

Response to HHS Request for Information on Electromagnetic Fields (EMFs), Radiofrequency (RF)
Radiation and Wireless Radiation Exposure

Docket No. HHS-OASH-2026-0397

Submitted to: U.S. Department of Human Health Services, Office of the Assistant Secretary for
Health

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Honorary Member: British Society for Ecological Medicine (BSEM)

2. In your response, please describe which perspective(s) your comments represent: individual consumer, patient, family member, or caregiver; healthcare professional; worker with occupational exposure; equipment or product manufacturer; service or infrastructure provider; business; industry group; government; research entity; or another type of organization or perspective.

My perspective is as a former clinically practising medical doctor, now researcher. I am a UK trained medical doctor with a decade of experience within hospital medicine. Emergency trauma medicine was my area of expertise in hospital, and I have a broad base of experience including surgery, general medicine, anaesthetics, obstetrics, paediatrics and intensive care (both neonatal and adult).

In 2008, I began researching biological effects of non-ionising radiation with a special interest in vulnerable groups such as children and those with Electromagnetic Hypersensitivity (EHS). I formally transitioned from clinical medicine to full time research in 2015 and founded PHIRE (Physicians' Health Initiative for Radiation and Environment) to facilitate education on a larger scale. I am currently a Special Expert at the International Commission on Biological Effects of Electromagnetic Fields (ICBE-EMF.org)

Recent relevant publications

The WHO-commissioned systematic reviews on health effects of radiofrequency radiation provide no assurance of safety. Melnick RL, Moskowitz JM, Héroux P, Mallery-Blythe E, McCredde JE, Herbert M, Hardell L, Philips A, Belpoggi F, Frank JW, Scarato T, Kelley E; International Commission on the Biological Effects of Electromagnetic Fields (ICBE-EMF).

Environ Health. 2025 Oct 2;24(1):70. doi: 10.1186/s12940-025-01220-4. PMID: 41034851 Free PMC article. Review

COSMOS: A methodologically-flawed cohort study of the health effects from exposure to radiofrequency radiation from mobile phone use. Moskowitz JM, Frank JW, Melnick RL, Hardell L, Belyaev I, Héroux P, Kelley E, Lai H, Maisch D, Mallery-Blythe E, Philips A; International Commission on the Biological Effects of Electromagnetic Fields.

Environ Int. 2024 Aug;190:108807. doi: 10.1016/j.envint.2024.108807. Epub 2024 Jun 21. PMID: 38936068 Free article.

Scientific evidence invalidates health assumptions underlying the FCC and ICNIRP exposure limit determinations for radiofrequency radiation: implications for 5G. International Commission on the Biological Effects of Electromagnetic Fields (ICBE-EMF). Environ Health. 2022 Oct 18;21(1):92. doi: 10.1186/s12940-022-00900-9. PMID: 36253855 Free PMC article.

Cell Phone Radiation Exposure Limits and Engineering Solutions.

Héroux P, Belyaev I, Chamberlin K, Dasdag S, De Salles AAA, Rodriguez CEF, Hardell L, Kelley E, Kesari KK, Mallery-Blythe E, Melnick RL, Miller AB, Moskowitz JM, On Behalf Of The International Commission On The Biological Effects Of Electromagnetic Fields Icbe-Emf. Int J Environ Res Public Health. 2023 Apr 4;20(7):5398. doi: 10.3390/ijerph20075398. PMID: 37048013 Free PMC article. Review

Given my experience as above, I have concentrated my responses on the questions relating to the medical and health science aspects of the inquiry. The questions are in italics and my responses to all questions are incorporated within the text below.

4. We invite healthcare professionals, researchers, and public health practitioners to describe observations from clinical practice, occupational settings, or research that may help identify patterns, if any, of reported potential adverse health effects associated with RF/EMF radiation and exposure. In describing these observations, please include where available:

h. The types of potential adverse health effects reported.

m. Recommendations for future research or surveillance.

