

ASA Draft Recommendation: Complaint A17-388045

(received December 8 2017)

**Response to the ASA Draft Recommendation text (Dec.2017)
presenting the ASA's summary of the ES-UK's 'Response'
based on the ES-UK's substantiation of the science behind the poster.**

To:
xxx
Investigations Executive,
ASA.
Xxx

December 11 2017

Dear xxx,

Thank you for the 4-page summary of the 160 pages of my evidence substantiating our poster.

Heading: I am not aware that the poster is, or was, available on the ES-UK website on the Internet (except in a Newsletter report from late October 2017), so I suggest that the phrase "**Internet (on own site)**" should be removed. In addition, however, as I mentioned in my substantiation, the poster has been used abroad, outside the ASA's jurisdiction, with full scientific approval.

Although the draft summary includes some of the evidence as regards mechanisms, outcomes and biological research, the complaints forwarded to ES-UK included significant and extravagant claims about the nature and assumed reliability of other supposed sources of information on this area. Therefore, much of our substantiation dealt with these claims, but many of our responses have not been summarised, either at all, or not in sufficient detail. Accordingly, it is vital that these following points are included fully, since these claims, however absurd and spurious, were the basis of the complaints.

I should therefore like to see following points added to the summary of my substantiation. In particular, I regard the emphasis of my substantiation, especially on the evidence for EM energy as a 2A or 1 human carcinogen, and the problems of lack of expertise at the WHO/ICNIRP/AGNIR, as absolutely central to both the complaints and my substantiation, and I therefore regard it as essential that these are included fully if the summary is to have any accurate relation to what I submitted and thus any value. The serious inadequacy of the existing draft 'summary' is a clear example of the initial problem which was highlighted, that the ASA lacks access to expertise in this area.

1. It is crucially relevant to our poster, and the substantiation which was presented for it, that the evidence on cancer caused by mobile phones and similar radiation has grown so fast since 2001 and 2011, when it was classified as a 2B human carcinogen, that many of the world's experts involved in the IARC process of cancer classification have already stated in peer-reviewed studies that there is now sufficient evidence for mobile phones and all radio frequency radiation to be

classified as a class 2A probable or class 1 certain human carcinogen. These key studies ought to be referenced in the summary of the substantiation, because they are crucial to the rapidly increasing evidence of growing harm from electromagnetic energy and are a key element in response to the specific claims of the complaints.

- Carlberg M et al.: "Evaluation of Mobile Phone and Cordless Phone Use and Glioma Risk Using the Bradford Hill Viewpoints from 1965 on Association or Causation" *Biomed Res Int.* (2017) PMID: 28401165.
 - Davis DL et al.: (2013) "Swedish review strengthens grounds for concluding that radiation from cellular and cordless phones is a probable human carcinogen" *Pathophysiology.* 20(2): 123-129; PMID: 23664410.
 - Hardell L et al.: (2013) "Using the Hill viewpoints from 1965 for evaluating strengths of evidence of the risk for brain tumors associated with use of mobile and cordless phones" *Rev Environ Health.* 28(2-3):97-106; PMID: 24192496.
 - Morgan LL et al.: (2015) "Mobile phone radiation causes brain tumors and should be classified as a probable human carcinogen (2A) (Review)" *Int J Oncol.* PMID: 25738972.
2. The 'gold standard' NTP \$25m study released some of its results early in 2016 because of the importance of its new evidence supporting the confirmation that mobile phone and other similar radiation is a class 1 certain human carcinogen.
 - Lin JC (2016) "Potential Game Changer for Mobile-Phone Radio-Frequency Radiation Carcinogenesis" *Rad Sci Bull. IEEE,* 358: 120-122.
 3. The World Health Authority has no expert in this area. This is another key point of the substantiation which needs to be included. The failure of the WHO to tackle the issue of the carcinogenic nature of mobile phone and similar radiation is made in the crucial study referenced below ("WHO, RF radiation and health – a hard nut to crack"), which should also be included in the Response summary along with the others on the 2A or 1 cancer classification (above, points 1 as 2). This review is by Professor Hardell, regarded by the majority of scientists, as represented by the 200 signatories to the appeal on this very subject to the UN and WHO, as one of the world's leading authorities in this field. It shows where the blockage on assessing the health risks of EM radiation lies at present. This is a crucial point and why so many charities and NGOs around the world are having to launch information poster campaigns such as ours.
 - Hardell L: "World Health Organization, radiofrequency radiation and health – a hard nut to crack (Review)" *Int J Oncology.* (2017) PMID: 28656257.
 4. It is also crucially relevant, as included in my substantiation, that the WHO signed an agreement with the International Atomic Energy Authority in 1958 giving the IAEA control over health matters as regards radiation, and that the UK government has subsumed its advisory group on non-ionising radiation within its atomic energy ionising radiation advisory group, COMARE, combining the two, just as the ICNIRP and ICRP are collaborating. Therefore the WHO is not at liberty to promulgate freely the health dangers of radiation, even if it wished to do so, and this 1958 agreement needs to be rescinded.

