

## **Summary of the ICNIRP/WHO Workshop and EHS Science and Wireless session 11-11-2014**

My name is Steven Weller, I hold a science degree in biochemistry and microbiology. I attended the recent ICNIRP workshop held in Wollongong as an EMERG committee member. The Electromagnetic Energy Reference Group (EMERG) was established by ARPANSA to enable input from the community and other stakeholders on issues relating to electromagnetic radiation (EMR) and health. Below is a synopsis of the meetings I attended and includes my own personal opinions.

### **Government Expectations of ICNIRP (Science vs Protection) - Dr Carl Magnus Larsson (CEO of ARPANSA)**

A summary of the main points covered are as follows:

ARPANSA regulates Australian Commonwealth entities using radiation.

Dr Larsson would like to promote radiation uniformity nationally (Australia).

ARPANSA looks at codes and guidelines and also seeks guidance on International Best Practices (IBP) from international bodies such as WHO and ICNIRP for non-ionising radiation

ARPANSA responsibilities cover:

- Commercial services
- Measurement
- Assessment
- Communication

EME program established in 1996 and managed by NHMRC

ARPANSA is trying to develop a coherent message for health and safety

Discussed how the standard provides a high level of protection for all known and established effects.

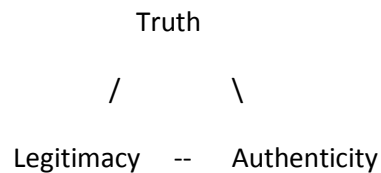
Looking for harmonisation of international standards. I raised a question on this seeking further clarification indicating we have more than 2 international RF standards that claim to be science based – example at 2Ghz ICNIRP and FCC allows 10watts/m<sup>2</sup> while Russia and China allow 0.1watt/m<sup>2</sup> (100 times difference). Which one will be taken? Response from Dr Larsson was that they will all be considered when developing a standard.

ARPANSA is currently working on specific guidance on a precautionary approach. As a side note past EMERG committee members have indicated that this has been claimed by ARPANSA for more than 12 months. The precautionary approach has been documented in the Australian RF Standards (RPS3) for at least 12 years and not been adopted by any Australian Government department that deals with public health, environment and certainly not by the regulators of the RF spectrum (ACMA) or the industry. Would appear to be a case of all talk and no action. It is my intention to follow this up with the committee at the next EMERG meeting on the 21<sup>st</sup> November 2014.

Dr Larsson indicated that he was not entirely satisfied that non ionising radiation (NIR) and Ionising Radiation (IR) are treated differently. A possible unified approach to radiation protection is being considered.

Indicated that ARPANSA will start looking at performing a technical survey of wireless RF emissions from wireless routers and equipment in schools.

Mentioned that ARPANSA is following a RISCUM Model (triangle)



### **WHO's EMF project Update on the RF EHC - Dr Emile Van Deventer**

Dr Deventer provided a definition of health – “**Health** is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.”

From my own perspective, taking the above into context of EHS, all three are challenged yet nothing is being done by the WHO or local government.

EMF project was established in 1996. Dr Deventer began to talk about the current release of draft EHC documents for RF which are available for public and academic comment.

Evidence of health risks for other types of exposures (excluding Mobile Phones) is insufficient (i.e. WiFi). It is not clear why this statement was made and is at odds with what Dr Baan from the IARC has previously stated.

Time constraints and no meta-analysis 1992 – 2012.

Indicated that the WHO requires help to translate Russian and Chinese studies so that their findings can be included.

Discussed a little about the inclusion and exclusion criteria used when reviewing studies for suitability for inclusion in the EHC report.

Some issue regarding unexposed and exposed.

Indicated that they have established a “grey zone” for studies that may have some interesting findings but may not contain enough useful data – i.e. they will not initially be discarded/excluded.

Public comment has been extended to the 15<sup>th</sup> December.