6. What scientific evidence exists about potential adverse health effects caused by current exposure limits?

12. What scientific evidence exists regarding potential adverse health effects associated with RF radiation exposure at levels below current federal exposure limits?

14. What scientific evidence exists regarding potential adverse environmental effects associated with RF radiation?

Current exposure limits do not protect health

We have explained why current wireless radiation guidelines fail to protect public health¹ and detailed 14 different invalid assumptions which render the current exposure limits unfit for purpose. Additionally, we have released a recent statement on EMF effects on children's health². The invalid limits have been criticised on many different levels by many different independent groups in addition to our own and all groups specifically request increased protection for children^{3,55-85}.

The currently used guidelines were devised with the aim of preventing core body heating above a degree and allow peripheral rises of several degrees but were never designed to prevent low intensity (sometimes referred to as non-thermal) effects. These harmful effects are now copiously documented at exposures orders of magnitude below tissue heating effects⁴. Other inadequacies

include use of limited dose metrics, failure to consider modulation effects, pulsing, polarisation and constructive interference, neglect of synergistic effects and of impact of co-morbidities. Furthermore, the impact of cumulative, chronic exposures has never been adequately explored. These limitations render the current limits inadequate for protecting human health.

Biological effects lead to acute health effects which then lead to chronic health effects

Multiple plausible mechanisms⁵ such as oxidative stress,^{6,7} genetic impacts,^{8,9,10} and blood-brain barrier permeability^{11,12} are apparent. Numerous downstream adverse effects such as sperm damage,^{13,14,15,16} structural and functional changes of the reproductive system^{17,18,19}, effects on pregnancy and birth outcomes²⁰, sleep impacts,^{21,22,23} EEG alterations,^{24,25}, other neurological effects^{26,27}, and multi-systemic acute symptoms, including electromagnetic hypersensitivity^{28,29} have all been documented in credible peer-reviewed literature. Additionally, animal studies and studies on children have reported impairments in behaviour, cognition, learning, and memory^{30,31,32,33,34 35}. Animal studies are useful for demonstrating that these effects cannot have been created via any psychological mechanisms relating to fear of exposures, nor are they induced purely by screen usage behaviours.

Acute symptoms attributed to low intensity non-ionising electromagnetic field (EMF) exposures have been referred to as "electromagnetic hypersensitivity (EHS)"³⁶, electrosensitivity³⁷, electromagnetic radiation syndrome³⁸, idiopathic environmental intolerance attributed to EMF (IEI-EMF), microwave syndrome, Wi-fi allergy and as radiowave sickness. Although EHS remains a controversial issue, some individuals have demonstrated truly physical (rather than psychological) symptomatic reaction to EMF exposure³⁹ including under double-blinded conditions⁴⁰. Symptoms are reported in response to a range of frequencies and intensities including very low intensity exposures⁴¹ and certain subgroups of people with EHS have been found to have lower perception thresholds than the general population⁴². Classical symptoms include, but are not limited to headaches, insomnia, dizziness, tinnitus, skin rashes, mood disturbance and palpitations. Prevalence figures for EHS are variable^{43,44,45,46,47,48,49,50,51} with most recent figures demonstrating up to 18% in some countries⁵². Some have suggested a 'nocebo response' (symptoms induced by fear of exposure) as the mechanism behind the reaction, however this explanation is illogical and does not withstand scientific scrutiny in most cases. Most EHS individuals did not have concerns regarding potential health effects of EMF exposure prior to their symptom development⁵³ making fear an extremely unlikely cause of the symptoms. Further, many of these individuals are technophiles whose social and occupational success depends on the device use that they have become adversely affected by, so they continue to try to use them despite the negative effects – this is not consistent with a phobia at all. Lastly, plausible mechanisms to explain the reaction exist and some can demonstrate it under double-blinded conditions, which excludes psychological processes.

