



Government action on electromagnetic energy public health issues

The issue

The increased use of mobile phones in Australia has generated public concern about possible health issues associated with electromagnetic emissions from handsets and base stations.

The information in this and other fact sheets has been prepared to help explain relevant health issues, and is based on current scientific knowledge.

What is the Government doing?

Commencing in 1996, the Government provides \$1 million dollars per annum for the Electromagnetic Energy (EME) Program. This program supports research into and provides information to the public about health issues associated with mobile phones, mobile phone base stations and other communications devices and equipment. The program recognises public concern, and the need to ensure standards and public health policies continue to be based on the best available scientific information. The program is funded by a levy on radiocommunication licensees collected by the Australian Communications and Media Authority (ACMA).

The EME program is coordinated by the Committee on Electromagnetic Energy Public Health Issues (CEMEPHI), which includes representatives from the Department of Broadband, Communications and the Digital Economy, the Department of Health and Ageing, the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA), ACMA, and the National Health and Medical Research Council (NHMRC). The program has three elements:

- an Australian research program (managed by the NHMRC) to conduct research into EME issues of relevance to Australia and to complement overseas research activities,
- continuing Australian participation in the World Health Organization's (WHO) International Electromagnetic Fields (EMF) Project which assesses the health and environmental effects of EME exposure, and
- a public information program (managed by ARPANSA) to provide information to the public and the media.

An EME Reference Group has been established to provide community input to CEMEPHI. This group includes representatives from consumer organisations, the telecommunications industry, the health sector, academic organisations, other government organisations and community groups.

What does the Science tell us?

There is no substantiated evidence in the existing scientific literature that living near a mobile phone base station or using a mobile phone causes adverse health effects. However the possibility of harm cannot be ruled out. There is little evidence of a link between exposure to radiofrequency (RF) EME and adverse health effects in humans at levels below the limits specified in the ARPANSA Radiation Protection Standard (2002) "Maximum Exposure Levels to Radiofrequency Fields – 3kHz to 300 GHz". Although subtle biological effects caused by RF EME emissions have been reported in some laboratory studies, there is no evidence that these effects may lead to adverse health outcomes. However, there are gaps in the knowledge that have been identified for further research to better assess health risks.

The Australian Research Program

The Australian Research Program was initiated in 1997 when the NHMRC established an Expert Committee under its Strategic Research Development Committee, to oversee all aspects of the EME research funding process.

Members of the Expert Committee were appointed on the basis of their recognised expertise in areas of science relevant to the scope of the EME research program.

The program funds studies on EME human health issues of relevance and interest to the Australian community. Funding of all projects is based on scientific merit, the ability of projects to meet the objectives of the EME program and a consideration of recommended priorities for EME research identified by the WHO. To date, there have been three rounds of EME research funding by the NHMRC.

In the first round (announced in 1997) four projects were funded, including two pilot studies. These studies examined whether use of mobile phones:

- causes mutation in DNA and may therefore potentially cause cancer,
- increases the risk of brain, salivary gland and auditory nerve cancers,
- causes an increase in cancer rates in mice,
- affects short-term memory and attention, and other related processes in humans.

In the second round of funding (announced in 2001) two projects received grants. These investigated:

- effects of mobile phone radiation on brain reactions, sleeping patterns and the biological clock,
- effects of radiofrequency electromagnetic radiation from long-term mobile phone use on vision and hearing.

In the third round of funding a Centre of Research Excellence in RF EME in Australia was commissioned in 2004. The centre called the Australian Centre for Radiofrequency Bioeffects Research was initially based at the Royal Melbourne Institute of Technology and then at Swinburne University of Technology. The centre aimed to:

- increase knowledge,
- increase research capacity, and
- encourage and facilitate broad cross-disciplinary research collaboration.

For further information on the studies funded by NHMRC see fact sheet 3 'Australian Research into EME'.

Continuing research will ensure that public health policies are based on the most up-to-date information as communications technology continues to develop and scientific methods improve.

The WHO Project

Australia is also participating in the WHO International EMF Project which is investigating the health and environmental effects of exposure to electric and magnetic fields in the frequency range from 0 to 300 GHz. This project aims to:

- identify gaps in knowledge and encourage focused, high quality research programs to fill these gaps,
- assess the scientific literature and make status reports on health effects for inclusion in the health risk assessment,
- publish the health risk assessment in the WHO Environmental Health Criteria Monographs,
- develop a framework for harmonised standards limiting EMF exposure, and
- provide advice to national authorities and others on EMF health and environmental effects and any protective measures or actions needed.

Further information on the WHO International EMF Project can be obtained from the WHO website at:

<http://www.who.int/peh-emf/en/>

Public information

This and other fact sheets in the series covering a range of EME public health issues are available from ARPANSA at:

<http://www.arpansa.gov.au/eme/index.cfm>

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Fact sheets in the EME series are:

Fact sheet 1: *Electromagnetic energy and its effects*

Fact sheet 2: *Government action on electromagnetic energy public health issues*

Fact sheet 3: *Australian research into EME*

Fact sheet 4: *The ARPANSA RF Exposure Standard*

Fact sheet 5: *About mobile phones*

Fact sheet 6: *About mobile phone networks*

Fact sheet 7: *What about using a mobile phone while driving*

Fact sheet 8: *Potential interference of mobile phones with pacemakers, hearing aids and other devices*

Fact sheet 9: *What about base stations and telecommunications towers - are there any health effects?*

Fact sheet 10: *What about broadcast towers - are there any health effects?*

Fact sheet 11: *Mobile phones and children*

For further information you can visit the ARPANSA web site at:

<http://www.arpansa.gov.au>