

# **The history of politics and health effects from wireless technologies, power lines, etc.**

**Health effects have been reported since even before electricity became common more than a century ago. We present a historical timeline of the major scientific, social and political events.**

*Keywords: wireless, microwaves, mobile phone, electricity, power lines, health, health effect, electrical sensitivity, hypersensitivity, politics, history*

References are listed in a separate document, which is available via a link at the bottom.

**1870s:** Operators of electric telegraph machines report symptoms similar to modern electrical sensitivity.

**1881:** George Beard and Alphonso Rockwell describe “electro-susceptibility” and “electro-sensibility” in their textbook *Medical and Surgical Electricity*.

**1886:** German physicist Heinrich Hertz produces the first artificial radio waves.

**1889:** *The British Medical Journal* reports that some frequent telephone users suffer from nervous excitability, buzzing noises in the ear, giddiness and neuralgic pains.

**1914-1918:** World War I brings explosive growth in use of wireless communication.

**1915:** German scientist Karl Schilling publishes a description of sickness among telephone operators.

**1932(1):** Operators of powerful shortwave equipment report symptoms such as skin pain, disturbed sleep, headaches and weakness.

**1932(2):** Microwave sickness in radar operators is reported.

**1939-1945:** World War II brings widespread use of radar.

**1954:** The German scientists Schumann and Konig discover the earth emits the 8 hertz Schumann resonance wave. Later research demonstrates it is important for human health.

**1962:** Allan Frey of Cornell University discovers that pulsed microwaves can be “heard,” even by people who are deaf. He also notes that microwaves sometimes can induce a “pins-and-needles” sensation.

**1963:** Clarence Wieske publishes an article about a woman who can “hear” electricity on the wiring in her home. The house had high levels of stray electricity. When the wiring problems were corrected, the “noise” went away.

**1969:** The scientific symposium Biological Effects and Health Implications of Microwave Radiation is held in Virginia. Some of the presenters reported health effects well below today’s radiation standards.

**1971:** U.S. Navy scientist Zorach “Zory” Glazer publishes a list of reported biological effects from radio-frequency and microwave radiation. The second edition from 1972 lists 132 reported effects in 17 categories and 2311 scientific references.

**1975(1):** The scientist Allan Frey discovers that microwaves make the protective blood-brain barrier leaky. This barrier protects the brain from impurities in the blood, such as viruses and chemicals.

**1975(2):** The sponsor of Allan Frey’s research, the U.S. Office of Naval Research, informs him that he will lose his funding if he publishes any further results regarding microwave health effects. The Navy uses microwaves for radar and communication on a grand scale.

**1977:** The switch-mode power supply enters the mass market with the Apple II computer. Instead of using a transformer to step down the voltage, it chops the electricity tens of thousands of times a second and produces transients (“dirty electricity”) as well.

**1979(1):** The first study linking electricity with cancer is published by Nancy Wertheimer and Ed Leeper.

**1979(2):** The U.S. Surgeon General states: “There is virtually no major chronic disease to which environmental factors do not contribute, directly or indirectly.”

**1982 (approximately):** Physician William Rea realizes one of his patients is sickened by electromagnetic radiation from an electrical appliance.

**1984:** The first mobile phone is marketed to consumers in the United States.

**1985:** The scientist Robert O. Becker publishes *The Body Electric* about how weak electric currents are an important part of the body’s healing process.

**1984-1986:** A series of exploratory experiments are done on extremely electrically sensitive people by the British scientists Cyril Smith, Jean Monro and Ray Choy. Some patients have convulsions or pass out when exposed to power lines or minute levels of EMF at specific frequencies, while they are fine with other frequencies.

**1987(1):** The world’s first EHS patient organization is started in Sweden. Named (in translation) “Organization for people harmed by electricity and computer screens,” it was known by its Swedish initials FEB. It is today called The Swedish Association for the Electrosensitive.

**1987(2):** Studies funded by the state of New York suggest health risks from living near a power line. Eight states, including New York, regulate how much power lines may irradiate the neighbors.

**1988:** Fifty engineers get sick with EHS at the Ellemtel research center in Sweden. The center develops wireless equipment.

**1989:** Eight secretaries get sick when a company in Gothenburg, Sweden installs new computers.

**1990(1):** The book *Electromagnetic Man* is published by the scientists Cyril W. Smith and Simon Best.

**1990(2):** *The New York Times* report in a story about MCS that some people are also sickened by electromagnetic radiation from power lines.

**1990(3):** The Americans with Disabilities Act is passed into law. The law’s broad definition of disability includes people with EHS.

**1990(4):** The Swedish government issues voluntary guidelines for low-radiation computer screens. It was called MPR and was not based on any health criteria, but simply what was currently achievable. The guideline was later taken over by an independent organization and renamed TCO. It has been strengthened several times since, as better technologies became available.

**1991:** Physician William Rea tests a hundred people with EHS. Sixteen of them are able to correctly identify all 32 active challenges and 160 shams. The experiments also demonstrate that people with EHS can be sensitive to some frequencies and not others, just as people with pollen allergy are not reactive to all kinds of pollen. In 1994 Dr. Rea did a second study, which was done differently in many ways and was not able to demonstrate a cause and effect in the test subjects.

**1992(1):** The United Nations convene an Earth Summit in Rio. The meeting's declaration states that "where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation." This is also known as the Precautionary Principle.

**1992(2):** Joseph Kirschvink of UCLA discovers that the human brain contains magnetite. It is known that migratory birds use magnetite as a compass to navigate by the earth's magnetic field.

**1992(3):** The International Commission for Non-Ionizing Radiation Protection (ICNIRP) is created in Germany to advise governments on setting radiation limits for wireless technologies. The group is criticized for its closed membership and ties to industry.