The suggestion of psychological reactions is based primarily on the outcomes of some very poorly conducted 'provocation' studies. The majority of these group studies suffer critical flaws. These failures derive from a lack of attention to the clinical characteristics of EHS (such as response timings, symptoms types and severity / contrast, EHS stage, hormesis, reaction reliability etc.) leading to neglect of the critical requirements for a successful provocation study, neglect of the substantial clinical heterogeneity across subjects and subsequent design and processing errors. Further mistakes include contaminated sham phases, poor exposure reproduction and inadequate

outcome measures. In short, inappropriate study designs have been used, rendering the studies themselves as well as the systematic reviews of them, invalid for testing the relationship between EMF exposure and symptoms⁵⁴. To date, the evidence deriving from the majority of these studies is invalid and cannot be used to undermine the testimonies of those with EHS.

Advice from multiple international medical groups,⁵⁵⁻⁶⁴ scientific panels⁶⁵⁻⁷⁶ and governmental bodies⁷⁷⁻⁸⁷ is to decrease exposures to relieve symptoms. Additionally, guidelines for EHS diagnosis and management have been peer-reviewed and published which make it clear that the mainstay of medical management is avoidance of anthropogenic non-ionizing radiation (NIR)⁸⁸⁻⁹⁰. Biomarkers are being identified,⁹¹ and mechanisms that may explain the reaction are evolving⁹²⁻⁹⁵.

Given the lack of training on health effects for medical doctors and the relatively early stage of our understanding of it, anecdotal evidence remains extremely important and should be used to guide research. It is well accepted that EHS persons are often also chemically sensitive but there are other patterns which require large scale validation. For example, I note that there are classical stages of progression which I have described and developed a tool for consistently rating⁹⁶. This could be helpful to clinicians and researchers when monitoring progress and whilst there is a usual progression from mild through moderate to severe, remission is achievable in a low EMF environment. Symptoms generally return when EMF increased but an overall trend towards return of tolerance can be seen with prolonged EMF exposure reduction. 'Staging EHS' in this way is very important in research because biomarkers for example are less likely to be raised in mild cases or remission. So far however, this important consideration has generally been neglected in biomarker studies. Genotype, phenotype and co-morbidity (e.g. mast cell activation syndrome, postural orthostatic tachycardia in younger patients, dysautonomia, hypermobility, multiple chemical sensitivity, scotopic syndrome, Reynaud's Syndrome etc) and general multisystemic sensitivity thresholds all require further research.

EHS has been recognised as disabling in some cases by the WHO⁹⁷. Disability and compensation cases for those with EHS have been won internationally⁹⁸, and a child has received an Education Health Care Plan (EHCP) which requires that they are accommodated in a low EMF school environment⁹⁹. The disabling nature of EHS, combined with the increasing prevalence of it and ever decreasing accessible, low EMF areas combine to render EHS a humanitarian crisis¹⁰⁰.

Although this growing number of EHS individuals have attributed EMF exposures as the cause of their symptoms, it can be exceedingly difficult for people to identify EMF as a trigger due to the increasingly inescapable, ubiquitous nature of it. As expected, EHS type symptoms can be noted in the general population by individuals who do not necessarily consider themselves sensitive. Base station studies often reveal signs and symptoms which may demonstrate dose-response and are often consistent with EHS observations^{101,102,103,104,105}, and mobile phone studies on the general population also often demonstrate EHS type symptoms. A study of over 52, 000 children found that those with cell phone exposure had higher odds of migraines and headache-related symptoms than children with no exposure¹⁰⁶. Similar findings were noted in 2014 when mobile phone use was again associated with headaches and also other classical EHS symptoms such as vertigo / dizziness, fatigue, forgetfulness, sleep disturbance, insomnia and tinnitus¹⁰⁷. Many other similar studies demonstrate EHS symptoms manifesting in the general population in a dose-response fashion.

The most recent systematic review of these types of studies was unfortunately heavily flawed however and a call for retraction has been made¹⁰⁸. The very small number of poor quality, heterogenous papers that were selected were not suitable for metanalysis.