I mentioned to Dr Deventer during a break that the WHO'S definition of EHS is not helpful. It is appreciated that EHS's nonspecific symptoms are recognised and that it can be potentially disabling but the claim that it is not a medical diagnosis and had not been proven to be linked to EMF is a complete disservice to sufferers as they are left in limbo without any support. Unfortunately many Governments around the world use this as an excuse not to act on the basis that further advice from the WHO is absent.

## IARC 2B & RF epidemiological studies - Dr Maria Feychting

Dr Feychting discussed the latest cancer evidence in relation to IARC announcement in 2011 that RF is a group 2B possible carcinogen

Indicated that there is selection bias in case control studies which can lead to underestimations in risk

Longer periods are available in new studies.

Simulated trends of case control studies are true.

Began to compare Interphone with other studies (Hardell and CERENET).

Not seeing the suggested trends predicted by Hardell and CERENET in the real world (used Swiss Cancer statistics as example). Interphone study appears to be closer to reality where most of the usage tiers show no increase in cancer

Indicated that Nordic countries and UK show no increase in incidence of brain cancer over 20 years.

Sweden's graphs showed a seesaw like motion with some years showing spikes followed by a trough in the subsequent year and when covering the 20+ year period there appeared to be no upward trend. Averaging the data shows no increased risk.

I spoke with Maria individually during a break and asked her whether there has been any further statistics provided for Denmark after they experienced an aggressive spike in glioblastoma in 2012. She indicated that we see such rises now and then as per the Swedish graph. Further research on this by myself after the event has shown that Dr Feychting appears to have cherry picked her data to support her claims. It is true that Sweden's Cancer registry, when averaged, does not show any increase. However a recent article from Mona Nilsson found here:

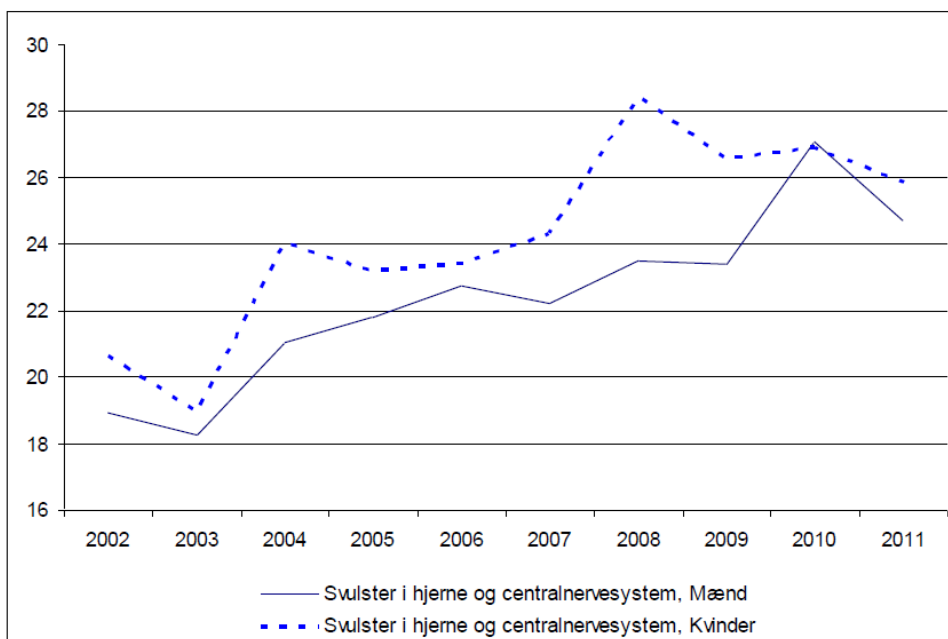
[http://www.stralskyddsstiftelsen.se/2014/10/increase-brain-tumors/#\\_ftn6](http://www.stralskyddsstiftelsen.se/2014/10/increase-brain-tumors/#_ftn6) has found some serious issues and claims that there is reporting issues of brain tumours in the cancer registry. It also appears that while malignant tumours are fairly steady (which are reported) the number of brain tumours of unknown origin has increased by almost 30% over 10 years.

