HHS comments

I am a board-certified physician and have practiced Internal medicine and Environmental Medicine for twenty plus years. I am a member of the medical honor society, Alpha Omega Alpha, member of the American Academy of Environmental Medicine, the International Society for Environmental Acquired Illness and an advisor to the board of the National Association of Environmental Medicine. I have written guidelines for physicians regarding diagnosis and treatment of Electromagnetic Field Radiation sensitivity (EMR syndrome) .

I was diagnosed with Electromagnetic Field Radiation sensitivity (EMR syndrome) after getting critically ill from toxic black mold exposure in 2000. I purchased land in rural Texas away from nearby cell towers at the advice of a brilliant environmental medicine and cardiovascular surgeon, William Rea, MD. He helped me recover from EMR syndrome. The decision to move was life-changing. My health improved dramatically, enabling me to return to work, resume my medical practice, and once again lead a productive life. Dr Rea practiced environmental medicine for over 40 years and did the only human multi-phase study on the effects of wireless radiation in 1999 with the use of a faraday room. He wrote over 150 published studies on environmental medicine and over 15 books on environmental medicine and sensitivities including Air Pollution and the Electromagnetic Phenomena as Incitants and EMF Effects from Power Sources and Electrosmog in 2018. He warned me in the year 2000 that wireless radiation would be my generation's "tobacco". No precautionary principle has been followed since 1996 with growing evidence in non-industry based studies of significant harm from non-thermal effects of wireless radiation including cellular effects and damage to DNA. Since 2011 thirty-six chronic diseases have more than doubled in incidence. Lt. Colonel Zorach Glaser, Phd of the US Navy warned of these conditions in 1971 when he reviewed global science with his meta-study, “Reported Biological Phenomena (Effects) and Clinical Manifestations Attributed to Microwave and Radio-Frequency Radiation”. Glaser found 2,311 studies that link low-intensity microwave signals and other EMR with biological impacts. The majority of studies examined microwave signals in the 1 to 4 Ghz range at low intensity. These types of wireless exposures are virtually identical with those from modern devices and wireless sources such as cell phones, WIFI, GPS , Bluetooth, smart meters, wearables and wireless infrastructure. Thirty-six years later, a 1,540-page meta-study, published in 2007 (updated in 2012, 2014 and 2017), co-authored by a group of 29 international scientists, the BioInitiative Report, cited more than 1,800 scientific studies that associate low-intensity, non-thermal radiation exposures from wireless technologies and other sources of electromagnetic radiation (EMR) with dozens of diseases and biological effects in humans, including effects on fertility , developmental disorders (e. g. embryonic), neurological and neuropsychiatric disorders, cardiovascular diseases, diabetes mellitus, thyroid disorders, and

neurodegenerative diseases including Alzheimer's disease and early dementia. Recently digital dementia has been documented in people as young as 19 years old. PMID: 39449887 **Understanding Digital Dementia and Cognitive Impact in the Current Era of the Internet: A Review** Digital media overuse impacts brain development, especially cognitive and inhibitory control, attention, memory, and reasoning essential for adapting to dynamic environments. Early exposure to fast-paced media can impair motor skills, spatial awareness, problem-solving, and language learning. Neuroimaging studies reveal that environmental factors like screen usage affect brain networks controlling social-emotional behavior and executive functions. Overreliance on smartphones diminishes gray matter in key brain regions, affecting cognitive and emotional regulation. Dr Martin Pall has published a study, "Low Intensity Electromagnetic Fields Act via Voltage-Gated Calcium Channel (VGCC) Activation to Cause Very Early Onset Alzheimer's Disease: 18 Distinct Types of Evidence". He presents the evidence for risk from electromagnetic field exposures impacting the Voltage Gated Calcium Channels, leading to increased intracellular calcium, believed by Dr. Pall to be the central cause of Alzheimer's and early dementia.

Radiofrequency radiation (RF) was classified as a possible carcinogen (class 2B) in 2011 by the WHO when only 2G phones were used. Double to quadrupled brain tumor risk was reported in the heaviest cellphone users in the early Interphone study (>1640 hours per month--a fraction of today's usage). Total Brain & Central Nervous System Tumor incidence in U.S. official databases show statistically significant increase, especially in adolescents, young adults and the elderly. Children have 5x the risk of brain tumors compared to adults. And, importantly, brain tumor incidence in locations of the head where cell phones are placed, the frontal and temporal lobes, have risen very significantly.