Moving the site of maximal EMF exposure doesn't mitigate health effects, it just moves them. There has been a general move towards texting – in part due to concerns regarding radiation exposures to the head. Mobile phones commonly produce the highest intensity everyday exposures. This is in part because they are capable of high intensity emissions, and because they are often used directly against the head, abdomen or pelvis. Although head tumours have been a subject of particular debate, evidence regarding the impact on fertility^{109,110,111,112,113,114,115} suggests that moving devices nearer to reproductive organs cannot be considered improved practice. Tablets can have similarly high outputs, and are also used very close to, or against, the body. Compounding the issue, these devices often do not have adaptive power control in which case, they will continuously emit at full power (unlike mobile phones). Newer devices such as smart watches, ear buds and other wearables (in some cases for babies) may employ lower intensity emissions, but since these have zero distance to the body in practice, they are still capable of affecting the user.

Hormonal disruption is also important. Whilst the stimulation of dopamine is important and classically a subject of debate when discussing 'screen time', it should also be considered that EMF exposures from wireless devices can potentially interfere with multiple different hormones including, importantly, melatonin. Melatonin is a powerful endogenous antioxidant and sleep-related hormone. Sleep disorders have become extremely prevalent and have been related to screen time, but again, it is presumed that behavioural factors and screen light are solely to blame, despite evidence that RF can impact melatonin production in isolation from those other factors^{116,117}. Other hormone dysregulation may be expected due to effects on glands such as the thyroid¹¹⁸.

Overall, the body of evidence regarding multisystemic effects is too large to summarise in a short response such as this, but multiple cell types can be affected in multiple systems and this leads to the diverse biological effects that can be seen in the literature spanning all body systems if unmitigated these can then lead to chronic health effects.

Carcinogenesis: In 2001, the International Agency for Research on Cancer (IARC) categorized ELF-EMF magnetic fields as a Group 2B "possible" human carcinogen due to the associations of residential exposure with childhood leukaemia. In 2011, IARC classified radiofrequency radiation as a Group 2B carcinogen, i.e., 'possibly' carcinogenic to humans, largely due to studies associating heavy cell phone use with brain cancer.

Although human studies have focussed on adult populations, these findings are also relevant to children as they could indicate increased risk of tumour development later in life, and risk from early exposures could be greater given children's immature physiology and greater cumulative exposures. Relevant cancers such as glioblastoma multiforme have been shown to have increased in relatively young populations¹¹⁹.

Since the initial IARC classification, credible evidence reporting an association between wireless radiation and cancer has increased^{120,121,122,123,124}. Multiple case-control epidemiological studies have found increased risks for tumours associated with long-term cell phone use.^{125,126} Furthermore, the

human epidemiology studies are now corroborated by large-scale animal studies, including the Ramazzini Institute and U.S. National Toxicology Program, which concluded there was “clear evidence” of cancer and DNA damage.^{127,128,129,130 131}

Most recently (last year) these findings were reinforced when a systematic review of experimental animal cancer studies on RF EMF which had been commissioned and sponsored by the WHO was published¹³². Fifty-two studies were evaluated including 20 chronic cancer bioassays and the review concluded there was high confidence in the evidence linking RF EMF exposures with Schwannomas of the heart and moderate to high confidence in the link with gliomas of the brain in rats. Furthermore, moderate confidence in the increases in adrenal gland neoplasms in rats and lymphomas, lung and liver neoplasms in mice exposed to RF EMF was concluded.

Risk assessments using EPA-developed methodologies have further concluded that current exposure limits, based on guidelines created by ICNIRP (the International Commission on Non-ionising Radiation Protection), may be substantially higher than would be required to protect against cancer, i.e. at least 200-fold based on NTP findings and up to 4,200-fold when Ramazzini Institute data are considered¹³³.

In addition to carcinogenicity, cardiomyopathy, neurological disorders and reproductive damages are among other well documented chronic effects¹.