5. Objectors to the poster referenced not only WHO literature, which was not peer-reviewed and was out-dated, but CRUK claims, some of which were based on the AGNIR 2012 RF Report. This AGNIR 2012 Report was also not peer-reviewed and was shown, in a detailed study of 2016 which was peer-reviewed, to be 'inaccurate' and 'unsafe'. This is another vital argument in the substantiation and ought to be referenced in detail along with the studies mentioned in points 1, 2 and 3 above.
 - Starkey SJ: "Inaccurate official assessment of radiofrequency safety by the Advisory Group on Non-ionising Radiation" *Rev Environ Health*. (2016) PMID: 27902455.
6. The CRUK literature, which some objectors to the poster also quoted, like the WHO and AGNIR literature, was also not peer-reviewed and fails to present the current state of the science.
7. CRUK, like WHO/ICNIRP, suffers from conflicts of interest, where companies with financial involvement in the mobile phone industry have financed CRUK research facilities and some of CRUK's directors, such as Richard Doll and Anthony Swerdlow, have been chairs of AGNIR. The conflict of interests between these groups, like AGNIR, ICNIRP and PHE, is shown in the study mentioned in point 5.
8. Reference to the current international biological exposure limits, EUROPAEM EMF Guidelines 2016, should be included. These show how the majority of expert scientists now approach setting biological limits, and thus how the information on the poster is based on the majority scientific viewpoint, as opposed to ICNIRP's 6-minute heating limits based on Schwan's mistake in 1953. Again, this should be included with a detailed reference so that people can check the evidence for themselves.
 - Belyaev I et al.: "EUROPAEM EMF Guideline 2016 for the prevention, diagnosis and treatment of EMF-related health problems and illnesses" *Rev Environ Health* (2016) PMID: 27454111.
9. The current chair of ICNIRP has stated that people can choose between biological limits like EUROPAEM EMF Guidelines 2016, or ICNIRP's 1998 6-minute heating limits and this substantiates the view approach taken by the poster. This point should be included, because the UK's PHE and Department of Health claim to follow the ICNIRP's advice.
10. The ICNIRP's warning in 2002 that some people are sensitive to EM energy and need limits below its ICNIRP 1998 6-minute heating limits is also relevant to the poster, because, as stated under point 9, the UK's PHE and Department of Health claim to follow the ICNIRP's advice. This means that the failure of the UK's PHE and Department of Health both (a) to act on this warning and adopt lower limits to protect these members of the general population and (b) to notify the UK public about this risk, is yet another reason why this information poster is both needed and entirely substantiated.
 - ICNIRP (International Commission on Non-Ionizing Radiation Protection) (2002) "General approach to protection against non-ionizing radiation" *Health Phys*. 82(4): 540-548; PMID: 11906144.

11. The summary needs to include the evidence from studies now showing that sensitivity to electromagnetic energy from mobile phones and similar devices can be characterised or diagnosed by DNA variations, 3d fMRI scans, cerebral blood perfusion analysis, objective cellular markers, organic pollutants, etc. This is a key element of the substantiation since it shows some of the ways in which electromagnetic energy from mobile phones and similar devices is biologically active, as suggested by the poster. Some key studies are as follows.
 - Belpomme D et al: "Reliable disease biomarkers characterizing and identifying electrohypersensitivity and multiple chemical sensitivity as two etiopathogenic aspects of a unique pathological disorder" *Rev Environ Health* (2015) PMID: 26613326; pdf.
 - De Luca C et al: "Metabolic and genetic screening of electromagnetic hypersensitivity subjects as a feasible tool for diagnostics and intervention" *Mediators Inflamm.* (2014) PHID: 24812443.
 - Hardell L, Carlberg M, Söderqvist F, Hardell K, Björnfoth H, van Bavel B, Lindström G (2008) "Increased concentrations of certain persistent organic pollutants in subjects with self-reported electromagnetic hypersensitivity - a pilot study" *Electromagn Biol Med.* 27(2): 197-203; PMID: 18568937.
 - Heuser G et al.: "Functional brain MRI in patients complaining of electrohypersensitivity after long term exposure to electromagnetic fields" *Rev Environ Health.* (2017) PMID: 28678737.
 - Pall ML: "Microwave frequency electromagnetic fields (EMFs) produce widespread neuropsychiatric effects including depression" *J Chem Neuroanat.* (2015) PMID: 26300312.
 - Pall ML: "Electromagnetic fields act via activation of voltage-gated calcium channels to produce beneficial or adverse effects" *J Cell Mol Med.* (2013) PMID: 23802593.
 - Yakymenko I et al: "Oxidative mechanisms of biological activity of low-intensity radiofrequency radiation" *Electromagn Biol Med.* (2015) PMID: 26151230.
12. The summary fails to include a key point provided in the substantiation for the poster that electromagnetic sensitivity and electromagnetic hyper-sensitivity (EHS) are not regarded by the majority scientific viewpoint as part of a Nocebo effect. The psychological Nocebo effect or electrophobia is established as a different condition, which overlaps with real EHS in only about 1% of cases. Electrophobia, which requires prior psychological conditioning, cannot apply to unaware adults or young children who suffer from real physiological EHS.
 - Dieudonné M: "Does electromagnetic hypersensitivity originate from nocebo responses? Indications from a qualitative study" *Bioelectromagnetics.* (2015) PMID: 26369906.
13. The summary fails to include a key point provided in the substantiation for the poster that, to prove that the growing evidence, which shows that mobile phones and similar devices emitting electromagnetic energy cause the adverse outcomes suggested, is non-existent or invalid, it would be necessary to provide evidence from one or more peer-reviewed studies showing that the many thousands of existing peer-reviewed studies which have found such outcomes cannot be correct, but that this is self-evidently impossible and would have already been

done had it been possible. Therefore it is impossible scientifically or logically to validate the claimants' claims against substantiating the evidence in the poster.

