

5G and its small cell towers threaten public health: Harvard PhD Scientist - Environmental Health Trust

5G and its small cell towers threaten public health. Implications for HB654/SB937 and HB1020/SP713 before the Maryland General Assembly.

I present these comments as a retired U.S. Government career scientist (Ph.D. in Applied Physics, Harvard University).

- Why is control of 5G secondary to stopping its deployment?
- Why are both HB654/SB937 and HB1020/SP713 fatally flawed?
- What makes Maryland a leader in MANDATING exposure to harmful radiofrequency radiation?
- What is Maryland's implicit policy on exposure to radiofrequency radiation?
- Why is human health so vulnerable to harm from radiofrequency radiation?
- What is the evidence of the harm caused by radiofrequency radiation?
- What are the advantages and disadvantages of 5G?
- What should our telecommunications goals be?
- Who am I?

Why is control of 5G secondary to stopping its deployment?

Control by local government of the deployment of 5G's small cell towers is, indeed, an important goal, because local governments are closer to the people and can better reflect their wishes. That makes HB1020/SP713 the better approach, as intended by its authors, compared to HB654/SB937 which forfeits local control entirely.

But there is an even more important goal: STOPPING the deployment of 5G altogether. The reason, as shown throughout this message, is that there is NO SAFE WAY to implement 5G in our communities; rather, there are only "bad ways" and "worse ways". So local control means that local governments can have a say in the choice among the "bad ways".

Why are both HB654/SB937 and HB1020/SP713 fatally flawed?

Both bills reaffirm the worst aspect of Federal policy: a prohibition against stopping all deployment. For example, HB1020/SP713 makes statements like these:

S-703 (C) (1): "THE APPLICABLE LOCAL LAW AND REGULATION PROVIDED IN SUBSECTION (A) OF THIS SECTION:

(1) MAY NOT GENERALLY PROHIBIT THE INSTALLATION OF ALL WIRELESS FACILITIES OR POLES IN THE PUBLIC RIGHT-OF-WAY OR ON PRIVATE PROPERTY; AND"

S-704 (C): "THE DESIGN AND AESTHETIC REQUIREMENTS OR STANDARDS OF AN AUTHORITY MAY NOT HAVE THE EFFECT OF PROHIBITING ANY WIRELESS PROVIDER'S WIRELESS SERVICE."

Statements like these write into Maryland law the principal provision of Federal policy that so many efforts are now trying to overturn. For this reason, in my view, neither HB654/SB937 nor HB1020/SP713 should be made law.

What makes Maryland a leader in MANDATING exposure to harmful radiofrequency radiation?

Wireless Smart Meters for the measurement of electricity have already been forced on virtually every home and business in Maryland. These meters bring the source of radiation up close and personal to the residents, even to the walls against which children sleep. They transmit pulses of radiofrequency throughout the day and the night, every day of the year. To escape the radiation from your own meter, you must pay the electric power company a monthly Opt-Out fee, forever, for a non-radiating meter. At last report, about 44,000 Maryland homeowners have made this choice. But there is NO way to escape the radiation from your neighbors' wireless meters.

Wireless Smart Meters for the measurement of natural gas and water are either already implemented in parts of the State,

or are contemplated (WSSC), and will worsen the problem already created by the Wireless Smart Meters for electricity.

WiFi is implemented widely in Maryland's schools and bathes the children and teachers in radiofrequency radiation every school day for all their school years. Parents who don't want their children exposed to such radiation MUST forfeit a public school education for their children. All this has occurred even though the Maryland Children's Environmental Health and Protection Advisory Council, which reports to the Governor, recommended phasing WiFi out of the schools in favor of much safer wired technology. (Wifi Radiation in Schools in Maryland, Final Report, December 13, 2016, page 8, https://phpa.health.maryland.gov/OEHFP/EH/Shared%20Documents/CEHPAC/MD_CEHPAC_SchoolWiFi_022017_final.pdf)

The addition of the radiation from 5G's small cell towers, located up close and personal to Maryland residents, and operating 24 hours per day throughout the year, will complete this assault on the health of the public.

What is Maryland's implicit policy on radiofrequency radiation?

The State's implicit policy appears to be this:

"No resident of Maryland shall be permitted to escape 24-hour exposure to radiofrequency radiation, at ever higher levels, even though such radiation has already been shown to be harmful to human health."

"All biomedical research from any source, including the National Institutes of Health, the World Health Organization, and the international biomedical research community more broadly, that shows that exposure to radiofrequency radiation is harmful to human health, will be categorically denied."

Why is human health so vulnerable to harm from radiofrequency radiation?

In the simplest terms, human beings are bioelectrical in nature. That is why electrocardiograms work when they monitor a beating heart. And that is why electroencephalograms work when they monitor the activities in the brain. Humans evolved in levels of radiofrequency radiation far below those produced by human technology today. We humans are simply not designed to tolerate today's high levels of radiofrequency radiation.

When the radiofrequency radiation from cell towers, including 5G's small cell towers, and other wireless sources, hits the body, that radiation disrupts the bioelectrical workings of the body. This disruption occurs at levels of radiation far below those set as the FCC's Maximum Permitted Exposure limits. In response, the body must fight back constantly to regain control. This battle can lead to a wide range of symptoms. Here is just a partial list: sleep disruption, headaches, irritability, ringing in the ears, fatigue, loss of concentration and memory, nerve pain, dizziness, eye problems, nausea, heart palpitations, depression, and cancer.

No one is immune to harm, but vulnerability varies widely with the individual. That vulnerability does appear to be greatest for pregnant mothers, young children, teenagers, men of reproductive age, seniors, the disabled, and those with chronic health conditions. A host of major medical conditions are now under study by the international biomedical research community to determine what role exposure to radiofrequency radiation may play in causing, or aggravating, them. Examples include autism, attention deficit hyperactivity disorder (ADHD), autoimmune diseases, and Alzheimer's disease, among so many others.