Furthermore, EMF exposures have been shown to have synergistic (sometimes co-carcinogenic) effects when combined with some other environmental toxicants (such as heavy metals like lead, air contaminants like carbon black, formaldehyde, and water contaminants like hexavalent chromium^{134,135,136,137,138}). These synergistic effects are also neglected within the current exposure limits and may also be an elevated risk to those with certain occupation chemical exposures and children (considering their enhanced vulnerability to multiple toxicant exposures).

Children are vulnerable:

When it comes to the health protection of children in this field, ethical requirements are as pivotal as the scientific demand. This is a classical ‘when there is doubt, there is no doubt’ situation. There is (at best) doubt concerning the safety of anthropogenic non-ionising radiation (NIR) exposures and there should be no doubt that measures must be urgently taken to reduce EMF exposures to children and reduce their risk of acute and chronic negative health impact. Many expert medical doctors and scientists are no longer in doubt regarding the damage to health which can be caused by electromagnetic field (EMF) exposures¹³⁹ and their assertions should be used to urgently guide public health policy.

The unique anatomy, physiology and tissue dielectrics of children all conspire to undermine their resilience in specific ways but these susceptibilities have not been factored into current exposure limits.

Children, whose nervous systems are still developing and have rapidly dividing cells, are especially susceptible to environmental stressors. Even low-level exposures can result in long-lasting and potentially irreversible effects¹⁴⁰. Because of their thinner skulls, higher water content, and unique physiology, children absorb proportionally more radiation than adults^{141,142,143,144,145}. Research has found cell phone radiation exposures up to 30 times greater in the hippocampus and 10 times

greater in the bone marrow of the skull compared to adults¹⁴⁶. Intra-uterine development may also be a period of heightened sensitivity, as foetal development involves complex and rapidly growing cellular systems that are particularly vulnerable, and studies investigating prenatal exposure have reported increased miscarriage,¹⁴⁷ impacts to the brain,¹⁴⁸ cognition,¹⁴⁹ behaviour,¹⁵⁰ development,¹⁵¹ reproductive system,¹⁵² and higher rates of ADHD¹⁵³. Potential links with Autism have also been described^{154,155}.

Wildlife is vulnerable:

At a point in time when the ecological world around us faces the greatest crisis ever witnessed in the history of humanity, it is more important than ever that we protect our biological environment, flora and fauna from further damage. Despite the fact that a great deal of the evidence of harm to health that we have derives from animal and plant studies, effects of anthropogenic EMF on wildlife have been largely neglected. It is well established that multiple species rely on for example, cryptochromes and magnetite to sense and use electromagnetic fields to support their circadian rhythm, navigation, migration, hunting etc^{156,157}. Current exposure limits fail to protect our planetary ecosystems and impactful effects are noted at exposures orders of magnitude below current allowable levels^{158,159,160,161,162}. Some species can be especially vulnerable to specific frequency bands due to resonance effects resulting from the body size and other specific anatomical and physiological attributes. This is of particular concern when considering the effects of millimetre waves on insects including our pollinators^{163,164,165}. Failure to acknowledge these rapidly accelerating harmful effects undermines even some well intentioned actions to support wildlife such as the use of tracking devices¹⁶⁶. We depend heavily on the natural world which bore us and the short-sighted, continued expansion of EMF emissions threatens all that gives us the ability to survive and flourish on Earth.

Rapid deployment races outran safety considerations

The proliferation of wireless devices (and the networks which serve them) is unprecedented. In 1996 the smartphone was virtually unheard of and the exposure guidelines were over-relaxed for the technology of the time, let alone what was to come^{1,167,168,169,170,171,172}. Exposures in the radiofrequency range were found to surpass natural background levels by 10^{18} (a billion billion, correctly known as a quintillion times) some years ago¹⁷³ and updated reliable exposure data is sparse. While other changes in the human environment which impact our health and ecosystems are hotly debated, this crucial domain remains obscure to the vast majority and therefore the rapid deployment has been largely uncontested.

