

Response to Vermont Health Report Regarding Man-Made Radio Wave Radiation

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by EMF Safety for Vermont

The Report

https://legislature.vermont.gov/assets/Legislative-Reports/RFR-Report-12.23.19.pdf?fbclid=IwAR3w1OBPkrkY_FSLx85gA9rtzMrHr9WAMqtbmldeyW7kRZveSYBele7p6-E

Vermont Act 79 (2019), Section 24 requires, “A report on the possible health consequences from exposure to the radio frequency fields produced by wireless technologies, including cellular telephones and FCC regulated transmitters. The report shall include a summary of available scientific data as well as a comparison of various emissions standards and guidelines.”

Response

In summary, **the Vermont Health report is not in accordance with Act 29. It exclusively reviews thermal studies and cancer studies, and does not include FCC regulated transmitters other than cell phones. The report leaves out the pivotal findings of the NTP study petitioned by the FDA: that nonthermal effects cause biological harm, and that the precautionary principle should be employed especially to protect children and pregnant women¹.**

The report was written by one person, instead of a representative committee, such as of independent experts in biological effects of nonionizing radiation and representatives from the public, which may explain the limited perspective.

The patterns of findings of scientists who are expert in non-thermal biological health effects have been left out of the report. These findings include and go beyond cancer, and explain the mechanisms by which those effects occur from chronic exposure to manmade radio wave radiation (RFR), and support the petition for reclassifying RFR by WHO and IARC from *possible* to a *known* carcinogen.

¹ Melnick, R. Commentary on the utility of the National Toxicology Program study on cell phone radiofrequency radiation data for assessing human health risks despite unfounded criticisms aimed at minimizing the findings of adverse health effects. *Environmental Research* 169 (2019) 1-6.
<https://ecfsapi.fcc.gov/file/1001332406626/Melnick-Commentary%20on%20the%20utility%20of%20the%20National%20Toxicology%20Program%20study.pdf>

The following are 25 examples of how the report is incomplete and does not provide the facts necessary for policy makers to make decisions regarding public health hazards and risks:

1. There is no mention of the research into cardio, endocrine, neurological, cognitive, and psychiatric health effects, such as anxiety, diabetes, heart palpitations, nose bleeds, migraines, and other effects, nor of how effects are associated with exposure to sources other than (and including) cell phones.
2. It does not review studies pertaining to FCC regulated transmitters as defined by the FCC, such as “wireless garage door openers, wireless microphones, RF universal remote control devices, cordless telephones, wireless alarm systems, Wi-Fi transmitters, and Bluetooth radio devices.” nor cell tower antennas of any generation.
<https://www.fcc.gov/oet/ea/rfdevice>
3. The report does not distinguish between health risks of exposure to RFR for children, pregnant women, the elderly and other vulnerable populations.
4. The report does not refer to the NTP Lead Toxicologist’s detailed responses to “Unfounded criticisms and facts concerning the interpretation and utility of the animal data for assessing potential human health risks” nor the fact that the findings corroborate the case-control multi-country Interphone Study (approximately ten countries, except the USA) and Swedish studies led by Dr. Lennart Hardell, and a Japanese study. These research studies indicate a higher risk with the highest cumulative exposure. As children will be exposed for a lifetime (decades), such findings are very relevant. (Melnick, R. Commentary on the utility of the National Toxicology Program study on cell phone radiofrequency radiation data for assessing human health risks despite unfounded criticisms aimed at minimizing the findings of adverse health effects. *Environmental Research* 169 (2019) 1-6.
<https://ecfsapi.fcc.gov/file/1001332406626/Melnick-Commentary%20on%20the%20utility%20of%20the%20National%20Toxicology%20Program%20study.pdf>)
5. The report does not mention the NTP’s Lead Toxicologists’ public statement that “We can no longer assume that any current or future wireless technology, including 5G, is safe without adequate testing, because to do otherwise is unethical.” (14:20 The NTP Cellphone Study explained by Dr. Ron Melnick. <https://www.youtube.com/watch?v=nJfK3gbkmMk>)
6. Although the FDA had requested the NTP perform the study in order to inform an updating of FCC guidelines to protect against “any non-thermal effects of chronic exposure” (chronic exposure is increasingly common), the report relies on thermal-based rationale, such as how deeply different types of radio waves penetrate the skin. The NTP study shows that nonthermal effects should be accounted for, (2:50 The NTP Cellphone Study explained by Dr. Ron Melnick. <https://www.youtube.com/watch?v=nJfK3gbkmMk>)
7. The report does not mention that it has been found that skin penetration is not necessary for biological harm.

