Michael T. Jennings
Mount Pleasant, Pennsylvania
Individual Public Comment

RE: HHS-OASH-2026-0397 — Request for Information on Electromagnetic Fields (EMFs), Radiofrequency (RF) Radiation, and Wireless Radiation Exposure

I submit this comment as the father and caregiver of an adult son with significant neurological disabilities, including epilepsy. I am sharing our family's experience because what we have observed has not involved one isolated incident or one type of radiofrequency microwave radiation (RF-MR). Over a period of years, we have observed serious neurological events occurring in connection with several different environments involving RF-MR exposures.

I recognize that personal observations do not by themselves establish scientific causation. That is precisely why I believe experiences such as my son's should be investigated rather than dismissed. Our family has observed enough repeated patterns that we believe they raise important questions for vulnerable individuals, cumulative exposure, wireless infrastructure, communication-enabled smart meters, and whether existing exposure standards adequately protect people with neurological and other preexisting medical conditions.

I. Question 2 — Perspective

I am a father, family member, caregiver, and consumer. My comments are based primarily upon our family's direct observations and records accumulated over several years.

II. Question 3 — Experiences With Potential Adverse Health Effects

A. 2017 — Wireless Utility Smart Meter and Status Epilepticus

Our first and most serious experience occurred in March 2017. While our family was away from home, our electric utility deployed a wireless communication enabled "smart" meter at our former residence. When we returned, our son immediately resisted entering the house and stayed in the car until dinner time. His reaction was so strong that we had to physically get him inside.

Three days later, he experienced an extraordinary seizure crisis. He had 115 seizures on the first day and another 109 seizures in the hospital the following day. His existing epilepsy escalated to status epilepticus, a life-threatening medical emergency, shortly after we returned to the home where the wireless “smart” meter had been deployed. The timing of this medical crisis raised serious concerns for our family about the possible relationship between the newly deployed meter and the exacerbation of his epilepsy.

This event eventually led our family to seek a non-transmitting analog meter and to reduce wireless exposure in our current home. The precise smart meter deployment date became an important issue in our subsequent proceeding before the Pennsylvania Public Utility Commission. We repeatedly sought that information from the utility during discovery but did not

obtain the deployment date – without our consent and in Pennsylvania, these “smart” meters are mandated!

Our son's experience is one reason I strongly urge HHS to study communication-enabled smart meters separately rather than treating them simply as another consumer wireless device. A person can generally decide whether to own or use a cell phone, Wi-Fi router, wearable device, or other consumer product. A utility meter is different. It may be placed at a person's home as part of receiving essential electric service, including when a resident believes the exposure is medically harmful.

B. 2019–2021 — Repeated Experiences at a Hospital with Rooftop/Property Antennas

We later observed another troubling pattern during visits to a local hospital. On December 9, 2019, while our son was in a doctor's examination room, he experienced a full drop seizure. He fell backward to the floor, lost consciousness, and struck his head.

Beginning December 17, 2019, he attended physical therapy at the same hospital. His first session went extremely well and he made substantial progress. With subsequent visits, however, we observed increasing regression. Eventually he could barely walk, and we cancelled his final two scheduled therapy sessions. His physical therapist witnessed the regression and told us she had never seen anything like it. Our son continued to regress after these visits and ultimately experienced another episode of status epilepticus requiring hospitalization in 2020 and he was in a wheelchair for approximately three months afterward.

Afterward, we investigated the wireless infrastructure at and around the hospital and found records indicating multiple antennas on the hospital roof and/or property. The physical-therapy location was in very close proximity to some of this equipment.

On September 7, 2021, during another visit to an examination room at this same hospital, we observed his arm suddenly jerk upward involuntarily, another neurological event. I cannot establish from these observations alone that RF-MR exposure from those antennas caused these events. But the repeated experiences at the same location, particularly in an individual with epilepsy and significant neurological disabilities, deserve scientific investigation.

They also illustrate why HHS's question on wireless infrastructure near **healthcare facilities** is important. People should not have to wonder whether an environment in which they are receiving medical treatment could contain an exposure relevant to their medical condition.

C. Additional Repeated Experiences

The harm did not arise solely from the smart meter or hospital. During a family trip through mountainous areas of West Virginia and Virginia in 2023, we observed repeated neurological activity when traveling through areas containing clusters of cell towers. We refer to some of these brief events as "zingers" — sudden jerking or involuntary movements that we recognize as seizure activity without progression into a full seizure.