Critical information for example deriving from animal cancer and reproductive studies (as referenced above), was lacking at the point those guidelines were constructed. Such data are invaluable for protection of human and animal health and cannot be ignored given the enormous scale of current exposure. Even small increases in risk translate to vast health damages in this context.

Exposures have dramatically increased from many different types of novel devices operating within all frequency bands. Screens which were limited primarily to hardwired devices in the 90s, have become a primary source of non-ionising EMF exposure, especially for children. They emit multiple different types of EMFs and are often held very close to the body – sometimes at zero distance. Smartphones, tablets, laptops, smart watches, ear buds, smart speakers, tracker fobs and gaming systems can all emit radiofrequency (RF) radiation while also producing extremely low frequency

(ELF) electric and magnetic fields from their internal electric circuitry and charging systems^{174,175}. These additive, synergistic exposures are not considered within the current exposure guidelines but can substantially increase the absorbed dose of non-ionising EMFs^{176,177}.

In addition to exposure sources from devices that people are holding and using, there are increased exposures from constantly connected “smart” devices in the home and emissions outside from cell towers, 4G, 5G and other networks. These have substantially increased background EMF exposure in homes, offices, schools and the public domain. Data centres and the power grids which service them further increase ELF-EMF, exposures which are long linked to an increased risk of childhood leukaemia^{178,179,180,181}.

The introduction of higher frequencies into the public domain is a particularly blind leap, given the paucity of literature on use of millimetre waves that are being implemented with 5G. The speed of deployment of these additive, untested exposures is gravely irresponsible in the face of the evidence that we already have, demonstrating harmful effects from pre-existing infrastructure.

There is clearly an effort in the USA as well as across the globe to fill in all ‘not spots’ (areas of no or low signal coverage). In reality however, there should be active construction of low EMF zones in order to preserve the human right to avoid exposure. Focally, these zones must include central areas with zero detectable anthropogenic EMF exposure to allow protection of those with acute or chronic EMF related health complaints as well as those who simply do not consent to exposure.

While a true biological ‘no effect level’ has not yet been demonstrated, the intensity of exposure does dissipate in keeping with the inverse square law, so keeping wireless emissions and devices as physically far away as possible can dramatically reduce peak, average and cumulative exposures. Control groups would once again become available (both human and animal) if effective low EMF zones were implemented and large health data could be compared between residents in truly low EMF areas versus high.

Database registries are necessary for all EMF attributed health effects (attributed either by individuals or their physicians with a clear indication of who is registering the information). High quality dosimeters (measuring peak intensities as well as averages and measuring all relevant frequencies) can be used to gather large amounts of data on exposures and symptoms. Biomarker studies should be expedited, but only biomarkers which are relevant to the individual participants’ clinical histories should be used.

Inadequate compliance testing compounds the hazard

In other countries phones have been tested (using lifelike exposure distances) to check compliance with radiation emissions, and this has revealed that a large proportion (8/10 mobile phones tested in one case) of phones exceed even the invalid tissue-heating ICNIRP exposure levels^{182,183}. Following these compliance checks, multiple mobile phone models were withdrawn from the market or updated with software ‘fixes’ to reduce radiation emissions. This has not happened in the USA either because compliance has not been tested or because the results of compliance tests have not been publicised.

The US Government needs to implement these basic safety checks using realistic conditions (such as zero distance from skin) and exposure measures which capture peak intensity spikes in biologically

relevant sized volumes - avoiding averaging over inappropriately large sections which is a current problem.

New exposure guidelines must be constructed by independent experts

A truly independent expert group should be gathered to construct new exposure limits which are truly evidence based and protective of biology for all citizens (not just the unusually large males that the 'Standard Anthropomorphic Mannequin' was modelled on). A new review must include experts who have expressed concerns regarding the laxity of current exposure limits such as those who have signed the EMF Scientists' Appeal which comprises over two hundred and seventy scientists representing 45 different countries, all of whom have published within this field.