8. The report does not mention the fact that experts from the National Toxicology Program and independent groups world-wide are calling for RFR to be reclassified as a known carcinogen by WHO and IARC based on the pattern of evidence across studies. [This video](#) and the following statements are examples of the case being made.
 - a. NTP study's lead designer, Dr. Ron Melnick informs that an external expert peer-review panel of scientists who had expertise in studying biological effects of electromagnetic fields and expertise in interpreting results from experimental carcinogenicity studies "clearly recognized the validity and biological significance of the adverse health effects produced in the NTP's studies of cell phone RFR. The overall results from the NTP studies indicate that cell phone RFR is potentially carcinogenic to multiple organs of exposed people." (Melnick, R. Commentary on the utility of the National Toxicology Program study on cell phone radiofrequency radiation data for assessing human health risks despite unfounded criticisms aimed at minimizing the findings of adverse health effects. *Environmental Research* 169 (2019) 1-6. <https://ecfsapi.fcc.gov/file/1001332406626/Melnick-Commentary%20on%20the%20utility%20of%20the%20National%20Toxicology%20Program%20study.pdf>)
 - b. The 2018 Hardell and Carlberg study "compared earlier human epidemiological studies with NTP findings, including a short review of animal studies. We conclude that there is clear evidence that RF radiation is a human carcinogen, causing glioma and vestibular schwannoma (acoustic neuroma). There is some evidence of an increased risk of developing thyroid cancer, and clear evidence that RF radiation is a multi-site carcinogen. Based on the Preamble to the IARC Monographs, RF radiation should be classified as carcinogenic to humans, Group 1." (<https://doi.org/10.3892/ijo.2018.4606>) <https://www.spandidos-publications.com/10.3892/ijo.2018.4606>
9. Given the several ways in which the FCC guidelines and bulletins are not relevant to 5G, as pointed out in the report, it is surprising that the report's executive summary would not include this fact.
10. The report fails to mention that the Government Accountability Office recommended the FCC review its guidelines given their antiquity, and the fact that the FCC received several expert comments recommending changes, but has not addressed those facts nor updated its guidelines. In other words, the report does not provide sufficient context in which the reader can determine the FCC's reliability as its own monitor.
11. The report does not conclude that 5G or RFR is safe, yet this lack of proof of safety is not emphasized. Rather the FCC guidelines are said to be adequate, and moreover, this conclusion is based on the FCC's decisions about which studies it will review. This is akin to saying the wolf determines it will not eat the hens, so its guidelines for fencing are adequate.

12. The report does not bring attention to the fact that RFR classification by the WHO as a Class 2B (possibly carcinogenic to humans) is now under review, given the Ramazzini and NTP findings, to be reclassified as a more certain carcinogenic threat.
13. The report does not limit its review to non-industry funded, biologically-based studies or committees.
14. The report mentions that the 5G wavelengths do not penetrate the skin as well as the 2G wavelengths BUT does not mention that penetration is not necessary for health effects, as skin cells act as receivers for radio waves, and are especially well suited to receive 5G radio waves.
15. The report erroneously states, “The potential mechanism for RFR-induced carcinogenesis is unknown.” In fact, mechanisms have been found, such as the activation of voltage-gated calcium channels, leading to oxidative stress and free radicals.
16. The report erroneously states that, “With humans, usually just our heads are exposed to RFR”. This is not true. Humans’s entire bodies are exposed to radio wave emissions, which is known as *whole body exposure* and has its own set of guidelines. Emissions fill entire rooms and neighborhoods. Also, close exposure comes from sitting or sleeping next to antennas, such as devices, routers, cell towers, alarm systems, baby monitors, and other sources. Again, the report’s exclusive reliance on close range thermal effects and cell phones is misleading.
17. The report does not mention certain NTP study’s findings, such as DNA damage to brain cells in rats and mice; heart muscle disease; reduced birth weights; and equivocal findings of cancer of the prostate, pituitary gland, pancreas, and liver in the male rats.
18. The report does not discuss the difference between peak level monitoring and averaging exposure levels. Peak levels measured can be tens of thousands of times higher. In other words, the RFR intensities can vary significantly over time and location but their numbers can be masked if the measurements are averaged. With Vermont’s aim of ubiquitous wireless radiation accomplished by placing multiple cellular antennas in close proximity to people alongside the proliferation of antennas in personal devices, smart meters, smart parking meters, and other radio transmitting technologies, people are exposed to multiple sources emitting at peak levels.
19. The report does not describe the difference between naturally occurring RFR and manmade RFR, which is crucial to understanding why manmade RFR can be so harmful.

20. There is no mention of the fact that the FCC's praise of its own limits is not the same as confirmation of accuracy, and, moreover, that recent cell phone tests have proven that the FCC's tests are not accurate.
21. "Thermal" should be bolded in this statement by the author of the review: "Current FCC regulations, based on recommendations from scientific committees that have reviewed thousands of studies, are adequate to protect people from the thermal effects of RFR. These regulations also preempt state regulations of RFR." Non-thermal effects are the focus of concern by scientists who are showing harm.
22. The phrase, "But do not address non-thermal biological effects" should be added at the end of the last bulleted item of the executive summary. This is the pivotal fact.
23. Another bullet should have been added to describe the fact that The Supreme Court is currently hearing cases brought by several states to determine the adequacy of the FCC guidelines and the authority of States to regulate RFR to protect the public from non-thermal effects given that the FCC does not put forth non-thermal protection guidelines.
24. It would be helpful to know which of the scientific committees relied upon for this review are "captured".
25. The report cites this study, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6765906/>, which is a great example of industry involvement and the impact on policy. Go to the bottom to read about the funding source.

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