We have also deliberately reduced RF-MR technology inside our home. We generally use wired connections and normally keep Wi-Fi, Bluetooth, and personal hotspots turned off. On October 1, 2024, our son experienced a seizure at bedtime. When I went to turn off his computer, I discovered that Wi-Fi, Bluetooth, and his personal hotspot had all been turned on.

D. There have also been two strikingly similar incidents while traveling to his summer autism camp:

1 - On June 12, 2025, while approaching a large cell tower, our son experienced a major seizure in the car and remained impaired for much of the day.

2 - On June 11, 2026, while traveling to the same camp and in approximately the same area, we had just passed a cell tower when he began experiencing another seizure. It lasted approximately 20–30 seconds before stopping.

I recognize that proximity and timing alone do not prove causation, however, repeated events involving the same individual under different circumstances should be capable of generating research questions rather than being automatically disregarded because each event, standing alone, cannot establish causation.

E. 2025 Observational Testing

In August 2025, our son also participated in observational work conducted by Dr. Rob Brown involving brief cell phone RF-MR exposure and diagnostic ultrasound imaging of blood. Following approximately five minutes of cell phone exposure, Dr. Brown reported observing red blood cell aggregation, or rouleaux formation, in our son. (See Attachment #1 – Letter from Dr. Rob Brown.)

I include it this information because HHS has specifically requested observations and information that could help identify areas requiring controlled research.

III. Question 11 — Vulnerable Populations

HHS specifically asks whether exposure assessment or risk evaluation should differ for children, individuals with preexisting medical conditions, and other populations that may uniquely experience potential adverse effects. Our experience strongly supports studying these populations separately.

A standard designed around an average healthy person may fail to identify effects occurring in a smaller neurologically vulnerable population. Individuals with epilepsy and other neurological conditions should specifically be included in future RF-MR research rather than disappearing statistically within a general population. (See Attachment #2 - Neurological Research.)

Research should examine whether neurological conditions can alter susceptibility to RF-MR exposure and whether particular frequencies, modulation characteristics, pulsing, duration,

proximity, or combinations of exposures are associated with neurological responses in susceptible individuals.

IV. Question 13 — Cumulative Exposure and Communication-Enabled Smart Meters

HHS specifically identifies Wi-Fi, wearable technologies, smart homes, wireless medical devices, and communication-enabled smart meters when asking about cumulative exposure. **This is critically important.**

Real people are rarely exposed to one RF-MR source in isolation. A person may simultaneously encounter a smart meter, nearby cellular infrastructure, computer networks, phones, Bluetooth devices, wearables, neighboring wireless devices, and other sources. Our family's experience of harm includes cumulative and simultaneous exposure.

In addition to wireless RF transmissions, I ask HHS to consider whether conducted electromagnetic emissions traveling through residential electrical wiring may contribute to the overall exposure environment associated with electronic utility meters and other equipment.

Research should therefore evaluate real world exposure environments rather than examining devices only individually. It should consider duration, distance, modulation, pulsing, simultaneous frequencies, cumulative exposure over time, and individual susceptibility.

V. Question 15 — RF-MR Infrastructure, Healthcare Facilities, Cumulative Neighborhood Exposure, and Antenna Density

Our son's hospital experiences make this question particularly important to our family. HHS should investigate RF-MR infrastructure near homes, schools, childcare facilities, healthcare facilities, and facilities serving people with neurological or developmental disabilities. **The density of infrastructure should also be considered.**

Our own tracking indicates that RF-MR infrastructure within approximately three miles of our home has increased substantially over the years. Regardless of whether any individual source complies with an applicable exposure limit, HHS should investigate what increasing numbers of sources mean for cumulative real-world exposure. **Regulation should not assume that evaluating each transmitter independently necessarily answers the biological question presented by simultaneous exposure to numerous sources.**

We have never consented to any of this exposure.