### **Diagnosis in Swedish health care, Number of patients, Age: 0-85+ Both sexes. Source: Swedish National Board of Health (Socialstyrelsen)**

<b>Diagnosis</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>
C71 Malignant tumor in the brain	1340	1339	1388	1434	1392	1425	1434	1457	1442	1403
D43 Tumor of unknown nature in brain/CNS	<b>723</b>	<b>755</b>	<b>781</b>	<b>763</b>	<b>774</b>	<b>754</b>	<b>886</b>	<b>884</b>	<b>1016</b>	<b>968</b>
Total brain cancers	2063	2094	2169	2197	2166	2179	2320	2341	2458	2371

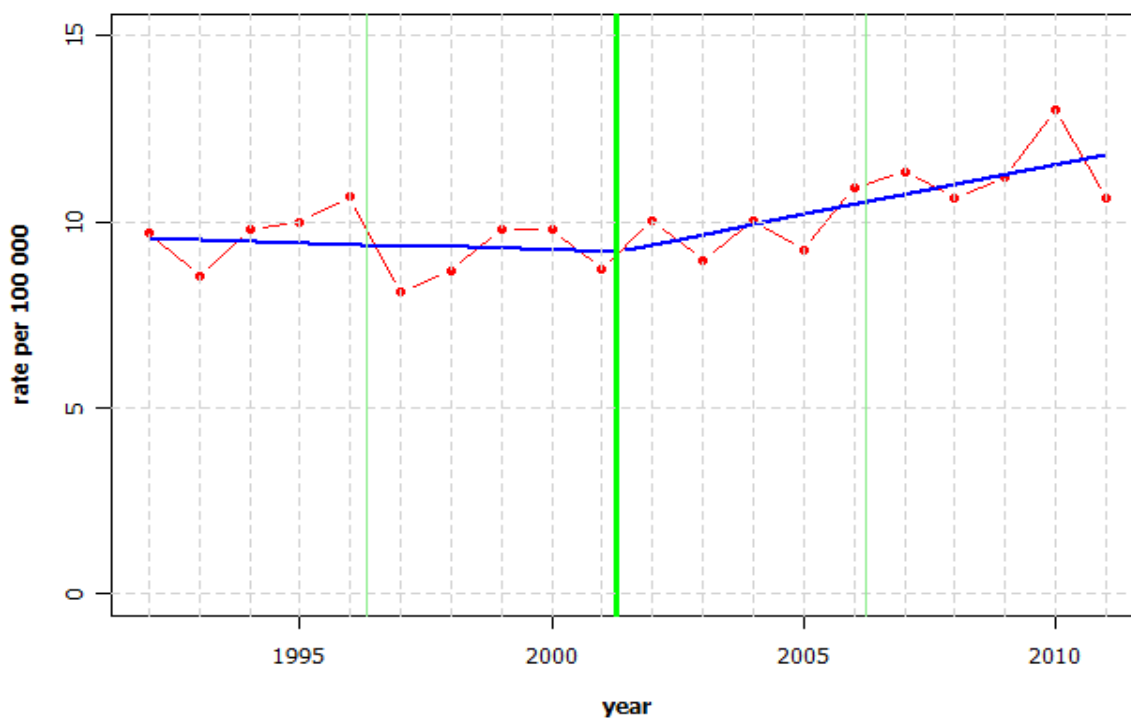
Denmark is also part of the Nordic region and has shown a steady increase in the number of brain and CNS tumours as can be seen in this graph. So Dr Feychting's comment that Nordic brain tumour incidences are fairly steady is in fact false and misleading. Helsinki (Finland) has also shown a rise in the rate of brain tumours.

