

## **PUBLIC HEALTH ENGLAND AND ELECTROMAGNETIC SENSITIVITY**

*Some comments on statements by  
Public Health England (PHE)  
about  
Electromagnetic Sensitivity (ES) and non-thermal adverse effects.*

### **1. PHE's claim of "No consistent or convincing evidence" for Electromagnetic Sensitivity and non-thermal harm is invalid**

Most medical scientists consider the evidence both consistent and convincing.

- (a) The World Health Organisation states that Electromagnetic Sensitivity symptoms are 'certainly real' and can be 'disabling'.
- (b) There is totally consistent and convincing evidence for Electromagnetic Sensitivity symptoms in some people moving through magnetic fields, as near MRI scanners. The European Commission's Directive soon to become UK law (2013/35/EU) requires employers to report these and similar Electromagnetic Sensitivity symptoms caused by EM exposure.
- (c) The Nordic Council of Ministers from the year 2000 has classified Electromagnetic Sensitivity (ES) as "EI-Allergy" (ICD-10: R68.8).
- (d) From 2014 ES is classified as Radiation Sickness (ICD-10: T66; W90.0).
- (e) The Austrian Medical Association has published a protocol for diagnosing and treating Electromagnetic Sensitivity.
- (f) The World Health Organisation accepts non-thermal sensitivity and classifies electromagnetic exposure as a 2B possible cancer agent. Leading international experts say that there is now sufficient evidence for EM exposure to be classified as a class 1 certain cancer agent.

### **2. PHE's hypothesis that Electromagnetic Sensitivity is a "psychological fear" is invalid**

Most international medical scientists accept Electromagnetic Sensitivity (ES) as a biophysical condition which can be measured objectively. In contrast, a fear of an electrical power-line or radio transmitter is a separate condition distinguished by its different aetiology. Studies show that 3.1-3.8% of the population have ES.

- (a) The World Health Organisation states that there is a small group in the general population more sensitive to electromagnetic exposure, as also with dust, pollen and chemicals. This is classified as Environmental Sensitivity or Intolerance. This is not a psychological fear.
- (b) The World Health Organisation states that Electromagnetic Sensitivity is not a known psychiatric disorder. The WHO's ICNIRP accepts ES symptoms are not caused by fear but electromagnetic exposure.
- (c) Children, animals and plants also show Electromagnetic Sensitivity. This can be measured objectively, as in DNA fragmentation, cellular apoptosis, cerebral perfusion and protein expression. This is not a fear.

- (d) In other examples of Electromagnetic Sensitivity, such as Geomagnetic Sensitivity, Aurora Disturbance Sensitivity etc., where the incidence of strokes, for instance, correlates with ambient natural electromagnetic disturbance, there is no suggestion in the medical literature that these physical effects are caused by fear, through reading the tabloids or watching TV, as required by PHE's hypothesis about Electromagnetic Sensitivity.
- (e) Therapeutic procedures, depending on sensitivity to electromagnetic exposure, as used by the NHS, rely on objective bioelectrical effects, not on reading tabloid newspapers or watching TV.
- (f) Electronic warfare at non-thermal levels, used since the 1950s, relies on non-thermal EM sensitivity with objective bioelectrical effects, not on enemy fighters who develop a fear from the tabloids or TV.
- (g) All medical doctors treating Electromagnetic Sensitivity advise that the first requirement is to reduce or eliminate electromagnetic exposure.
- (h) Genetic haplotypes are now associated with a diagnosis of Electromagnetic Sensitivity, with a risk factor of up to 10 times.
- (i) The unsubstantiated hypothesis for PHE's claim that Electromagnetic Sensitivity is not a real sensitivity but a fear depends on failed subjective conscious provocation tests, a view promulgated in 2004 to help the wireless industry. Nearly all medical scientists now reject these failed tests on the grounds that humans are not required to be conscious detectors before they show objective but subconscious sensitivity to other environmental effects, such as nuclear radiation, nut allergy, sun exposure, infra-red or infra-sound energy. The tests are based on an invalidated hypothesis which fails to recognise non-linearity and idiopathic reactions. PHE's hypothesis is called "pseudoscience" by leading experts.

### **3. PHE's claim that WiFi is less harmful than mobile phones is wrong**

It is now well known that it is not just the strength but the type of radiation signal and its pulse which has an effect on human cells.

- (a) WiFi radiation has an amplitude up to 100 times greater than mobiles.
- (b) WiFi transmits at full power; mobiles reduce power if possible.
- (c) WiFi is often used to download large video files with masses of data.
- (d) WiFi radiation in classrooms is often higher than near a phone mast, where 80% of studies show ES symptoms and increased cancer.

### **4. PHE states it follows the ICNIRP**

The ICNIRP (International Commission on Non-Ionising Radiation) still fails to set biological limits but accepts non-thermal symptoms from EM radiation.

- (a) PHE claims that it follows the ICNIRP. The ICNIRP, however, in 2002 warned governments that they need to set lower, non-thermal, limits for the more sensitive groups in the general population. PHE has not yet advised the UK government to act on the ICNIRP's warning.

