

Professor Jacqueline McGlade, Director of the European Environmental Agency (EEA)

A statement about mobile phones made at the Conference on Cell Phones and Health, Science and Public Policy Questions, Washington, 15 September 2009 (20.00 GMT).

Introduction

I am grateful for this chance to provide some input into this very timely conference. This event and the related Senate Hearings[1] yesterday, have been, in part, stimulated by the BioInitiative Report[2], (2007), which helped increase public awareness of the potential hazards of electromagnetic fields, not least from mobile phones.

The European Parliament[3] responded to this debate with its resolution earlier this year which, among other things, called for lowering exposure to electromagnetic fields and for new exposure limits that would better protect the public. We fully share these recommendations.

Today I would like briefly:

- * to describe the role and mandate of the EEA;
- * to summarise our views about some of the benefits and potential costs to health of mobile phones;
- * and to conclude with what we see as the most important practical implications of the current evidence on the cancer risks from using mobile phones, especially for children and young adults.

The role of EEA and past work on the precautionary principle

The EEA provides data, information and knowledge on the environment, including its impacts on public health, to EU institutions (the European Parliament, European Commission, and European Council of Ministers), to the 32 Member Countries of the EEA, and to the general public.

The EEA does not routinely carry out specific risk assessments on individual hazardous agents, such as radio frequencies from mobile phones. However, the EEA does have relevant knowledge and expertise about the way in which the overall scientific evidence on hazards and risks is evaluated.

Some of this knowledge is to be found in the EEA Report, 'Late Lessons from Early Warnings: the Precautionary Principle 1896-2000' published in 2001. This report reviews the histories of a selection of public and environmental

hazards, such as asbestos, benzene, acid rain, and PCBs. These histories run from the first scientifically based early warnings about potential harm to subsequent inactions, or to precautionary, and then preventative measures.

The EEA sees the precautionary principle as central to public policymaking where there is scientific uncertainty and high stakes - precisely the situation that characterises EMF at this point in its history. Waiting for high levels of proof before taking action to prevent well known risks can lead to very high health and economic costs, as it did with asbestos, leaded petrol and smoking.

For example, taking effective precautionary action to avoid the plausible hazards of smoking in the late 1950s or the early 1960s would have saved much harm, health treatment costs, and productivity losses from smoking. Waiting to prevent the known risks of smoking in the 1990s, which most countries did, led to these health and economic costs. Both the precautionary and preventative principles, along with the polluter pays principle and the reduction of hazards at source, are part of the EU Treaty: all are applicable to health, consumer, and environmental issues.

Benefits of mobile phones and potential hazards of EMF

The EEA greatly appreciates the benefits of mobile phone telephony. Indeed, the Agency is actively encouraging it as a means of communicating environmental and related information to the public.

We have ambitious plans, for example, to encourage 'citizen scientists' to collect data on environmental parameters, such as bird movements, fish stocks, water quality, and the flowering season, and store the information on their mobile phones.

The intention of the EEA to promote the use of mobile telephony in this way increases its responsibility to provide information that can help ensure the safety of the public when using mobile phones, especially vulnerable groups such as children, the elderly, and the immuno-compromised. This is the reason why the EEA issued an early warning about the potential hazards of EMF on 17 September 2007.

In this we drew attention to the BioInitiative report and to the other main references relevant to this debate (from the EU, the WHO, and the UK National Radiological Protection Board) which, taken together, provided the basis for our early warning on EMF.

Specifically, we noted that:

'There are many examples of the failure to use the precautionary principle

in the past, which have resulted in serious and often irreversible damage to health and environments. Appropriate, precautionary and proportionate actions taken now to avoid plausible and potentially serious threats to health from EMF are likely to be seen as prudent and wise from future perspectives".

The Washington conference on cell phones has just reviewed the current evidence on the potential hazards of mobile phones, particularly the possible head tumour risks. Much of this evidence has been recently summarised in the special issue on EMF of the journal of The International Society for Pathophysiology[4].

The evidence for a head tumour risk from mobile phones, although still very limited, and much contested, is, unfortunately, stronger than two years ago when we first issued our early warning.

