The Legal Handbook for

Massachusetts Boards of Health

3rd Edition

Cell Tower Radiation Exposure

In recent years, there has been an increase in awareness of electromagnetic fields emitted from antennae mounted on cellular towers. With increasing regularity, boards of health are consulted for their input as towers are erected on properties that are close to, or even on properties with high density populations. The revenue generated by renting properties to cellular technology companies can be considerable, and municipalities, schools, houses of worship and commercial property owners can be considerable. The fact that towers are ubiquitous must not be confused with the presumption that they do not present certain health risks.

[48] *Id.*

The issue of cell tower safety is one which is of uncertain scientific proof, conflicting studies, epidemiologic uncertainty and resulting considerable uncertainty. To confound matters, the FCC has preempted local government action where a local board or commission cannot deny a permit application based upon real or perceived risk. In order to effectively block the placement of a cell tower, the municipality must find other grounds than health risk and radiation exposure.

The majority of studies in the US, upon which the FCC bases its presumption of safety of cell towers, have concluded that the actual risk needs further study. The body of science outside the US includes studies that demonstrate everything from "no known risk," to a doubling or more than doubling of the risk of cancer within certain distances from the cellular antennae mounted on the towers. The FCC says that while some experimental data have suggested a "possible link between exposure and tumor formation in animals exposed under certain specific conditions," the results have not been independently replicated, and the current literature concludes that "further research is needed." Also, notably, the FCC's primary jurisdiction does not lie in the health and safety area, and it acknowledges that it must rely on other agencies and organizations for guidance in these matters. FCC also calls for specific studies including chronic (lifetime) animal exposures, which should "be given the highest priority." According to the FCC's scientists, chronic animal exposures should be performed both with and without the application of chemical initiating agents to investigate tumor promotion in addition to tumorigenesis. According to the FCC, Identification of potential risks should include end points other than brain cancer (e.g., ocular effects of RF radiation exposure).[49]

The world literature is more comprehensive. A study of cancer patients in Germany found a 3.29 times greater risk of cancer ($p < 0.01$) in patients with residence closer than 400 meters to a cell phone tower. Risk of breast cancer was 3.4 times greater, and average age of diagnosis of breast cancer was 19 years earlier.[50] Similarly, a study in Israel found women living within 350 meters of a cell phone tower to have over 10 times greater risk of cancer than the community as a whole ($p < 0.0001$).[51] More recently, in a case/control study of cancer patients residing near a cell phone transmission tower in Austria, those with external residential exposures of greater than 1000 µW/m2 (> 0.1 µW/cm2) had a breast cancer risk that was 23 times higher ($p = 0.0007$) and brain tumor risk was 121 times higher ($p = 0.001$) than controls.[52]

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[49] Picano, et al, *Cancer and non-cancer brain and eye effects of chronic low-dose ionizing radiation exposure*, BMC Cancer. 2012; 12: 157.

[50] Eger H, Hagen K, Lucas B, Vogel P, Voit H. *The Influence of Being Physically Near to a Cell Phone Transmission Mast on the Incidence of Cancer*. Umwelt Medizin Gesellschaft (2004); 17(4):1-7.

[51] Wolf R, Wolf D. *Increased Incidence of Cancer Near a Cell-Phone Transmitter Station*. International Journal of Cancer Prevention (2004); 1(2):1-19.

[52] Oberfeld G. *Environmental Epidemiological Study of Cancer Incidence in the Municipalities of Hausmannstätten & Vasoldsberg (Austria).* Provincial Government of Styria, Department 8B, Provincial Public Health Office, Graz, Austria (2008): 1-10.

As of this writing, there has been one case in the Massachusetts courts testing whether municipalities can block cell tower construction. That case was in the federal courts, *Southwestern Bell Mobile Systems v. Todd,* 244 F. 3rd 51 (CA 1, 2001). In the *Todd* case, Southwestern Bell wanted to site an antenna on grounds near two housing developments and between two schools. The city of Leicester moved to block the placement of the tower. The zoning board rejected the application citing several reasons. The US District Court did not look at the issue of whether there were any associated public health risks in that case, but instead allowed Leicester to block the particular tower because the FAA demanded that it must be painted red and white and have a flashing beacon on top, because of its proximity to the flight path for Worcester Airport. The FAA regulation allows municipalities to deny permits if the tower does not blend into the area aesthetically. The opinion of the District Judge was upheld by the US First Circuit Court of Appeals.