In my clinical experience as a practitioner in environmental medicine, every generation of wireless technology has increased the number of electrohypersensitive people especially with the implementation of 5G radiation. I have observed a substantial increase in both the number of affected patients and the severity of their reported symptoms and functional impairment. With the onset of 5G deployment I have seen a dramatic rise in young people with insomnia, anxiety, depression, infertility and cognitive dysfunction especially memory deficits. Studies have shown an increase of colorectal cancer of 500% in 10-14 yr olds who have grown up with 4g/5G. Fetuses, and children, are particularly affected because they are more vulnerable with developing nervous systems, thinner skulls and stem cell differentiation. 5G was thought to be less harmful as shorter wavelength and less penetration over the first few millimeters of the body's surface. Assuming there is no risk is, furthermore, forgetting that surface effects can be significant on external cells and tissues (skin, eyes for example), as well as on all blood cells which will pass the outer portion of the skin every five minutes. There are

reasons to suspect that the deployment of 5G may be accompanied by an increase in the number of melanomas and other skin cancers and eye disorders. Living materials are not just homogeneous and inert conductive materials. It is a major mistake to omit the complexity of biological systems capable of responding to external electromagnetic stimuli otherwise than just through heating. Electromagnetic disturbances and chemical mediators (e.g. inflammatory mediators) can rapidly be spread throughout the body and induce biological (non-thermal) effects deep into the body. Such disturbances will also have an ideal avenue of spread via the peripheral nerves, the latter being found as superficial as 20-40 um from the outer surface.

In 2021 as you know the FCC was ordered to reevaluate the current 30 year old safety guidelines and a court order in July of this year reordered compliance with this order for a review with independent studies

I am extremely discouraged and concerned as a physician by the following:
1) The persistent inadequacy of the FCC's RFR thermal-only exposure guidelines to protect public health

2) That there has been no pre-market safety testing, or post-market surveillance of the acute, chronic and cumulative health effects of wireless technologies and infrastructure

3) That our government, including the FCC and FDA, has turned a blind eye to well-established RFR risks, enabling harmful, RFR-emitting technologies to become pervasive throughout our lives, fueling growth of a trillion-dollar industry that is making people sick.

I am alarmed that 'Jumbo 5G Antennas' are now rolling out in several neighborhoods in New York City. Massive radiating antennas are being placed on residential city streets, concentrated initially in disadvantaged neighborhoods, and have been justified with the misleading claim that these antennas will close the 'digital divide' (which they will not).

Each Jumbo Antenna will contain not one, but many radiating antennas on multiple tiers and each antenna within the structure would, alone, pose serious health risk to those nearby. There is no provision we know of for monitoring the RF emissions of these Jumbo 5G Antenna arrays (or emissions from other cell towers and antennas, for that matter) or for determining whether the aggregate exposures of the many thousand antenna arrays planned in the city would even be in compliance with the FCC's (inadequate) exposure guidelines.

The proposed antennas present enormous health and environmental risks to residents, and to citizens all across our country. **As we often find, it appears city officials had**

been misled into believing FCC exposure guidelines are protective, and also been told that the FCC exposure guidelines have the support of the FDA, despite the fact that the FDA does not formally evaluate RF-emitting telecom devices and infrastructure, like they do medical devices. Repeatedly, government officials across the country, as well as employers, schools, churches and property owners, are believing these false claims, and thus ignorantly jeopardizing people's health from small cell and macro towers (and other RF Remitting equipment) on their premises when safer Internet access options exist and could have been chosen over the wireless options. Local officials are routinely told new 5G antennas are 'faster' than older wireless antennas, but not told about the safer, higher performance, faster and far superior, hard-wired technology option, Fiber to the Premises (FTTP). They are also not told the exposures are additive, not replacements for earlier cellular generations, such as 4G. Fiber to the premises (FTTP) will always be faster than any generation of wireless, as wireless communications is a shared medium used by many on-line users at once. This critical fact is not mentioned by champions of wireless, in the interest of selling communities on an inferior technology that will rapidly become obsolete and that has ulterior uses for surveillance. **Wireless is not enduring technology, like fiber, which is paid for once and that former FCC Chairman, Tom Wheeler has called 'future-proof'. Local officials have likely also not been told about the full range of advantages fiber offers over wireless, beyond speed, each one of which is a compelling reason on its own to choose fiber over wireless as written in "Re-Inventing Wires: The Future of Landlines and Network by Tim Schoechle. https://gettingsmarteraboutthesmartgrid.org/wires.html**

