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To: Open letter to Librarians, Library Administrators and Visitors to Libraries.

ALERT: WiFi Hotspots in Libraries may be Harming Staff and Visitors and may Prevent Access to those with Medical Implants.

While a growing number of libraries are installing **WiFi hotspots** for their visitors and staff, they seem not to be reading the literature on this topic related to health effects, interference with medical implants, speed of data transmission, and data security issues.

WiFi uses a microwave frequency of **2.45 GHz**. This is the same frequency used in many **mobile phones** (cell and cordless) and **these microwave frequencies** have been linked to various **illnesses** including cancer, reproductive problems, chronic fatigue, chronic pain, skin disorders, sleep disorders, cognitive dysfunction, tinnitus, dizziness, nausea, etc. That is one reason why the [France National Library](#) (BNF) decided to give up WiFi in **2008**.

Based on reports of **genetic alternations in human cells** at WiFi frequencies (a [study](#) conducted at the University of Chicago, Department of Medicine by Lee et al. 2005) and on an increasing number of scientific reports documenting ill effects of microwave exposure (including The [Bioinitiative Report](#)) the safer route is to provide **wired** rather than **wireless** access to the internet.

While it might take **years** of exposure to develop **cancer** (as has been shown in [mobile phone studies](#)) changes in **gene expression** occurred within a matter of a **few hours** for **cultured human cells** under controlled laboratory conditions. Lee and colleagues noticed that **221 genes** altered their expression after a **2-hour** exposure and **759 genes** after a **6-hour** exposure at **levels below thermal effects**, on which guidelines are based. *If it doesn't heat your tissue it is assumed to be safe*, according to **federal guidelines** in many countries. However, scientific studies are showing that this *'thermal effect assumption'* is no longer valid.

Another consideration is that some people with medical implants may be adversely affected because of radio frequency interference (RFI) and may not be able to visit

libraries unless the WiFi service is turned off during their stay. This violates the Americans with Disabilities Act and similar acts in other jurisdictions.

Dr. Gary Olhoeft, Professor of Geophysics at the Colorado School of Mines, brought this to my attention last November at a [presentation](#) he gave in Golden Colorado organized by the [EMR Policy Institute](#). Not only is he an expert when it comes to electromagnetic interference (EMI) but he also one of 20 million Americans who has a medical implant. In his case the implant is a deep brain stimulator to control seizures due to Parkinson's Disease. Malfunctions of deep brain stimulators may constitute a medical emergency and can be fatal. According to Dr. Olhoeft, interference may prevent normal therapeutic function, reset or reprogram the device, bring damaging energy into the device or body, and cause injury including death.

Medical implants include cardiac pacemakers/defibrillators, neurostimulators, infusion pumps for diabetics, artificial hearts, metal rods to support broken bones, spinal stimulators, and hearing aids.

In addition to WiFi there are a growing number of devices that can cause electromagnetic interference (EMI) including: cell phones, CB or ham radios, TV and radio transmitting antennas, theft detectors and security gates (airports, schools, stores, libraries), power lines, electric arc welding equipment, electricity substations and generators, cardiac defibrillators, diathermy equipment and MRI (magnetic Resonance Imaging).

The France National Library replaced WiFi not only because of health concerns but because **wired service** can handle **a larger volume** of data transmission **more rapidly**, something that is essential for a large library with many researchers, and because it is a more **secure** and **reliable** way of transmitting data. The France National Library is not the first and will not be the last **replacing WiFi terminals with wired terminals**.

The purpose of this open letter is to alert **libraries considering WiFi** to investigate the feasibility of using wired terminals and for those **libraries with WiFi** to consider replacing them with wired service. Ignoring these issues of interference with medical devices and potential health effects will not make the problems go away.

As Aldous Huxley said, *"Facts don't cease to exist just because they are ignored."*