

20 September 2018

Members of the School Board  
Superintendent and Assistant Superintendents  
Half Hollow Hills School District  
Dix Hills, New York 11746

Dear Board Member and Administrative Staff:

This is concerning potential adverse health effects associated with exposure to radiofrequency (RF) radiation, specifically that from wireless routers. I am a Harvard-trained public health physician and former Dean of the School of Public Health at the University at Albany who has been involved in issues related to electromagnetic fields (EMFs) for a number of years. I served as the Executive Secretary for the New York Powerline Project in the 1980s, a program of research which showed that children living in homes with elevated magnetic fields coming from powerlines suffer from an elevated risk of developing leukemia. I have edited two books on effects of EMFs, including RF radiation. I served as the co-editor of the Bioinitiative Report ([www.bioinitiative.org](http://www.bioinitiative.org)), a comprehensive review of the literature on this subject. I testified before the US President's Cancer Panel on this subject in 2009. This is a subject which I know well, and one on which I take a public health approach that has as a fundamental principle the need to protect against risk of disease even when one does not have all the information that would be desirable.

There is clear and strong evidence that intensive use of cell phones increases the risk of brain cancer, tumors of the auditory nerve and cancer of the parotid gland, the salivary gland in the cheek by the ear. The evidence for this conclusion is detailed in many publications in the peer-reviewed scientific literature. WiFi uses similar radiofrequency radiation (1.8 to 5.0 GHz), although the intensity of exposure in the immediate environment is lower than what one gets from holding a cell phone close to your head. There is also strong evidence that leukemia rates are increased among people living near to powerful AM radio transmission towers. Because WiFi, radio transmission towers and smart meters all generate similar RF radiation, if the whole body is exposed, leukemia is the major cancer of concern, while if only the head is exposed as in using a cell phone, one sees increased risk of local cancers, such as brain cancer. Radiofrequency electromagnetic fields have been rated by the World Health Organization as a possible human carcinogen. Last year the US National Toxicology Program showed definitively that radiofrequency radiation like those from WiFi and cell phones causes cancer in laboratory animals.

The difference between a cell phone and a WiFi environment is that while the cell phone is used only intermittently a WiFi environment is continuous. In addition WiFi transmitters are indoors, where people may be very close to them. Elevation in rates of brain cancer among individuals exposed to high intensities of RF have been found among people of all ages, but the latency for development of brain cancer appears to be shorter than that observed in older people. Thus children, teachers and staff in a school with extensive use of WiFi are at elevated risk of developing several kinds of cancer.

Of particular concern is the clear evidence that children are more vulnerable than adults to any environmental exposure. This is because their bodies are growing and developing. Cancers do not appear immediately upon exposure but leukemia and brain cancer are the most common types of childhood cancer. Some of the cancers from RF exposure in school will likely occur after a student has graduated, but have been caused by exposure in school. In addition there is increasing evidence that excessive RF exposure reduces attention span and learning ability, which is the last thing one wants in a school. Some children will develop a syndrome of electro-hypersensitivity, where they get headaches, excessive fatigue, ringing in the ears and gastro-intestinal effects as well as reduced cognitive function. While these effects are not nearly as well documented as those relating to cancer, they are particularly important within a school. There are a number of recent cases of legal action against schools on behalf of children who have developed this syndrome. These health concerns are especially important in the case of wireless computer classrooms, where exposure can be very high because multiple students will be using radiofrequency laptops or tablets. However there will be essentially no exposure in a wired computer classroom.

The exposure levels of the Federal Communications Commission are totally outdated and do not protect the health of the public, especially of children. I urge you to take strong and active steps to reduce exposure of children and staff to excessive levels of radiofrequency EMFS within your schools. It is of course critical that all children have access to the internet, but when this is done through wired connections they will not be exposed to excessive electromagnetic fields. I urge you to use wired facilities rather than WiFi.

If desired I will be happy to provide the detailed scientific evidence that support the statements made above. Thank you for your consideration.

Yours sincerely,



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University at Albany