14. The summary omits some of the key evidence that (a) in 2000 the UK government adopted a precautionary approach with regard to exposure to electromagnetic energy, and since then has become increasingly precautionary to match the growing scientific evidence of harm, recommending that certain groups of the general population are protected from exposure to such electromagnetic energy, and that (b) other governments have adopted much more stringent regulations to protect all their citizens from high exposure to electromagnetic energy, all based on the growing weight of scientific evidence.
15. The poster was carefully assessed by experts at the charity Electrosensitivity UK and approved by them as "Legal, decent, honest and truthful" and "fully substantiated by the scientific evidence". All other experts in this area have agreed with this judgement. In contrast, the person who noticed the poster at King's Cross Station was not an expert in this area, nor were the other complainants, the reporter or persons he consulted. These include Tom Chivers, Pete Etchells, Alexandra Freeman, David Grimes, and Laurie Phillips. Therefore, whereas the poster elicited praise from those with expertise in this area, the reporter's seriously deficient article, which also included reference to these complaints to the ASA, was described in scientific terms as "pure rubbish".

Finally, it would be very useful to include in the summary Response the visual evidence (copied below) which is now available from one of the papers listed (Heuser G et al, 2017). This shows the clear difference, in white areas, between fMRI scans for a person with electromagnetic hyper-sensitivity (left) compared with a control subject (right). If the WHO is correct in accepting that some 3% or more of the population suffers from electromagnetic hyper-sensitivity, then this enables readers to see graphically the type of health problem which can arise from exposure to this type of non-ionising radiation and could be affecting that proportion of the UK's population.

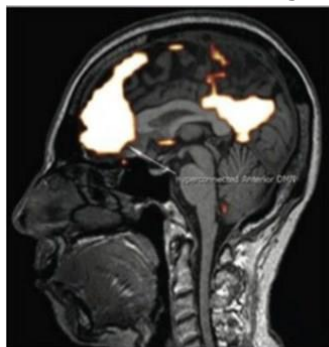


Figure 5: Lateral view of case no. 5.

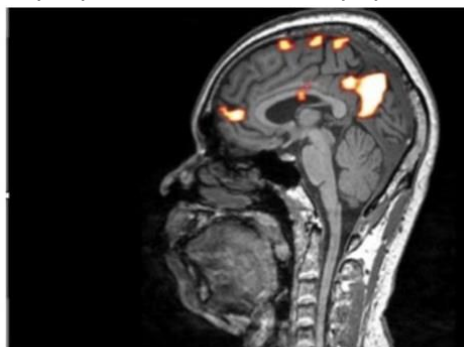


Figure 11: Lateral view of a normal fMRI. Note absence of abnormal white areas seen in our patient group.

A few detailed points on the existing draft text:

- p.3, 21 lines from bottom: the charities sponsoring the information poster were not technically 'advertising' anything, but rather encouraging readers to take note of, and research further, the established and increasing scientific evidence.
- p.3, 22 lines from bottom: 'mobile phones': the poster also specified 'cordless phones' alongside 'mobile phones', and other EM devices, such as Wifi, and not just 'mobile phones', although these are the most common and easily

recognisable of these devices and were thus used for the graphic image, as explained in detail in the substantiation. The thousands of studies do not suggest that the biological effects are limited to this particular device.

- p.3, 11 lines from bottom: EHS was first described in 1932. Many of the ground-breaking studies into the condition were conducted in the 1960s and 1970s, and these studies still form the basis of our knowledge today. The year 2000 marks the date when international regulators recognised the condition of EHS formally and included it in a published definition of lists of disease codes.
- p.3, 10 lines from bottom: typo: ICNIRP instead of ICNRIP.
- p.4, 20 lines from bottom: There should be a paragraph break here, since this new topic, the carcinogenic effect of EM energy, is a different point from the rest of the paragraph. The new paragraph on the cancer classification for mobile phone and similar electromagnetic energy from other devices must be substantially enlarged to include all the key points made in sections 1-2 above, including the references, since this is at the heart of the objections to the ASA by those who support the wireless industry.

I feel that the points made above from our substantiation are vital to its argument and thus to any summary of its argument. I therefore assume that you will be able to incorporate all my 15 points into the summary of our 'Response'; otherwise I should not regard the Response as a fair and accurate summary of the substantiation provided. If the technology can cope, a copy of the fMRI brain scans showing some EM health effects would doubtless be most helpful to any readers of the Response.

Yours sincerely,

Michael Bevington