VI. Question 16 — Highest-Priority Research Gaps

Based upon our family's experience, I urge federal health agencies to prioritize research addressing:

1. Neurologically vulnerable populations, including individuals with epilepsy and developmental disabilities.
2. Communication-enabled smart meters and chronic residential exposure.
3. Conducted electromagnetic emissions, sometimes referred to as “dirty electricity,” associated with electronic utility meters and other electrical equipment, including their frequencies, waveforms, and potential biological effects. Research should distinguish these conducted emissions from wireless RF transmissions and evaluate whether they present additional exposure concerns for neurologically vulnerable individuals.
4. RF-MR infrastructure located near homes, schools, healthcare facilities, and facilities serving vulnerable individuals.
5. Cumulative exposure from multiple RF-MR sources rather than device-by-device exposure alone.
6. Potential neurological effects associated with modulation, pulsing, frequency, duration, proximity, and repeated exposure.
7. Potential biological effects occurring at exposure levels below existing federal limits.
8. Whether reducing RF-MR exposure changes symptoms or neurological events in susceptible individuals.
9. Development of objective methods for investigating people who report reproducible or recurring symptoms associated with particular RF-MR environments.
10. Longitudinal studies following individuals who report sensitivity or adverse effects rather than relying exclusively upon population averages.
11. Independent research with transparent methodology, disclosure of conflicts of interest, and data available for independent evaluation.

VII. Question 18 — Additional Recommendations

Our family's experience has taught me how difficult it can be for a person reporting possible RF-MR-related harm to obtain meaningful investigation. When existing exposure limits are treated as proof that an adverse response cannot occur, the very people who could help researchers identify vulnerable subgroups may be excluded from meaningful study. **HHS has an opportunity to change that.**

I urge HHS to establish a meaningful adverse event reporting or surveillance mechanism through which individuals, families, caregivers, and healthcare providers can report suspected RF-MR-related health events. Reports could be evaluated for recurring patterns involving particular technologies, environments, medical conditions, exposure characteristics, or symptom clusters.

Federal research should also distinguish between **voluntary and involuntary exposure**. A person can choose not to carry a cell phone or use Wi-Fi in the home. It may be much harder to avoid a utility smart meter attached to one's residence, antennas near a home or healthcare facility, or increasingly dense wireless infrastructure in the surrounding community.

Finally, medically vulnerable individuals should have practical ways to reduce unnecessary exposure while scientific evidence has been readily available for years. In the utility context, that should include access to non-transmitting metering alternatives when requested for medical or disability related reasons.

Our family is not asking HHS to accept our observations as proof of causation. We are asking the federal government to take repeated experiences such as our son's seriously enough to investigate them rigorously. One event may be dismissed as coincidence. Repeated events involving different sources and environments raise questions that deserve answers. For families like ours, those answers matter.

Declaration Under Penalty of Perjury

I, Michael T. Jennings, declare under penalty of perjury that the foregoing statements concerning my family's experiences, my personal observations, and the events described herein are true and correct to the best of my personal knowledge. Where I have expressed concerns, beliefs, or recommendations regarding electromagnetic and radiofrequency exposure, I have identified them as such and submit them in good faith for consideration and scientific investigation by the U.S. Department of Health and Human Services.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on: 10-13-2026

Signature: Michael T Jennings

Michael T. Jennings
Father and Caregiver

Attachment #1 - Letter From Dr. Rob Brown

August 13, 2025

Dear Healthcare provider:

My name is Rob Brown. I am a diagnostic radiologist who has been practicing in the Pittsburgh area for 30+ years. My career has taken an unusual turn as I have become increasingly concerned about the increasing prevalence of wireless technology. Although wireless communication allows instantaneous access to information and communication, the technology has brought incessant exposure of non-ionizing radiation to the population. Industry representatives, engineers, policy makers and some physicists, have asserted that this form of radiation is harmless aside from its potential to heat tissue, but their premise is incorrect. Research has repeatedly shown that non-ionizing radiation penetrates the body and causes detrimental non-thermal health effects. I have studied the research and performed my own with funding by the Environmental Health Trust. My goal is to demonstrate a "cause and effect" and provide proof that physiological effects are occurring from wireless radiation exposure.

By using diagnostic ultrasound, I have shown that cellphone radiation can depolarize red blood cell membranes and cause them to lose their repelling forces and stick to one another, like a stack of coins, called "rouleaux". Red blood cell aggregation is a transient phenomenon that dissipates over time. We do not know how long it takes to completely resolve, but we have observed the effect to last at least an hour in our subjects. We have documented that repeat exposures cause repeated rouleaux. Red blood cell aggregation has traditionally been associated with several disease states, such as those that cause increased plasma proteins. Morbidity from this effect has been linked to everything from an increased risk to blood clots, strokes, microinfarcts, to impacts on metabolism, possibly from impaired gas exchange.