Far lower limits have been proposed by multiple expert groups including the Bioinitiative Working Group¹⁸⁴, Institute of Building Biologists¹⁸⁵, EMF Call¹⁸⁶ and EUROPAEM 2016 EMF Guidelines¹⁸⁷ and practical guidance provided for creating lower EMF public spaces¹⁸⁸. Because these calls for lowered emission thresholds have been ignored, there is no real attempt to manufacture devices or create infrastructure that emits the lowest possible doses. We have published suggestions for ways to substantially reduce absorbed radiation from phones for example¹⁸⁹, but unless such reductions are legally mandated, they will continue to be side-stepped. Radiation reduction strategies are inarguably positive – in addition to reducing health risks, they also decrease energy consumption.

Summary and recommendations:

Government limits for allowable human exposures to wireless RF radiation, such as those of the International Commission on Non-Ionising Radiation Protection (ICNIRP), and the Institute of Electrical and Electronics Engineers (IEEE) do not assure safety. These limits were set decades ago, based on inaccurate assumptions, including that they:

- Are based solely on preventing tissue heating during short-term exposure
- Do not address biological effects from low-intensity, cumulative, or long-term exposure
- Do not address synergistic or additive effects
- Neglect research on biological effects or health effects outside of heating
- Lack adequate safety factors that account for children's unique vulnerabilities
- Do not provide safety factors which account for other sensitive populations

General Recommendations for Policymakers

- Ensure a robust, independent scientific review of the research
- Adopt evidence-based exposure limits that protect public health and environment
- Adopt risk mitigation approaches with policies that reduce exposures
- Strengthen transparency and oversight
- Fund independent research on biological effects
- Expand public awareness on why and how to reduce exposure
- Promote industry research and design for safer technology

- Provide emergency low / no EMF spaces for those with acute or chronic EMF related health effects and those who do not consent to exposure

Recommendations for immediate lowering of children's EMF exposures:

- Replace wireless school networks with hardwired computer networks
- Ensure all devices in school have wireless signals disabled
- Collect mobile phones / other devices at start of school day and store in Faraday boxes
- Provide staff Faraday boxes also for their phones and other emitting devices.
- Ensure electrical infrastructure is distanced from desks so that ELF levels are low
- Ensure computer workstations are low ELF by ensuring good grounding
- Favour human-to-human teaching practices over screens wherever possible
- Forbid RF-emitting antenna installations and ELF-creating infrastructure near schools
- Encourage parents to consider lowering EMF exposures where possible at home
- Ensure suitable accommodations for EHS pupils
- Deploy education programmes to improve understanding of current risk and mitigation techniques

Closing statement:

Inconvenient as it is, the overall evidence is only taking us in one direction and the time for precaution is long behind us. It is not in anybody's best interests to further delay acknowledging the harmful effects of anthropogenic electromagnetic exposures. The recent WHO systematic reviews are heavily flawed and in general admit low certainty of evidence in many domains; however they do reinforce the previously noted animal carcinogenicity and reproductive impacts. Although not every study reports effects, the preponderance of peer-reviewed research provides sufficient evidence to warrant urgent policy action. There can be no further delay in protecting our most vulnerable groups such as children and those with acute or chronic health effects. People must be provided with the right to refuse exposure should they wish. An interim solution to this is to provide multiple low EMF zones and this is now an emergency to reduce avoidable morbidity and mortality.

Sincerely,



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Declarations:

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Advisor: Oceania Radiofrequency Scientific Advisory Association (ORSAA)

Honorary Member: British Society of Ecological Medicine (BSEM)

Advisor: Electrosensitivity UK (ES-UK)

Member: International Guidelines on Non-Ionising Radiation (IGNIR)

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- ² International Commission on Biological Effects of Electromagnetic Fields [Safeguarding Children's Health in the Digital Age: Addressing Screen Time, Wireless Radiation, and Extremely Low Frequency Non-Ionizing Electromagnetic Field Exposures - International Commission on the Biological Effects of Electromagnetic Fields](#) September 2026
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