There have, however, been challenges to placement of towers based upon health risk. Although none have been reported by Massachusetts Courts, there are several cases that deal with this issue squarely on point. The issue is couched in the doctrine of "federal preemption."

It has long been acknowledged that it was Congress's intent that the FCC exclusively regulate technical matters of radio broadcasting technology. *See Head v. N.M. Bd. of Exam'rs in Optometry*, 374 U.S. 424, 430 n.6, 83 S. Ct. 1759, 10 L.Ed. 2d 983 (1963). Implicit in this rationale is the authority to regulate personal wireless communications on the basis of health effects of radio frequency interference. *Cellular Phone Taskforce v. FCC*, 205 F.3d 82, 96 (2d Cir. 2000).

The statute states that "[n]o state or local government or instrumentality thereof may regulate the placement, construction, and modification of personal wireless service facilities on the basis of environmental effects of radio frequency emissions to the extent that such facilities comply with the [FCC's] regulations concerning such emissions." 47 U.S.C. § 332(c)(7)(B)(iv). "As is always the case in preemption analysis, Congressional intent is the 'ultimate touchstone.'" *Freeman v. Burlington Broadcasters, Inc.*, 204 F.3d 311, 320 (2d Cir. 2000) (quoting *Cipollone v. Liggett Grp., Inc.*, 505 U.S. 504, 516, (1992).

In *Cellular Phone Taskforce*, the Second Circuit addressed the preemption provision of the Telecommunications Act. The dismissal of the arguments advanced by the citizen's groups, highlight the sources of the controversy. More specifically, the Taskforce argued that: the FCC failed to give due consideration to scientific evidence of low level ("nonthermal") RFR hazards; even though the FCC acknowledged that it was not looking at any health risk issues as part of its regulatory process and would defer to the proper government agencies charged with protecting the health and welfare of the citizenry, it did not heed the advice from those other government agencies and

standards setting organizations, such as the EPA; the FDA, OSHA, NIOSH and ANSI; the exemption of certain categories of towers, such as lower power rooftop antennae and antennae over 10 meters above ground, from demonstrating safe RFR exposure levels did not take into account the additive effects of other nearby towers or that persons in nearby tall buildings could be overexposed; and therefore, the FCC exceeded its authority in preempting state and local governments from regulating wireless tower operation based on environmental concerns. These concerns fell on deaf ears when the court dismissed them as it gave strict construction to the statute.

The court held that Section 332(c)(7)(B)(iv)**"** preempt[s] state and local governments from regulating the placement, construction or modification of personal wireless service facilities on the basis of the health effects of RF radiation where the facilities would operate within levels determined by the FCC to be safe." 205 F.3d, at 88; *Freeman,* 204 F.3d at 320 ("federal law has preempted the field of RF interference regulation"). *See generally City of New York v. FCC*, 486 U.S. 57, 63-64 (1988); *Capital Cities Cable, Inc. v. Crisp*, 467 U.S. 691, 698–700 (1984). "[There is] no doubt that Congress may preempt state and local governments from regulating the operation and construction ... of personal wireless communications facilities." *Cellular Phone Taskforce*, 205 F.3d at 96. *See, Abraham v. Town of Huntington,* 018 WL 2304779 (2018).

If a successful challenge to a placement of a cell tower is to be mounted, it will have to be grounded in something other than public health risk from radio frequency.

At the time this guide went to press, there was an appellate case pending before the D.C. Circuit Court of Appeals in which the central issue was whether the terms of the telecommunications act of 1996 was so outdated that it has become inoperable. The signals by the court during the argument were that it is conceivable that the regulation preempting local enforcement on health grounds may be set aside by judicial action. *Environmental Health Trust v. Federal Communications Commission,* Docket No. 20-1025, Argued January 21, 2021.