**Incidens af svulster i hjerne og centralnervesystem, pr. 100.000 mænd/kvinder, aldersstandardiseret, pr. år 2002-2011**

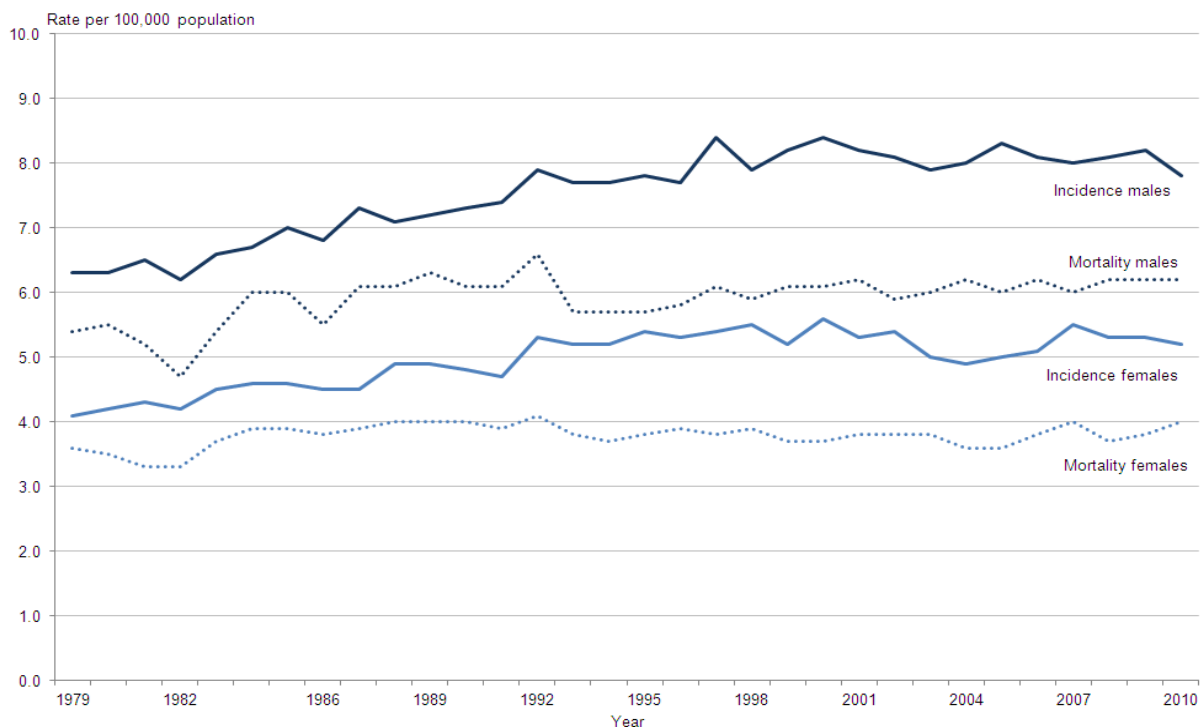


The table above shows a 30% increase in the number of brain and central nervous tumours among Danish men over the ten years, 2002-2011. The increase among Danish women was 25%.

Then there are the statistics for Helsinki (Finland) below



It is also concerning that the claim that the UK is not seeing any rise in brain tumours appears to be incorrect as can be seen by the graph below



## Incidence rates have increased steadily in the UK

In the last 32 years, brain cancer incidence rates have increased by 23% for men and 25% for women. In 2010, the incidence rate was 8 new cases per 100,000 men and 5 new cases per 100,000 women. This equates to nearly 2,300 newly diagnosed cases in men and just under 1,700 in women. The reasons for the increase in this relatively rare cancer are still under investigation.

Source: <http://www.ons.gov.uk/ons/rel/vsob1/cancer-statistics-registrations--england--series-mb1-/no--41--2010/sty-brain-cancer-awareness.html>

It is interesting to note that other cancers in the Nordic region are also on the rise including:

Thyroid, prostate and breast cancer.