My exploratory research paper was published in Frontiers in Cardiovascular medicine: https://pubmed.ncbi.nlm.nih.gov/40007868. Since then, I studied 45 subjects. During our most recent scanning session at Susan Jennings' house, we scanned her son McKenzie Scott before and after I exposed his leg to a cellphone for 5 minutes. McKenzie was one of many who went from a normal state into rouleaux following cellphone exposure. Once rare, rouleaux has become much more common than I had initially hypothesized. This may prove to be a useful biomarker for those suffering from EMR-Syndrome. An upcoming paper describing the results from our 45 subjects will be submitted for publication in the next month.

I appreciate your genuine interest in your patient's health and believe that this study is providing the beginnings of a better understanding of how EMFs are affecting the population's health. If you have any questions or concerns, please reach out to me. I believe it is imperative to educate the medical community about how we are all being affected by this technology.

Best regards,

Rob Brown, MD, FACR
rbrown@ehtrust.org

Attachment #2 – Neurological Research

Neurological/Cognitive Effects

1. **Early-Life Exposure to Pulsed LTE Radiofrequency Fields Causes Persistent Changes in Activity and Behavior in C57BL/6 J Mice**. Broom, K., et al. BioElectro Magnetics 40(7):498-511 (2019). https://onlinelibrary.wiley.com/doi/full/10.1002/bem.22217

2. **Are Rises in Electro-Magnetic Field in The Human Environment, Interacting with Multiple Environmental Pollutions, The Tripping Point for Increases in Neurological Deaths in the Western World?** Pritchard, C., Silk, A. and Hansen, L. Medical Hypotheses 127: 76-83 (2019). https://www.sciencedirect.com/science/article/pii/S0306987719300040

3. **Effect of 1800-2100 MHz Electromagnetic Radiation on Learning-Memory and Hippocampal Morphology in Swiss Albino Mice.** Kishore, G., Venkatashu, K., and Sridevi, N. Jorunal of Clincal and Diagnostic Research 12(2): 14-17 (2019). https://www.researchgate.net/publication/330729256_Effect_of_1800-2100_MHz_Electromagnetic_Radiation_on_Learning-Memory_and_Hippocampal_Morphology_in_Swiss_Albino_Mice

4. **Monitoring of BALB/C Strain Mice Health, Investigation of Behavior, Hematological Parameters Under the Effect of an Electromagnetic Field**. Zymantiene, J., et al. Medycyna Weterynarjna 75(03): 158-163 (2019). https://www.researchgate.net/publication/330652562_Monitoring_of_BALBC_strain_mice_health_investigation_of_behavior_hematological_parameters_under_the_effect_of_an_electromagnetic_field

5. **2.45 GHz Microwave Radiation Impairs Learning, Memory, and Hippocampal Synaptic Plasticity in The Rat.** Karimi, N., et al. Toxicology and Industrial Health 34(12): 873-883 (2018). https://pubmed.ncbi.nlm.nih.gov/30345889/

6. **Mobile Phone Distance From Head and Temperature Changes of Radio Frequency Waves on Brain Tissue.** Forouharmajd, F., Ebrahimi, H. and Pourabdian, S. International Journal of Preventative Medicine (2018). https://pubmed.ncbi.nlm.nih.gov/30123435/

Attachment #2 – Neurological Research

7. **A Prospective Cohort Study of Adolescents' Memory Performance and Individual Brain Dose of Microwave Radiation from Wireless Communication.** Foerster, M., et al. Environmental Health Perspectives 126(7) (2018). https://pmc.ncbi.nlm.nih.gov/articles/PMC6108834/

8. **Electromagnetic Radiation 2450 MHz Exposure Causes Cognition Deficit with Mitochondrial Dysfunction and Activation of Intrinsic Pathway of Apoptosis in Rats. Gupta,** S.K., Mesharam, M.K., and Krishnamurthy, S. Journal of Biosciences 43(2) 263-276 (2018). https://pubmed.ncbi.nlm.nih.gov/29872015/

9. **The Effect of Wi-Fi Electromagnetic Waves in Unimodal and Multimodal Object Recognition Tasks in Male Rats**. Hassanshahi, A., et al. Neurological Sciences 38(6):1069-1076 (2017). https://pubmed.ncbi.nlm.nih.gov/28332042/

10. **Effects of Short and Long Term Electromagnetic Fields Exposure on the Human Hippocampus.** Deniz, O.G., et al. Journal of Microscopy and Ultrastructure 5(4):191-197 (2017). https://www.sciencedirect.com/science/article/pii/S2213879X17300524

