



Non-Ionizing Radiation & Children's Health

International Joint Workshop
18 - 20 May 2011, Ljubljana, Slovenia

PLATFORM PRESENTATION ☒

Current (And Future) Exposure Scenarios And Assessments

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Concerns about children's exposure to radiofrequency electromagnetic fields (RF-EMFs) were highlighted in the May 2000 report from the UK's Independent Expert Group on Mobile Phones (IEGMP). The Group recommended that the widespread use of phones by children for non-essential purposes should be discouraged, a recommendation that has been echoed in other countries, but which remains controversial. Underlying the IEGMP recommendation was the knowledge that large numbers of people were being exposed to a new source of EMFs at levels seeming to approach the SAR restrictions in the head promulgated in internationally recognised exposure guidelines. The Group was concerned that children might be more vulnerable because of their developing nervous system, that there was evidence of greater absorption of RF energy in the tissues of children's heads and that children would have a longer lifetime of exposure ahead of them. Scientific knowledge regarding the implications of different tissue electrical parameters and head morphology for children's exposure have accumulated since the IEGMP report and various technical developments have occurred, but the possibility of adverse effects and that children might be more vulnerable has remained a topic of discussion and the precautionary approach has continued.

A question that has been asked in recent years is how the exposure from Wi-Fi systems used in schools and elsewhere compares with exposures from mobile phones and whether precautionary actions should be considered. Concerns about Wi-Fi came to the fore in the UK in 2007, but the indications at that time were that exposures would be small both in relation to exposure guidelines and in relation to exposures from mobile phones. HPA took the view that a sensible precaution would be to keep the situation under review, but that there was no reason why schools and others should not use Wi-Fi equipment. It also noted that there was little published information about exposures and started a programme of in-house research into the topic to systematically quantify exposures.

The project to assess Wi-Fi exposures is now complete and the remaining results will soon be published. This presentation reviews the scope of the project and highlights key results. These include that laboratory measurements that have assessed the emitted power levels from a selection of Wi-Fi devices, the computer modelling that has assessed SAR levels in relation to the emitted powers, and the duty factor measurements with installed systems that also have to be taken into account in assessing exposures. These three elements will be drawn together to present generalised results regarding exposures, which will be placed in context with the exposures from other sources, including environmental radio transmitters and mobile phones.