This is important because an Israeli scientific study (2013) has shown a possible association between thyroid cancers and mobile phone usage.

<http://www.prweb.com/releases/2013/3/prweb10542549.htm>

I raised to the panel the point that if a mobile phone can cause cancer, then why are we only focusing on brain tumours? Certainly other parts of the body that are more sensitive may also be impacted by radio frequency radiation such as the thyroid, breasts and prostate. Shouldn't they be investigated too, given that phones are kept in trouser pockets, breast pockets or bras? One of the panel responded that some studies on rats looking for breast cancer have found nothing. Of course no-one is really looking at the cancer statistics for these anatomical parts. If we look at cancer statistics in all developed countries (which have the most developed power and communication infrastructure) all are seeing increases year on year without any adequate explanation. It would appear that a 'if you don't look, you won't find' attitude seems to prevail.

## **IARC 2B & RF laboratory studies (Animals – including childhood studies) was discussed by Dr Zenon Sienkiewicz**

No evidence of tumours in animal studies. Only a past study performed by Dr Michael Repacholi found an increase in tumours. Number of studies in many cases were less than 10 with one mentioning 16 studies had been reviewed looking at specific effects.

I raised a point to the panel indicating that cancer incidence in Australia for the more common cancers are in the low 100's per 100,000 (an incidence of .002% or less) and that performing studies on 100 or so animals provides no statistical power and is too insignificant to show anything. I also mentioned that other limitations include the testing of (in many cases) an individual frequency, as one exposure per day for a short duration is not representative of the typical exposures humans are experiencing every day. No-one on the panel was able to provide an appropriate answer and so they moved onto the next question.

## **ICNIRP philosophy on RF protection and guidelines – Dr Eric van Rongen**

The 2002 principles do not cover social, economic and political considerations.

Technical studies not covered, only biological.

Claimed that Biological effects -> annoyance + discomfort considered. I would argue that headaches, skin sensations and dizziness have not been considered because they have not been “established” in scientists’ eyes. Given the panels claim that EHS is probably psychological the aforementioned effects must be of psychological origin based on people’s concern of technology (A communicated symptom). Of course this is quite ridiculous.

Health effects – only established health effects considered and believed to be caused by heating only.

Basic restrictions are complex.

Reference levels used as a general guidance for 2 types of exposed populations:

1. Workers
2. General population

Patients were not considered in the 2002 statement. Thus people who are considered vulnerable are not considered in the current 1998 Guidelines.

Uncertainty in measurements are not considered.

ICNIRP recommends that precautionary principles should not undermine or be to the detriment of science based guidelines. I take this as meaning let’s not apply a precautionary approach because it would undermine our Guidelines.

Acknowledged that current guidelines do not consider the vulnerable (children, pregnant women, elderly or the sick) – this will be rectified in the next guideline update which is in progress. [I wonder how this rectification will affect the appropriateness of the wireless smart grids that, by its very nature, blankets the entire population]

Admitted that the current guidelines are for short term acute exposures only.

Since Australia’s RF standards are based on ICNIRP 1998 guidelines, it would appear that ARPANSA has been misinforming the public about the extent of protection with respect to long term chronic exposures as well as who is protected. ARPANSA has been claiming in response to my emails that the RF Standard “*provides people of all ages and health status a high level of protection against all known health effects of RF fields*” and “*in setting the limits the standard does not restrict itself to*

*effects that can be observed within six minutes...Much of the evidence on which the standard is based comes from exposures lasting hours, months or years."*

ICNIRP clearly say the guidelines on which ARPANSA based Australia's RF standards is for short term acute exposures (not chronic exposures) and were not designed to protect certain vulnerable portions of the population (i.e. patients, children, sick, elderly and pregnant women).