11. **Effects of Long Term Exposure of 900-1800 MHz Radiation Emitted from 2G Mobile Phone on Mice Hippocampus – A Histomorphometric Study.** Mugunthan, Shanmugasamy, et al. Journal of Clinical and Diagnostic Research 10(8):AF01-6 (2016). https://pubmed.ncbi.nlm.nih.gov/27656427/

12. **Effect of Mobile Phone Radiation on Pentylenetetrazole-Induced Seizure Threshold in Mice.** Kouchaki, Motaghedifard, et al. Iranian Journal of Basic Medical Sciences 19(7):800-3 (2016). https://pubmed.ncbi.nlm.nih.gov/27635206/

Attachment #2 – Neurological Research

13. **Effects of 3 Hz and 60Hz Extremely Low Frequency Electromagnetic Fields on Anxiety-Like Behaviors, Memory Retention of Passive Avoidance and ElectroPhysiological Properties of Male Rats.** Rostami, Shahani, et al. J Lasers Medical Science 7(2):120-125 (2016). https://pubmed.ncbi.nlm.nih.gov/27330708/
14. **Short-Term Memory in Mice is Affected by Mobile Phone Radiation.** Ntzouni, Stamatakis, et al. PathoPhysiology 18(3):193-199 (2011). https://pubmed.ncbi.nlm.nih.gov/21112192/

15. **Use of Mobile Phones and Changes in Cognitive Function in Adolescents.** Thomas, Benke, et al. Occupational Environmental Medicine 67(12):861-866 (2010). https://pubmed.ncbi.nlm.nih.gov/20798018/

16. **Increased Blood-Brain Barrier Permeability in Mammalian Brain 7 Days After Exposure to the Radiation from a GSM-900 Mobile Phone.** Nittby, Brun, et al. PathoPhysiology 16(2-3):103-112 (2009). https://pubmed.ncbi.nlm.nih.gov/19345073/

17. **Effects of GSM 1800 MHz on Dendritic Development of Cultured Hippocampal Neurons.** Ning, Xu, et al. Acta Pharmacol Sin28(12):1873-1880 (2007). https://pubmed.ncbi.nlm.nih.gov/18031599/

18. **Neurological Effects of Radiofrequency Electromagnetic Radiation.** Lai, Henry. Advances in Electromagnetic Fields in Living Systems1:27-80 (1994). https://link.springer.com/chapter/10.1007/978-1-4615-2542-4_2#page-1

19. **Vecchio et al. (2012)** — Mobile phone emission increases inter-hemispheric functional coupling of EEG alpha rhythms in epileptic patients https://pubmed.ncbi.nlm.nih.gov/22326594/

20. **Curcio et al. (2015)** — Electromagnetic fields and EEG spiking rate in patients with focal epilepsy https://pubmed.ncbi.nlm.nih.gov/25163416/

Attachment #2 – Neurological Research

21. **López-Martín et al. (2006)** — GSM radiation triggers seizures and increases cerebral c-Fos positivity in rats pretreated with subconvulsive doses of picrotoxin https://pubmed.ncbi.nlm.nih.gov/16448750/

22. **Cinar, Sahin & Erdinc (2013)** — What is the impact of electromagnetic waves on epileptic seizures? https://pubmed.ncbi.nlm.nih.gov/23676765/

23. **Maby et al. (2004)** — Analysis of auditory evoked potential parameters in the presence of radiofrequency fields using a support vector machines method https://pubmed.ncbi.nlm.nih.gov/15320468/

24. **Pedersen et al. (2017)** — Occupational exposure to extremely low-frequency magnetic fields and risk for central nervous system disease: an update of a Danish cohort study among utility workers https://pubmed.ncbi.nlm.nih.gov/28429106/

25. **Fadakar et al. (2013)** — Effects of extremely low frequency electromagnetic field exposure on seizure induction threshold in mice. https://link.springer.com/article/10.1007/s13760-012-0133-y

26. **Mahmoudi et al. (2018)** — Effect of Microwave Wi-Fi Radiation at Frequency of 2.4 GHz on Epileptic Behavior of Rats https://pubmed.ncbi.nlm.nih.gov/29951445/

27. **Akkaya et al. (2019)** — Wi-Fi decreases melatonin protective effect and increases hippocampal neuronal damage in pentylenetetrazole induced model seizures in rats https://pubmed.ncbi.nlm.nih.gov/31785933/