Latham...**”

Original Source: [http://www.abc.net.au/mediawatch/transcripts/1604\\_demasi.pdf](http://www.abc.net.au/mediawatch/transcripts/1604_demasi.pdf)