Recommendations based on current evidence

The evidence is now strong enough, using the precautionary principle, to justify the following steps:

1. For governments, the mobile phone industry, and the public to take all reasonable measures to reduce exposures to EMF, especially to radio frequencies from mobile phones, and particularly the exposures to children and young adults who seem to be most at risk from head tumours. Such measures would include stopping the use of a mobile phone by placing it next to the brain. This can be achieved by the use of texting; hands free sets; and by the use of phones of an improved design which could generate less radiation and make it convenient to use hands free sets.
2. To reconsider the scientific basis for the present EMF exposure standards which have serious limitations such as reliance on the contested thermal effects paradigm; and simplistic assumptions about the complexities of radio frequency exposures.
3. To provide effective labelling and warnings about potential risks for users of mobile phones[5].
4. To generate the funds needed to finance and organise the urgently needed research into the health effects of phones and associated masts. Such funds could include grants from industry and possibly a small levy on the purchase and or use of mobile phones. This idea of a research levy is a practice that we think the US pioneered in the rubber industry with a research levy on rubber industry activities in the 1970s when lung and stomach cancer was an emerging problem for that industry. The research funds would be used by independent bodies.

In addition, we have noted from previous health hazard histories such as that of lead in petrol, and methyl mercury, that 'early warning' scientists frequently suffer from discrimination, from loss of research funds, and from unduly personal attacks on their scientific integrity. It would be surprising if this is not already a feature of the present EMF controversy as it seems to be still a common practice as has been recently reported in Nature.

Scientific associations, lawyers, and politicians should therefore consider ways in which societies could provide greater protection for early warning scientists. An interesting precedent has been set in Germany, where the Federation of German Scientists[6] has been recognising the contribution that 'whistleblowing' scientists and others can make to robust and transparent democracies.

Finally, we hope that there turns out to be no cancer risk, or indeed any risk from using mobile phones and that our early warnings (which some might say are already a decade or so too late) will be proven unnecessary. However, we would rather be wrong in issuing an unnecessary warning than be wrong in failing to alert the public about potentially serious, irreversible harm in time to avoid such harm.

Thank you for your attention.

Professor Jacqueie McGlade, Executive Director of the European Environment Agency, Copenhagen, 15 September 2009.

References

1. Mobile Telecommunications Research Programme, United Kingdom, September 2007 Mobile <http://www.mthr.org.uk> Telecommunications and Health Research; Mobile http://www.mthr.org.uk/documents/MTHR_report_2007.pdf Telecommunications and Health Research report 2007
2. Interphone (World Health Organisation - International Agency for Research on Cancer) on-going project on mobile phones.
http://www.who.int/peh-emf/meetings/archive/interphone_iac2005.pdf
<http://www.who.int/peh-emf/project/intorg/en/index1.html>
3. BioInitiative Report, August 2007
 - a. <http://www.bioinitiative.org/>
 - b. BioInitiative Report: A Rationale for a Biologically-based Public Exposure Standard for Electromagnetic fields (ELF and RF):
<http://www.bioinitiative.org/report/docs/report.pdf>