ICNIRP plans to address these shortcomings with an update to the RF guideline covering:

- Vulnerable people
- Chronic exposures

The reason for updating the guidelines is due to the proliferation of RF devices globally

It is claimed that to date there are no demonstrated non thermal effects.

### **HF Guidelines considerations – Dr James Lin**

Current Guidelines only consider acute exposures and are being revised

- Update to the guidelines will handle low level exposures
- Delayed health effects
- Induced field + current
- Exposure to pulsed fields and non-sinusoidal waves

Averaging mass will also be looked at. Indicated that the current models are too simple and mentioned the eyeball specifically (10g) which is complex as it has many features that react differently to RF. Current Guidelines do not account for anatomical differences.

Elevation of temperature of 1c – Does SAR remain constant over time?

Nearfield 30min far field 60 min correlation – rises and falls in temperature.

No agreement on whether change can be made and to what level if a change is made.

Indicated that there are many more negative effect studies vs positive effect studies. I spoke to Dr Lin one-to-one during a short break and asked him what the % difference was between papers showing no effect vs positive effects. He could not tell me but said it was substantial (in favour of negative studies). I then asked him whether these papers are further analysed to look at funding sources and who is conducting the research. He acknowledged that the %percentage difference changes taking these possibilities into account. Again, he was unable to tell me what the specific change was and indicated a number of studies have looked at this (Henry Lai did a review for the Bioinitiative report that clearly shows industry/military conducted or funded research is more likely to find no effects while it is the reverse when the research is conducted by independent scientists). I also indicated that much of the early research performed on RF and health up until the release of the 1998 RF Guidelines were conducted by industry/military and he agreed.

### **1g vs 10g SAR average mass – Dr Vitas Anderson**

A very interesting presentation was given by Dr Anderson where he ridiculed the current ICNIRP Standards in front of all the representatives and academics. Quite a few scientists near me were smirking and shaking their heads, with a few even tilting their heads forward and placing their open palm on their forehead. Dr Andersons words were "the standards are garbage and unforgiveable".

He indicated that there was no scientific basis for the 2 safety factors (10 times for workers and 50 times for the general public). He clearly believed that the thermal guidelines are not realistic. He then went on to demonstrate this by showing thermal levels reached by various sporting activities including basketball which was significantly higher than the 2 levels (one for workers and one for the general public). The ICNIRP general population thermal level didn't even feature on the graph because it was so insignificant. Dr Anderson also mentioned that EHS is a psychosomatic problem which was repeated by a number of other panel members in the next workshop. It appears that if enough academics with serious titles say it is psychosomatic it must therefore be true. Of course one needs to look at the researchers credentials to realise none of them have substantial qualifications in medical and biological sciences.

I stood up at the end of the speech and said that Dr Anderson had probably disenfranchised quite a few of his peers with his inflammatory ICNIRP guideline comments. I then said that his claim that EHS is a psychosomatic illness is disingenuous to those who are suffering and mentioned my case specifically to demonstrate how ill-informed he was. I am an IT worker and had no preconceived ideas about RF and health and had purchased a wireless router to gain flexibility to use my laptop anywhere in the house to access the internet without dangling wires. That the symptoms I experienced only happened when I used wireless. Of course the response is that studies have not been able to demonstrate an association of RF with symptoms. I responded that perception of signals is not a useful test to verify RF causes symptoms and proves nothing especially when it comes to delayed symptoms.

The ICNIRP workshop was followed by a **Science and Wireless forum to discuss EHS**.

A number of speakers presented including Rodney Croft, Eric van Rongen, Michael Repacholi. All of them repeated the same mantra that EHS is a psychosomatic illness, some of them even suggested that sufferers should not try to reduce their exposure to RF but instead seek psychological help. Professor Rodney Croft, Director of ACEBR also told the meeting that reviews had found 'no evidence of health effects' from electromagnetic radiation. 'If you ask me: do I think we'll find an association between symptoms and RF, I'd say certainly I don't.' Recommendations were made that sufferers should seek medical attention. Of course the problem with this approach is the doctors have no formal training on identifying and treating those who are EHS. The likelihood of misdiagnosis and the prescription of inappropriate medication is high.