- (b) The ICNIRP now accepts electrosensitivity symptoms, including neurological effects such as memory loss and cognitive confusion as well as headaches and pains, which are caused by electromagnetic exposure, and not by fear caused by the media. PHE has not yet taken into account this acceptance of ES symptoms caused by EM exposure.
- (c) The ICNIRP's limits are short-term and thermal, preventing an adult male from heating within 6 minutes. For power density, the ICNIRP still allows 9,200,000 or 4,500,000 microWatts/metre<sup>2</sup>; biological limits are 6  $\mu\text{W}/\text{m}^2$ , and 3  $\mu\text{W}/\text{m}^2$  for sensitives and children. For electric fields, ICNIRP allows 61.0 Volts/metre; biological limits are 0.2 V/m.
- (d) The EU Parliament voted in 2009 that the ICNIRP's heating limits are 'obsolete' and biological long-term limits are needed.
- (e) Some countries never adopted, or abandoned, the ICNIRP's heating-only limits. In 1958 the USSR adopted non-thermal safety limits. In 2013 India adopted non-thermal safety limits at 10% of ICNIRP. Already over 40% of the world has rejected ICNIRP's obsolete limits, and 58% of countries now warn of dangers from WiFi and mobiles.
- (f) The ICNIRP is a private pro-wireless pressure-group from Germany. It derives from the atomic weapons industry, maximising radiation limits.
- (g) The ICNIRP, like PHE, has no members who are medical doctors experienced in diagnosing and treating Electromagnetic Sensitivity.

## **5. PHE claims it reviews the science on Electromagnetic Sensitivity**

PHE claims that it keeps the science on Electromagnetic Sensitivity under review. In fact it lacks formal mechanisms to do so, and is not planning to do so.

- (a) PHE's last review of Electromagnetic Sensitivity was in 2005, under the HPA. This report did not establish the cause of the condition and is therefore irrelevant both to setting exposure limits and in advising how people who suffer from Electromagnetic Sensitivity should gain help.
- (b) PHE's AGNIR's 2012 report (Advisory Group on Non-Ionising Radiation) on RF health effects was criticised by experts. It claimed to cover all Electromagnetic Sensitivity but ignored ELF exposure, referenced only 3 studies before 2000, and adopted the minority and invalidated hypothesis of Electromagnetic Sensitivity being a fear, without accepting its non-linearity. The AGNIR report was not peer-reviewed.
- (c) A much more balanced assessment of the medical effects of electromagnetic exposure was the Bioinitiative Report, also of 2012.
- (d) Most scientists now accept Electromagnetic Sensitivity as real, but PHE has not yet updated its views. Even drug companies are switching from chemical to electromagnetic delivery of medicines and many therapeutic medical procedures depend on Electromagnetic Sensitivity. PHE still refers correspondents to its outdated 2005 and 2012 reports.
- (e) PHE's AGNIR committee is not independent. It is almost entirely composed of people holding its minority heating-only hypothesis. Two of its members, including the chair, are, or have been, members of the

ICNIRP with its pro-wireless industry views. AGNIR's first chair, Sir Richard Doll, was pro-industry as regards electromagnetic exposure and admitted to being paid by industries.

### **6. PHE is in a minority in its claims on Electromagnetic Sensitivity**

PHE's invalid claim on Electromagnetic Sensitivity is now a minority hypothesis.

- (a) Law-courts and tribunals around the world, including the UK, accept the reality of Electromagnetic Sensitivity for financial compensation.
- (b) Electromagnetic Sensitivity, physical or psychological, comes under the United Nations' Convention on the Rights of Persons with Disabilities, ratified by the UK in 2009, and the UK's Equality Act of 2010.
- (c) An increasing number of NHS doctors are aware of Electromagnetic Sensitivity but more needs to be done in training them to diagnose and treat Electromagnetic Sensitivity as a disabling physical condition.
- (d) The Parliamentary Assembly of the Council of Europe in 2011 called on governments to provide 'white zones' free of man-made electromagnetic radiation for people with Electromagnetic Sensitivity. PHE has yet to advise the UK government to do so.
- (e) PHE has also not yet advised the UK government to follow the ICNIRP's warning that sensitive groups need non-thermal limits.
- (f) PHE has also not yet advised the UK government to follow the ICNIRP's warning that some people display electrosensitivity symptoms which are caused by electromagnetic exposure and not media fear.
- (g) Some UK government departments, other than PHE's Department of Health, accept non-thermal adverse effects and thus, for instance, do not insist on wireless 'smart' meters for health reasons.

### **Conclusion: PHE's minority claim is invalid and controversial**

PHE's claim of "no consistent or convincing evidence" is invalid according to the current medical science. Although not all mechanisms are fully understood yet, Electromagnetic Sensitivity is not controversial and since the 1960s has been recognised as an established objective condition in humans and animals.

The current controversy concerns the failure of activist pro-wireless groups like ICNIRP, which PHE says it follows, to accept the science and change to biological long-term safety limits like nearly half the world. PHE's acceptance of ICNIRP's obsolete limits causes severe hardship and even death to a growing number of people with ES. PHE should adopt the majority scientific viewpoint, accepting the reality of Electromagnetic Sensitivity, and adopt the appropriate international non-thermal safety limits for long-term radiation exposure.

#### *Notes*

1. Useful websites: [www.bioinitiative.org](http://www.bioinitiative.org); [www.electricsense.com](http://www.electricsense.com); [www.electromagneticman.co.uk](http://www.electromagneticman.co.uk); [www.electrosensitivity.co](http://www.electrosensitivity.co); [www.emfanalysis.com](http://www.emfanalysis.com); [www.es-uk.info](http://www.es-uk.info); [www.iemfa.org](http://www.iemfa.org); [www.magdahavas.com](http://www.magdahavas.com); [www.powerwatch.org.uk](http://www.powerwatch.org.uk); [www.radiationresearch.org](http://www.radiationresearch.org); <http://ssita.org.uk/>
2. The charity ElectroSensitivity UK provides advice: helpline (0845 643 9748: recorded message for call-back), email [enquirers@es-uk.info](mailto:enquirers@es-uk.info).