The effects of radiofrequency radiation appear to be cumulative; so the longer that exposure continues, the greater the chance that an individual will be overtly affected. Some individuals will develop a devastating condition called Electromagnetic Hypersensitivity Syndrome, with a host of symptoms, including extreme pain from exposure to even very low levels of radiofrequency radiation. Just to survive, such individuals must often leave their homes and jobs, where exposure levels were too high, and move to rare locations away from radiation sources. Such individuals regularly contact scientists (including me), doctors, and other aware individuals for advice on what to do.

What is the evidence of the harm caused by radiofrequency radiation?

There are thousands of archival biomedical research papers, published in peer-reviewed journals, that have shown that

radiofrequency radiation is harmful to the body in one way or another. These have been collected and reviewed in a number of summary documents. Here are just two examples: (1) BioInitiative 2012, draws on about 1800 publications (<https://bioinitiative.org/>); (2) EUROPAEM EMF Guideline 2016 for the Prevention, Diagnosis and Treatment of EMF-Related Health Problems and Illnesses, draws on 308 references (<https://www.ncbi.nlm.nih.gov/pubmed/27454111>). (“EMF” stands for electromagnetic fields, a term inclusive of radiofrequency radiation.)

In 2011, the International Agency for Research on Cancer of the World Health Organization classified radiofrequency radiation as a Group 2B Human Carcinogen (“possibly carcinogenic”), naming explicitly “wireless phone” radiation (cellular radiation), based on the increased risk for glioma. Glioma is a malignant type of brain cancer that is usually fatal. It most recently took the life of Senator John McCain and Beau Biden, the son of Vice President Joe Biden. (https://www.iarc.fr/wp-content/uploads/2018/07/pr208_E.pdf)

In 2018, a massive study by the National Toxicology Program at the National Institutes of Health linked cellular radiofrequency radiation (RFR) to cancer of the nerves of the heart (schwannomas), to cancer of the brain (glioma), and to multiple other health effects in test animals. (<https://ntp.niehs.nih.gov/results/areas/cellphones/index.html>)

In 2015 and continuing, 247 scientists from 42 nations signed an appeal to the United Nations, described below. These scientists have “published peer-reviewed papers on the biological or health effects of non-ionizing electromagnetic fields” (which are inclusive of radiofrequency radiation).

“Address the global public health concerns related to exposure to cell phones, power lines, electrical appliances, wireless devices, wireless utility meters and wireless infrastructure in residential homes, schools, communities and businesses.” (<https://www.emfscientist.org/>)

For more information on the health effects of radiofrequency radiation, please see the website of the Environmental Health Trust, especially the Science tab. (<https://www.emfscientist.org/>)

What are the advantages and disadvantages of 5G?

5G has some true advantages. 5G is expected to employ higher radiofrequencies than those currently in use in cellular systems in the United States. Those higher frequencies will permit more rapid rates of data transfer compared to current WIRELESS technology. And, as a wireless technology, 5G will support mobility.

But wired technology, especially fiber-optic technology, is superior to 5G in so many other ways. Fiber-optic technology produces NO radiofrequency radiation, so it poses NO health hazard. Fiber-optic technology is safer, faster, more reliable, more cyber secure, and more private than any wireless technology, including 5G. (See <https://whatis5g.info/> for a detailed description of the limitations of 5G.)

So users of wireless technology, including 5G, will have to decide if mobility ALONE is more important for their particular application than any other factor, including their own health and the health of their families and colleagues.

When listening to the hype about 5G, consider the following:

Is the hype coming more from potential providers of 5G, who hope to profit from 5G, or from potential users, who will have to pay for 5G?

Is the RUSH to implement 5G more about staking out claims to small cell sites in right-of-ways than about providing services that customers really need?

Is the RUSH to implement 5G driven by the growing awareness of the public and its representatives that radiofrequency radiation is harmful to health, and thus the providers feel that they must act quickly before resistance builds further?

What scientific studies, from impartial sources, can the providers of 5G identify that prove that 5G has NO adverse health effects on humans? The burden of proof is on the providers.

When questioned by U.S. Senator Richard Blumenthal in a hearing before the Senate Commerce, Science, and Transportation Committee (February, 7, 2019), the representatives of industry could name no existing studies and none in progress. (Story: <https://www.blumenthal.senate.gov/newsroom/press/release/at-senate-commerce-hearing-blumenthal-raises-concerns-on-5g-wireless-technologys-potential-health-risks>;

Video: <https://www.youtube.com/watch?v=hsil3VQE5K4>)

What should our telecommunications goals be?

Let me suggest the following:

Promote the expansion of fiber-optic technology as widely as possible, instead of degrading our environment with more harmful radiofrequency radiation, this time from 5G.

Require that the safety of 5G be proven by impartial studies before 5G can be installed in Maryland, instead of facilitating the use of Maryland residents to be the guinea pigs to test that safety.

Join forces with other state governments, and with local governments, to fight back against Federal laws and regulations that force any potentially harmful technology on the states without adequate PRIOR proof of safety. Any technology with the potential to harm, and even take, life should not be mandated by the U.S. Government or encouraged by the states.

It will be difficult to stop 5G, but it will be easier to stop it NOW than to get it removed later after huge numbers of Maryland residents have become ill.

Who am I?

I am a retired U.S. Government career scientist (Ph.D. in Applied Physics from Harvard University). During my Government career, I worked for the Executive Office of the President, the National Science Foundation, and the National Institute of Standards and Technology. I currently interact with other scientists, with doctors, and with aware individuals worldwide about the impact of radiofrequency radiation on human health.

Respectfully,

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