



30 April 2014

John F. Ryan, Acting Director
Public Health Directorate Health and Consumers Directorate General
European Commission
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Re: SCENIHR *Preliminary Opinion on Potential Health Effects of Exposure to Electromagnetic Fields (EMF)*

Dear Mr. Ryan,

The BioInitiative Working Group has reviewed the *Preliminary Opinion on Potential Health Effects of Exposure to Electromagnetic Fields (EMF)* dated November 29, 2013. We have submitted detailed comments and suggested revisions. We hope these suggested revisions will be incorporated in the Final Opinion.

Further, we are aware that one of our BioInitiative Working Group members, Dr. Kjell Hansson Mild, is also a member of the SCENIHR Advisory Group. It has come to our attention that Dr. Mild's name has been used by you to give the impression that the process has been balanced and transparent, and that his participation is legitimizing the opinions expressed within that preliminary Opinion.

In fact, Dr. Hansson Mild has substantial disagreement with the process to date. He has told the Committee (Dr. Schuz in particular) that several key papers on which he is co-author have been systematically disregarded. These papers were within the timeframe for review, and are relevant. They provide evidence that the link between mobile phone use and glioma and acoustic neuroma are strengthened, not weakened as the preliminary Opinion concludes. That conclusion is possible only by excluding key evidence, and Dr. Hansson Mild has brought this to the attention of the Committee. We hope you will look into this matter, and provide counsel to the Committee to make this situation right.

Respectfully submitted on behalf of the BioInitiative Working Group by:

Cindy Sage, MA and David O. Carpenter, MD
Co-Editors, BioInitiative 2012 Report

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SOME OVERALL COMMENTS

(See also full Submittal dated April 16, 2014 to SCENIHR)

1. This Preliminary Opinion is an inadequate basis for updating the 2009 EU opinion on ‘*Health Effects of Electromagnetic Fields (EMF)*’ and should be sent back for major revisions. The conclusions drawn from the data presented are unreliable for judging possible health risks.
2. Sections on brain tumors are flawed. The report consistently ignores or dismisses published scientific studies that report positive findings at exposure levels below ICNIRP standards (Exhibit B-Hardell). The SCENIHR conclusion that evidence for glioma is weaker now than in 2009 is unjustified, and can only be reached by excluding key scientific studies that reach the opposite conclusion. *There is a consistent pattern of increased risk for glioma (a malignant brain tumor) and acoustic neuroma with use of mobile and cordless phones* according to studies from Orebro University, Sweden released in 2012 and 2013.
3. The Opinion should be revised to clearly state whether the evidence supports a finding of possible risk for each type of evidence considered (each section). This report is not useful for the purpose intended due to the ambiguous basis for judging the sufficiency of the scientific evidence, which will eventually form a basis for concluding whether changes in the ICNIRP standards are warranted. The lack of a clear statement about the basis for judging what constitutes sufficient evidence of “Possible Effects”, and the embedded up-shifting language to instead require a demonstration of ‘conclusive or unequivocal evidence’.
4. Further, the Opinion misreads evidence of effects of some studies it does present when drawing conclusions. In one example, statistically significant damage to sperm DNA and sperm motility and vitality was reported at cell phone radiation exposure of only 1 W/kg. The preliminary Opinion on page 77 wrongly characterizes the evidence to show that only very high SARs cause this effect. It says “*(T)he authors claimed that their results clearly demonstrated that RF exposure can damage sperm function via mechanisms involving the leakage of electrons from the mitochondria and the induction of oxidative stress but the employed SAR values are very high and not relevant to cell phone users.*” (emphasis added). Finally, the entire body of new evidence for risks to fertility and reproduction is dismissed in the Executive Summary with “*The previous SCENIHR opinion concluded that there were no adverse effects on reproduction and development from RF fields at exposure levels below existing limits. The inclusion of more recent human and animal data does not change that assessment*” and in Section 3.13.4 “*(T)herefore, it is concluded that there is strong overall weight of evidence against an effect of low level RF fields on reproduction or development.*” These conclusions are

possible only by omitting key data, ignoring the conclusions of the authors, and dismantling the significance of the De Iuliis et al results by misreporting it. Critical evidence is misquoted, and then relied on by SCENIHR to dismiss the essential point.

5. Evidence for neurological effects should be incorporated into the analysis and conclusions of the Final Opinion. The involvement of oxidative stress on neurological/behavioral effects of ELF EMF and RFR were dismissed as “*not firmly identified*” in the Executive Summary. Exhibit D to our submittal to SCENIHR (April 15, 2014) documents a significant number of overlooked studies of extremely-low frequency radiation that are reported to cause nervous system effects in 90% of the 105 studies available from 2007 to 2014. New neurological RFR studies report effects in 68% of studies on radiofrequency radiation (or 144 of 211 studies) in 2014. This has increased from 63% in 2012 (93 of 150 studies) in 2012. These studies should be included in the Final Opinion. They will likely change the Preliminary Opinion that now avoids making a judgment about whether neurological effects are sufficiently established as a cause of possible health effects.

6. Genetic effects (damage to DNA) from radiofrequency radiation are reported in 65% (or 74 of 114 studies); and 83% (or 49 of 59 studies) of extremely-low frequency studies (Exhibit E). These studies span the 2006/2007 to 2014 time period and many are overlooked. They should be included in the Final Opinion. They will likely change the conclusion of the Preliminary Opinion that skirt the issue of whether genotoxicity is sufficiently established as a cause of possible health effects (Sections 3.5.2.5, 3.7.2.5, and 3.11.3).



Qualifications of the BioInitiative 2012 Working Group

The 2012 BioInitiative Report was prepared by 29 authors from ten countries, ten holding medical degrees (MDs), 21 PhDs, and three MsC, MA or MPHs. Among the authors are three former Presidents of the Bioelectromagnetics Society and five full members of BEMS. One distinguished author is the Chair of the Russian National Committee on Non-Ionizing Radiation. Three were members of the 2011 IARC Working Group that established RFR as a Group 2B Possible Human Carcinogen (Hardell, Belyaev and Blackman). Another was until recently a Senior Advisor on Science, Policy, Emerging Issues, Integrated Environmental Assessment to the European Environmental Agency. Full titles and affiliations of authors is in Section 25 of the BioInitiative Report at www.bioinitiative.org. See specific conclusions and findings of the BioInitiative 2012 Report at www.bioinitiative.org. It is incorporated by reference in this comment.

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