It was very clear that evening that the majority of the presenters are working to an agenda. Perhaps this statement is what is on the back of their minds:

*“A strict enforcement of stringent exposure standards (safety regulations), there could be unfavourable effects on industrial output and military functions.”* and *“Recognition of the standard (stringent safety regulations) could also limit the application of new electronic technology by making the commercial exploitation of some products unattractive because of increased costs imposed by the need for additional safeguards.”* US Defense Intelligence Agency Report on the BIOLOGICAL EFFECTS OF ELECTROMAGNETIC RADIATION (RADIOWAVES AND MICROWAVES) EURASIAN COMMUNIST COUNTRIES (1976)

At this point in time I was completely wasted from being exposed to all sorts of RF for several hours and thought what is the point in responding, but I could not help myself – someone has to stand up and say “the emperor has no clothes”. I stood up and read some notes that I had prepared prior to the workshop. Firstly I stated that in 1961 Allan Frey conducted a study that showed people could



hear microwave pulses 100m from an antenna. That the subjects also complained of dizziness, headaches and pins and needles sensations. I then read a line from a DIA paper that looked at Russian Microwave research (1976) which claimed Military personnel exposed to microwaves exhibited a variety of subjective complaints including headaches, fatigue, dizziness, sleeplessness etc. That the aforementioned symptoms are repeated over and over with all sorts of wireless exposures. How do they explain this?

Of course the panel said that there are no studies that provide a correlation between exposure and EHS nonspecific symptoms. I said this was false as I have performed a systematic review of 84 EHS studies and found the following.

- 21 Neutral Studies with neither a negative or positive findings
- 25 Negative studies
- 38 Positive studies

They did not respond and went onto the next person.

The meeting facilitator Professor Ray Kemp, asked the audience to raise their hand if they felt the Australian RF standard did not provide sufficient protection. I observed a considerable show of hands. This is a clear indication that there is a lack of trust between the public and the so called experts. If this workshop was meant to build trust with academics and the public it most certainly failed. The same “world scientific consensus” spin doctors keep appearing and saying all is okay. Those highly qualified scientists who disagree with this view are not invited to speak.

A number of other people in the audience asked questions of the panel. One included how many studies had been performed in Australia to look at the health of populations living close to mobile phone masts. I stood up and said there had been none. The panel responded that one had been done for an RMIT cancer cluster that occurred in 2006. The building in question, which has rooftop mobile phone towers, was temporarily closed following the discovery of five brain tumours in a month and two others in 1999 and 2001. Two were malignant and five were benign. Yes, there had been an investigation and a claim that it was not a cancer cluster, because all the cancers were different. However there was no formal peer reviewed study published in any scientific journal. The main problem with the investigation was its narrow focus that only looked at the individuals in the building. There have been no studies looking at populations living within 500m of a mobile phone base station in Australia! One member of the public indicated that he has done his own survey and found a large number of people have developed cancer living 15 years or more near a tower.

There was an informal gathering after the meeting. I was not able to stay long as I had a flight to catch. I managed to talk to Dr Deventer from the WHO EMF project about EHS and suggested she take some time to look at my “*personal EHS case study*” that is available on the internet. She appeared to be opened minded on the subject and mentioned that the former head of the WHO and ex-prime minister of Norway, Gro Brundtland, was EHS and that she had been chosen for these positions because she was a very capable person. I appreciated her honesty and took this as a tacit acknowledgement that EHS is not due to a psychological problem.

It must be understood that ICNIRP is an NGO and has no accountability to the public. WHO has also been tainted in the past by industry interference with the Tobacco science debacle. It would appear history is repeating itself again with vested interests, radio frequencies and health.