Without sharing the truth about the full range of Internet access options, the misleading presentation of wireless as the only or superior option for meeting growing needs, together with concerns about the adequacy of regulatory oversight, American communities, businesses and individuals have been duped into believing an inferior technology is superior, and that wireless radiation does not present health risks, when nothing could be further than the truth. In the strategic push in the U.S. for more and more wireless, it is important to examine why the U.S. lags far behind other developed countries in installation of Fiber to the Home. Global Fiber to the Home Council data in 2024 showed U.S. penetration is at approximately 23-25%, compared with UAE (99.5%), South Korean (96.6%), China (93.6%), Hong King (89.9%), Portugal (81.9%), Iceland (80-90%+), United Kingdom (77%), and most other European countries (60-80%). FCC data shows the U.S. ranks 22nd among 27 OECD countries in fiber availability to households, despite fiber being the far safer, faster, more secure and more energy efficient means of accessing the Internet**.**

The truth about the advantages and disadvantages of technological options is not being transparently presented to local and federal government officials or the public. Very dangerous wireless densification is instead being carried out, and further planned, under the banner of 'closing the digital divide'. But note, in remarks to the American Enterprise Institute July 15, 2026, entitled "Leading the Next Wireless Frontier: Why America Must Lead the 6G Era", FCC Commissioner Olivia Trusty explained that the coming 6G will use significantly enhanced surveillance capabilities and data integration with AI for military and defense purposes. **This begs the question: Are the millions of chronic illnesses, cognitive impairments, environmental degradation and enormous health care costs and economic burdens to society resulting from wireless exposures viewed simply as necessary 'collateral damage' by the U.S. Department of Defense in pursuit of its war objectives?**

The fastest-growing chronic diseases today, which represent the vast majority of all health care costs, have long been associated with biological changes known to be caused by wireless radiation, as Richard Lear documented in "Safety of Wireless Technologies--The Scientific View" (2025). Twenty-three of the 32 fastest growing chronic diseases since 1990 were identified as linked with electromagnetic field exposure well over 50 years ago in the U.S. Navy review study in 1971. Yet these early warnings were not heeded. In ignoring the scientific evidence for risk from RFR, the U.S. government facilitated explosive growth in the wireless industry, leading to explosive growth in the incidence of chronic illnesses, at tremendous human and economic cost. "Safety of Wireless Technologies--The Scientific View" (2025), estimates there were over 500 million increased incidences of these diseases from 1990-2015 https://www.researchgate.net/publication/388763046_Safety_of_Wireless_Technologies_The_Scientific_View.

In 2015, 190 scientists from 39 nations submitted an appeal to the United Nations, UN member states and the World Health Organization (WHO) requesting they adopt more protective exposure guidelines for electromagnetic fields (EMF) and wireless technology in the face of increasing evidence of risk. These exposures are a rapidly growing form of environmental pollution worldwide. https://electromagnetichealth.org/wp-content/uploads/2015/05/EMF_Scientist_Press-Release.pdf

Diabetes/pre-diabetes is the most expensive chronic illness in the United States today, costing $400+ billion annually. While the evidence showing risk for glucose abnormalities dates back over 85 years in U.S. government research, and should have been heeded, the direct connection between electromagnetic field exposures and the metabolic and mitochondrial impacts known to occur in diabetic patients was recently explained by Professor Paul Heroux, PhD of McGill University in "Power Systems,

Telecommunications and Diabetes". Importantly, Dr. Heroux explained the mechanisms of action involved in great detail. See a Zoom interview with Dr Heroux from February 2026, "Diabetes and Wireless Exposures--Interview with Dr. Paul Heroux". Based on CDC data there was a spike in Diabetes when fluorescent lighting was introduced in the 70s, rising further with the introduction of 1G cellular (voice) in the 80s, and then tremendously increased after Congress passed the Telecommunications Act of 1996, which preempted state and local governments from regulating cell towers and antennas on health or environmental grounds, enabling the rapid roll out of cell towers and antennas across the country from there on out.

Many other conditions has also risen since 1996 as cell towers and antennas proliferated.

A study by Zhang et al (2020) of Yale School of Public Health, published in Environmental Research shows a steep increase in thyroid cancers starting in 1996, noting associations between higher risks of thyroid cancer and a number of different measures of cell phone use, such as the number of calls per day, hours of use and years of use. When certain genetic variants were present, cell phone use was significantly associated with thyroid cancer, and the association increased as duration and frequency of use increased.

A major review of over 1,200 studies in Reviews on Environmental Health (2022) concludes that increasing levels of wireless radiation and human-made electromagnetic fields (EMFs) in our environment also poses serious risks to biodiversity and the health of Earth’s ecosystems. A wide range of adverse effects to wildlife were found, including impacts to orientation and migration, reproduction, mating, nest, den building and survivorship. Bees and other pollinators were found to be especially vulnerable. Effects were found in fauna and flora in all species studied.

