

NATIONAL AND INTERNATIONAL PROGRAMS

The “Workshop on EMF and Health: Science and Policy to Address Public Concerns,” sponsored by the European Commission (EC), was held in Brussels, in February. Topics of discussion included the European Union’s (EU’s) Directive 2004/40/EC limiting occupational EMF exposures and the 2007 BioInitiative Report in which a group of scientists and activists argued for stronger exposure limits.

The EC held another workshop in February in Ljubljana, Slovenia on the unanticipated difficulties encountered by the EU Directive. The impact of the Directive is expected to be greatest in the ELF [extremely low frequency, the portion of the spectrum associated with power lines] range and, as written, it virtually prohibits the operation of MRIs within the EU.

Lastly, in February as well, the EC announced a new EMF project that will draw together a network of EU scientists to conduct a series of studies that will be used to perform health risk assessments associated with EMF exposure. The 3-year European Health Risk Assessment Network on Electromagnetic Fields Exposure, or EFHRAN, began its work in February and will be complete in 2012.

Meanwhile, government officials in the US were also gathering information on EMF and health. The US President’s Cancer Panel held a meeting on “Environmental Factors in Cancer” earlier this year, the summary of which was released in April. Of the 11 speakers invited to provide testimony on a range of environmental exposures, 2 scientists focused on EMF. David Carpenter, co-editor of the BioInitiative Report, pointed to evidence that he says links ELF EMF exposure and cancer and recommended immediate steps to address residential exposures. The other speaker was Martha Linet, Chief and Senior Investigator, Radiation Epidemiology Branch, National Cancer Institute, who stressed the uncertainty surrounding the potential carcinogenicity of nonionizing radiation sources.

NATIONAL AND INTERNATIONAL REVIEWS

In a May letter from the Health Council of the Netherlands to the Minister of Housing, Spatial Planning, and the Environment, the Council said that it could not draw any conclusions yet regarding a connection between ELF EMF exposures and neurodegenerative diseases such as Alzheimer’s disease. The letter was in response to public concern about a recent Swiss study that reported higher mortality rates from Alzheimer’s and senile dementia among populations living near high-voltage power lines.

STANDARDS, GUIDELINES, AND PRECAUTION

At the European Parliament plenary session on 2 April in Brussels, a vote was held and a resolution on EMF and health from the European Committee on the Environment, Public Health, and Food Safety passed by a vote of 559 in favor and 22 against. The resolution called for the EC “to review the scientific basis and adequacy of the EMF limits as laid down in Recommendation 1999/519/EC and report to the Parliament” – a task to be undertaken by the Scientific Committee on Emerging and Newly Identified Health Risks (SCENIHR). SCENIHR’s updated opinion on EMF and potential health effects, released in February, concluded that overall, “The few new epidemiological and animal studies that have addressed ELF exposure and cancer do not change the previous assessment that ELF magnetic fields are a possible carcinogen and might contribute to an increase in childhood leukaemia.”

The chairman of the International Commission on Non Ionizing Radiation Protection (ICNIRP), whose role is to provide guidance on exposure limits, told the ELF Gateway in June that the Commission would have 5 new EMF publications available to the public sometime within the following few weeks. The documents include draft exposure guidelines for ELF EMF, now in the final formatting stage. As in the past, and as is consistent with their chartered obligation, ICNIRP will provide the draft guidelines and seek comment from numerous national radiation-protection agencies and individual experts.

In addition, this time ICNIRP will simultaneously post the draft document to its website. Any interested party is welcome to submit comments for consideration by the Commission.

RISK COMMUNICATION AND PRECAUTION

Canadian power company BC Hydro acknowledged that it is buying the homes of owners near an approved power line upgrade because of residents' continuing concerns over the potential health effects from the increased magnetic fields, despite reassurances from Canadian health officials. Locals expected that, out of the 119 homeowners who had been made offers, at least 100 would accept.

The EC's EMF-NET information program, in coordination with the EIS-EMF [European Information System on Electromagnetic Fields Exposure and Health Effects] Project, the World Health Organization, and the Consiglio Nazionale delle Ricerche Istituto di Ingegneria Biomedica, have published a 275-p book, "Electromagnetic Field Exposure: Risk Communication in the Context of Uncertainty." The book's editors conclude in the forward, "Much more needs to be done to better inform the public and to promote public understanding based on sound scientific evidence, especially in the area of exposure to RF fields from mobile phone base stations, and the new EMF and wireless applications. Risk communication should provide accurate and readily understandable information, and encourage public participation and dialogue to help the decision-making process reaching a balanced judgment that takes on board people's concerns and interests."

NOTABLE SCIENTIFIC DEVELOPMENTS

In the last 6 months, 4 papers have been published in which their authors review the scientific literature on ELF EMF and health and issue their own conclusions:

- In February, Canadian scientists reviewed the scientific literature on ELF EMF exposure and cardiovascular effects, covering both epidemiological and laboratory studies. Although some investigations have reported effects, on the whole, the evidence is inconclusive, the authors found.
- In March, 2 American geneticists issued an updated review of genotoxic effects of ELF EMF in which they analyzed 87 studies published in 1990-2007. They reported that when overall pooled values were compared for ELF-EMF-exposed cells and nonexposed cells, biologically small but statistically significant differences were found in some cases. They note that these differences, however, were within the spontaneous levels of these endpoints reported in historical databases.
- Three Italian researchers reviewed studies of the cellular effects of ELF EMF covering studies involving the initiation and aggravation of cancer, studies of immune cells, nerve cells, and bone cells, and studies of potential therapeutic effects of ELF EMF. They concluded that ELF EMF can produce many types of changes in cells that are dependent on cell type and field conditions. It is not known, however, whether these effects lead to health effects in humans, they conclude, although in medical settings some therapeutic effects, such as tissue healing, pain reduction, and cancer treatment, have been demonstrated.
- Three instructors from the International School of Bioelectromagnetics held annually in Erice, Italy, wrote an overview of EMF and epidemiology. For ELF EMF, they concluded that the evidence of an association between exposure and risk of childhood leukemia is not strong enough to revise the current exposure limits. Precautionary measures can be considered, they say, although it is unclear whether they would provide any benefits.

Lastly, in a study of side interest, American researchers reported that despite the possibility of health effects from EMF and the certainty of negative aesthetic impacts, people living within 2000 ft (610 m) of a high-voltage transmission line were more likely to be white, higher income, more educated, and home owners than were those living farther away.