



7 December 2018

Ministers and Members of Parliament of the Brussels Capital Region,

Dear Sirs and Madams,

As a public health physician and former Director of the New York State Department of Health laboratories, I am concerned over the actions being taken around the work with regard to the roll-out of 5G wireless communication devices. I have been involved in issues related to electromagnetic fields (EMFs) for a number of years, as I directed the New York State Powerlines Project in the 1980s, and then became the spokesperson on issues related to EMFs for New York. This Project confirmed elevations in rates of childhood leukemia in individuals with excessive exposure to EMFs. I later moved to the University at Albany, where I currently head a research Institute that has been designated a Collaborating Centre of the World Health Organization.

I have written extensively on the subject of human health effects associated with both extra-low frequency and radiofrequency (RFR) electromagnetic fields. There is already strong evidence that the existing 3G and 4G wireless facilities are associated with increased risks of human disease. The 5G facilities, operating at a much higher frequency, have not yet been systematically researched with regard to their effects on human health. However because they are of higher frequency, and especially because the generators (basically mini cell towers) are to be placed very near to every building that will be served, there is every reason to expect that they will be more harmful than existing technology. With 5G technology being exceptionally rushed in its rollout, it is imperative that the Ministers and Members of Parliament in the Brussel Capital Region be fully aware of the harm that RFR can cause and stop to consider the consequences. At a minimum, 5G facilities should be prohibited from:

1. Schools
2. Daycares
3. Recreation facilities
4. All types of housing and neighborhoods

The wireless industry claims to be trying to better serve the needs of business, and 5G should only be sited to serve businesses willing to accept it. Businesses which choose to opt-out of 5G facilities must be able to do so without penalty. 5G facilities should not be placed in residential neighborhoods.

The Scientific Literature

The majority of the scientific literature related to RFR stems from mobile phone studies. There is strong evidence that people who use a mobile phone held directly to their ear for more than ten years are at significantly increased risk of developing gliomas of the brain and acoustic neuromas of the auditory nerve. There is also evidence that the risk of developing these cancers is greater in younger than older people. The November 2018 report from the US National Toxicology Program showing that rats exposed to mobile phone radiation for nine hours per day over their life-span develop gliomas of the brain and Schwannoma of the heart (the same kind of cancer as acoustic neuroma) adds proof to the conclusions from the human health studies that radiofrequency radiation increases risk of cancer. Similar results were found in an earlier 2018 study from the Ramazzini Institute showing elevated rates of Schwannomas and gliomas in rodents exposed to even lower intensities similar to those associated with mobile phone masts.

There are other human diseases in addition to cancer that have been found to be associated with exposure to RFRs at the frequencies in current use. There is evidence for elevations in breast cancer in women who wear their mobile phones in their bra. There is a clear decrease in sperm counts in men who wear their mobile phone on their belt or in their pocket. While the strongest evidence for hazards coming from RFR is for cancer, there is a growing body of evidence that some people develop a condition called electro-hypersensitivity (EHS). These individuals respond to being in the presence of RFR with a variety of symptoms, including headache, fatigue, memory loss, ringing in the ears, "brain fog" and burning, tingling and itchy skin. Some reports indicate that up to three percent of the population may develop these symptoms, and that exposure to RFR is a trigger for development of EHS.

We are all exposed to RFR every day from a variety of sources, included mobile phones, mobile phone masts or towers, WiFi, "smart meters", and other forms of wireless communication. I certainly am not advocating for abandoning all of these forms of wireless communication, as they have clear benefits to society. However I am concerned that with evidence of harm among individuals with excessive exposure to current technology we should be very cautious in expanding to new frequencies that are likely to be more dangerous.

5G frequencies are known as millimeter wave frequencies and occupy a higher frequency band of the electromagnetic spectrum than that currently used for mobile phones. Within the electromagnetic spectrum the energy in the wave increases with frequency, and therefore 5G frequencies have much more energy than existing RFR does. However these millimeter waves do not travel as far as the existing 3G and 4G networks that drive our mobile phone masts. For that reason use of 5G networks will require placement of a generating device, essentially a mobile phone mast, at every two to ten houses. As a result anyone living near to one of these generators will be continuously exposed to very high frequency EMFs.

In short:

- 5G facilities operate at frequencies with greater energy than existing masts and mobile phones. There have not been studies evaluating the health effects to humans of these frequencies, as the technology is too new, but there is every reason to suspect that they will pose greater threats to human health than current technology. Current mobile phone frequencies increase risks of brain and other cancers in both humans and animals, reduce sperm counts in men and trigger the syndrome of EHS. Mobile phone RFR is concentrated, affecting the head or the area where the phone is stored, whereas masts or towers and 5G RFR affects the entire body. I anticipate that at least the health effects listed above will be increased by 5G.
- Because the millimeter waves of 5G do not travel as far as those in current technology, implementation of 5G networks requires placement of the generator devices very close together, relative to current placement of mobile phone towers. This necessitates mounting the generators on poles located in public spaces in front of every two to ten houses. The result is that residents in these houses will be continuing exposed. These devices are already being placed in some states without information to or approval of residents. The fact that the 5G waves do not travel large distances also means that this technology cannot be implemented in rural areas. I understand that there is a strong need for high speed Internet access in rural areas. Legislators in rural areas need to understand that 5G facilities will not provide any access to rural areas because the millimeter RFRs do not travel large distances.
- An individual can choose whether or not to use a mobile phone and for what period of time. When 5G generators are placed near a home the occupants have no option but to be continuously exposed to RFR.
- I have been informed and am concerned that some members dismiss the adverse health impacts caused by RFR without serious investigation. I would urge members to investigate for themselves. One outstanding information source in the Bioinitiative Report (www.bioinitiative.org), a comprehensive document showing the results from the peer-reviewed literature.
- As a public health physician whose profession is finding ways of reducing the incidence of environmentally-induced human disease, I urge the Members of Parliament to understand the health impacts that can result from 5G radiation before taking final action.

- A particular concern is exposure to children, as children are more vulnerable than adults to any environmental exposure. It is particularly important that 5G devices not be placed anywhere near day care centers, schools and residences where children live and learn.

Citizens rely on their government agencies for protection from harm. Accordingly, I urge the Ministers and Parliament of the Brussels Capital Region to reject implementation of 5G.

Thank you for your attention and consideration. What you do in this instance affects the lives of many in Belgium and beyond.

Yours sincerely,



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