The U.S. government appears to have been 'captured' by the telecom industry, either believing its false claims about the safety of wireless radiation, without looking to the global body of scientific literature on the subject, or to the evidence for risk documented in U.S. government studies. (See Harvard University's Edmond J. Safra report, "How the Federal Communications Commission is Dominated by the Industries it Presumably Regulates"). Or, potentially, the U.S. government has been knowingly complicit in a scheme harming humans and the environment for questionable national defense objectives, considering the health risk to humans and the environment as simply necessary 'collateral damage'.

Overlooking the vast body of science, including U.S. government studies, has been an enormous regulatory failure. After all, departments and agencies of the federal government have documented RFR risks going back many decades (approaching 100 years), including the U.S. Naval Medical Research Institute (1971), EPA (1990), U.S. Air

Force (1994), U.S. Department of the Army (2006), NIH (2011), NIH 2018, NASA 1972, NASA 1981, Department of Interior and the Defense Intelligence Agency.

In 1993, an FDA internal memo obtained by Microwave News through the Freedom of Information Act (FOIA) admitted microwaves can accelerate cancer. Despite the longstanding evidence for risk, in 2018, in a news release issued by the FDA, the FDA's director of the Center for Devices and Radiological Health, Jeffrey Shuren, MD, JD, stated, "Based on our ongoing evaluation of this issue, the totality of the available scientific evidence continues to not support adverse health effects in humans caused by exposures at or under the current radiofrequency energy exposure limits. We believe the existing safety limits for cell phones remain acceptable for protecting the public health".

The crux of the issue causing so much suffering and driving health costs is that FCC exposure guidelines for RFR are wholly inadequate. The FCC's non-protective exposure guidelines do not reflect the scientific evidence and are being used across the country, with FDA complicity, to mislead about cell tower and antenna safety. RFR exposure guidelines aim only to protect against thermal/heating/power effects of the radiation. They do not address (or even acknowledge) the well-established 'non-thermal' effects, including biologically disruptive frequencies, the peaks and pulsing, or the increasingly complex signaling characteristics. (And they certainly won't protect against the much higher pulsation millimeter wave (mmWave), and potentially terahertz (THz) frequencies, to come, in 6G.

Importantly, the FCC guidelines have misled manufacturers of wireless devices and equipment, infrastructure installers, service providers, retailers, real estate owners, building managers and the public into believing RFR radiation is safe if exposures are in compliance with the FCC's thermal guidelines. Businesses and property owners have been able to take cover from liability in relying on these government sanctioned FCC guidelines.

It is time for the FCC and FDA to admit they have been promoting the commercial interests of the telecommunication industry, and military interests, at the expense of public health. Authority over wireless infrastructure and RFR (Radiofrequency Radiation) exposure guidelines **should immediately be transferred to a U.S. government agency without conflicts of interest. This agency must have biology and health, and technical expertise, as well as be able to evaluate risks from non-terrestrial RFR-emitting technologies (satellites**). This new frontier of atmospheric risks, with serious potential consequences for planetary water cycles critical to supporting ecosystems and agriculture needs very careful evaluation.

It is essential that the U.S. government:

1) Set protective, biologically-based exposure guidelines for RFR

2) Help to clarify the pros and cons of different telecommunications technologies (fiber, wireless, cable, advanced copper, etc.) so that the public, government officials and businesses can make fully informed choices;

3) Conduct pre-market safety testing of wireless devices and wireless infrastructure prior to release onto the market;

4) Conduct post-market monitoring of RFR exposures from each antenna, and the aggregate antennas in a neighborhood, to assure compliance with exposure guidelines;

5) Conduct short- and long-term post-market health monitoring of individuals living in dense wireless environments;

6) Conduct short- and long-term post-market health monitoring of natural environments exposed to RFR;

7) Study closely the potential cumulative impacts of satellite RFR emissions on critical planetary water cycles and living systems.

8) Educate the public, employers, and institutions responsible for the lives of others about health risks associated with RFR exposures, and how they can be minimized.

The American public must be assured that regulators' top priority is public health and safety. Much gratitude to the Department of Health and Human Services for welcoming feedback from scientists, physicians and the public on this critically important public health matter.

Sincerely,

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Board advisor to NAEM (National Association of Environmental Medicine) – Wrote guidelines for physicians regarding diagnosis and treatment of Electromagnetic Field Radiation sensitivity (EMR syndrome)