4. German advice on WIFI exposures July 2007
<http://dip21.bundestag.de/dip21/btd/16/061/1606117.pdf>
http://www.icems.eu/docs/deutscher_bundestag.pdf
5. World Health Organisation review on Extremely Low Frequency Electric and Magnetic fields and Health, June 2007: a. Electromagnetic fields and public health. Fact sheet N322, June 2007.
<http://www.who.int/mediacentre/factsheets/fs322/en/index.html>
- b. Extremely Low Frequency Fields Environmental Health Criteria Monograph No. 238
http://www.who.int/peh-emf/publications/elf_ehc/en/index.html
6. IEEE (Institute of Electrical and Electronics Engineers, Inc.) microwave magazine, Editorial, Volume 8, Issue 3, June 2007. Cellular Mobile Radiation and Intracranial Tumours. Lin J.C.
<http://ieeexplore.ieee.org/xpl/RecentIssue.jsp?punumber=6668>
7. Scientific Committee on Emerging and Newly Identified Health Risks (SCENIHR): Opinion on Possible Effects of Electromagnetic Fields (EMF) on Human Health, March, 2007; Health Effects of Exposures to EMF, Jan 2009.
http://ec.europa.eu/health/ph_risk/committees/04_scenihr/docs/scenihr_o_007.pdf
<http://www.emf-portal.de/viewer.php?l=e&aid=16780>
http://ec.europa.eu/health/ph_determinants/environment/EMF/emf_en.htm
8. REFLEX research study, DG Research, 2000-2004
<http://www.verum-foundation.de/reflex/>
See also 'EU Research on Environment and Health - Results from projects funded by the 5th Work frame programme, pages 176-177 on REFLEX and EMF projects, pages 166-181
9. Friedman et al., 'Mechanisms of short term ERK activation by electromagnetic fields at mobile phone frequencies', Biochem Journal, 405, 559-568, 2007
10. Mobile Phones and Health: Reports by Stewart/National Radiological Protection Board, United Kingdom, 2002, 2004
 - a. Mobile Phones and Health 2004. NRPB. Volume 15, No. 5.
http://www.hpa.org.uk/radiation/publications/documents_of_nrpb/abstracts/absd15-5.htm
 - b. A summary of recent reports on Mobile Phones and Health (2000- 2004). NRPB. W65.
http://www.hpa.org.uk/radiation/publications/w_series_reports/2005/nrpw_w65.pdf
11. IARC Monographs on the Evaluation of Carcinogenic Risks to Humans. Non-ionizing radiation, Part 1: Static and Extremely Low Frequency Electric and Magnetic

Fields. World Health Organization, International Agency for Research on Cancer, Lyon, 2002.

<http://monographs.iarc.fr/ENG/Monographs/vol80/volume80.pdf>

12. World Health Organization 'Principles for evaluating health risks in children associated with exposure to chemicals', Environmental Health Criteria, 237, Geneva, 2007.

http://whqlibdoc.who.int/publications/2006/924157237X_eng.pdf

13. International Commission on Non-Ionising Radiation Protection, Guidelines for Limiting Exposure to Time-Varying Electric, Magnetic, and Electromagnetic Fields (Up to 300GHz), International Commission on Non-Ionising Radiation Protection, Health Physics, Vol 74, No 4, p 494-522, 1998. <http://www.icnirp.de/documents/emfgdl.pdf>
<http://www.icnirp.de/documents/emfgdl.pdf>

14. EEA, 'Late lessons from early warnings: the precautionary principle 1896-2000', European Environment Agency, Copenhagen, 2001.

http://reports.eea.europa.eu/environmental_issue_report_2001_22/en

15. Physiopathology, Special Issue on EMF, Vol 16, Issues 2-3, August 2009. Articles by Hardell, Carlberg and Mild; and by Morgan, on cancer; by Blank and Goodman on EMF effects on DNA; by Blackman on limitations of current Risk Assessments on EMF; and by Sage and Carpenter on Public Health Implications.

[1] Subcommittee on Labor, Health and Human Services, and Education, and Related Agencies Hearing on The Health Effects of Cell Phone Use Washington, D.C., Monday, September 14, 2009 - 02:00 P

[2] BioInitiative Report: A Rationale for a Biologically-based Public Exposure Standard for Electromagnetic fields (ELF and RF):

<http://www.bioinitiative.org/report/docs/report.pdf>

[3] European Parliament resolution of 2 April 2009 on health concerns associated with electromagnetic fields

(<http://www.europarl.europa.eu/oeil/FindByProcnum.do?lang=en&procnum=INI/2008/2211>2008/2211(INI))

[4] Physiopathology, Special Issue on EMF, Vol 16, Issues 2-3, August 2009.

[5] Across the European Union, the vast majority (80%) of citizens do not feel that they are informed on the existing protection framework relating to potential health risks of electromagnetic fields. 65% of citizens saying that they are not satisfied with the information they receive concerning the potential health risks linked to EMF. Special

Eurobarometer report on EMF, Fieldwork Oct/Nov 2006, published 2007.

[6] Federation of German Scientists, Whistleblower in Gentechnik und
Rüstungsforschung, Preesverleihung, 2005. Berliner Wissenschafts-Verlag.