**1993:** H. David Reynard sues Motorola, claiming their mobile phone caused or accelerated his wife's deadly brain cancer. Reynard does not win, but the case is a wake-up call for the mobile industry.

**1994(1):** The company Fusion Lighting develops a microwave light bulb. It is never commercialized.

**1994(2):** The scientists Henry Lai and Narendra Singh discover that weak microwaves can break DNA. They are then harassed by special interests.

**1994(3):** The professors Martin Blank and Reba Goodman discover that radiation from power lines can make human cells produce heat shock proteins, a sign of cellular stress. They later demonstrate the same effect with mobile phones.

**1994(4):** It is discovered that the new digital mobile phones can cause pacemakers to malfunction. The pacemaker industry responds by making their products more resilient.

**1994(5):** Scientists at McGill University in Canada find that utility workers exposed to “dirty electricity” have more than six times the risk of cancer. The utility company they collaborated with then blocked further research.

**1996(1):** A DePaul University survey of 305 people with MCS showed that 32% reported they also had electrical sensitivities.

**1996(2):** Om Gandhi at the University of Utah finds that children’s brains and eyes receive much stronger radiation doses when using mobile phones that adults do.

**1996(3):** Digital mobile phones become available in the United States, to eventually replace analog phones.

**1996(4):** U.S. Congress passes the Telecommunications Act. Section 704 forbids local authorities from restricting mobile phone tower locations based on health effects. The telecom industry gave \$48 million to federal politicians and party committees during the five years the act was worked on by Congress.

The Center for Public Integrity found that of the 15 staffers central to drafting the law, 13 became telecom industry lobbyists and one became a lawmaker who got generous support from the telecom industry.

**1996(5):** Dr. Alvaro Pascual-Leone in Spain finds that 10 Hz magnetic fields applied to the head can help patients with depression. He calls it transcranial magnetic stimulation.

**1996(6):** The world’s first government-funded low-EMF apartments are built in the Haubitsen neighborhood of Uppsala, Sweden. They were poorly designed and never became a success.

## 6 *EMF Timeline*

**1996(7):** The first ultra-low EMF car is created in Sweden. It was an older Mercedes diesel car with the alternator disconnected.

**1997(1):** The scientist Jerry Phillips spends years researching health effects from radio frequency radiation. When he publishes results showing damage to DNA, his funding is cut and he leaves the field.

**1997(2):** The scientists Sandström, Lyskov, Berglund, Medvedev and Mild find that all ten of their EHS test subjects were more sensitive to flickering light than controls.

**1997(3):** The Swedish scientists Persson, Salford and Brun find that mobile phones make the blood-brain barrier leaky. They thereby confirm the 1975 finding of Allan Frey.

**1997(4):** Protests erupt in several parts of Ireland when mobile phone base stations are erected next to people's homes.

**1998(1):** A study by L. Bonhomme-Faivre in France finds lower levels of white blood cells in people working near a large transformer.

**1998(2):** The Iridium satellite network is activated. Using 66 satellites it is now possible to communicate from anywhere on earth, using special telephones.

**1999(1):** Dr.'s Rice Tice and Graham Hook find that radiation from mobile phones nearly triple the genetic damage in human blood cells. Their funding is immediately cut so they can't publish their results until three years later.

**1999(2):** AT&T promotes mobile phones with Disney characters for children in full-page newspaper ads.

**1999(3):** George Carlo, who heads the mobile industry's health effect research programme, publicly states that there is evidence mobile phones can cause cancer. He is immediately fired.

**1999(4):** Leading insurance companies refuse to insure against risk of health effects from mobile phones. The industry remembers how asbestos claims nearly bankrupted Lloyd's

**2000(1):** Professor Leif Salford of Lund University, Sweden, calls mobile phones “the World’s largest biological experiment” at a presentation to the European Parliament.

**2000(2):** The University of Umeå and the Swedish Institute of Working Life find that electrical sensitivities affect 1.4% of office workers in Sweden.

**2000(3):** More than 400 people with EHS testify or submit written statements to a public hearing in Stockholm.

**2000(4):** Sweden recognizes EHS as a functional impairment, though people with the illness continue to be discriminated against by many public agencies.

**2001(1):** Olle Johansson at the Karolinska Institute in Sweden shows that CRT-type computer/TV screens can change the skin cells in humans. He calls the effect “screen dermatitis.”

**2001(2):** George Carlo, who supervised the mobile industry’s health research program for six years, publishes the tell-all book *Cell Phones: Invisible Hazards in the Wireless Age*.

**2001(3):** Epidemiologist Sam Milham publishes a paper showing that childhood leukemia followed the electrification of rural America in the 1920s to 1950s.

**2002(1):** Professor Neil Cherry finds that cases of childhood cancer gradually increase when closer to Sutro Tower in San Francisco. Sutro Tower hosts several powerful transmitters.

**2002(2):** The U.S. Environmental Protection Agency states in an official letter that the current exposure guidelines “are thermally based, and do not apply to chronic, nonthermal exposure situations. They are believed to protect against injury that may be caused by acute exposures that result in tissue heating or electric shock or burn” and “the generalization by many that the guidelines protect human beings from harm by any or all mechanisms is not justified.”

**2002(3):** The World Health Organization determines that magnetic fields from electrical wiring is a Group 2B “possible” carcinogen.

**2002(4):** Gro Harlem Brundland, the head of the World Health Organization and former prime minister of Norway, states publicly that she has EHS. She retires soon after.

**2002(5):** The COMAR work group, convened by the Institute of Electrical and Electronic Engineers (IEEE), believes that reducing EMF is “extremely unlikely” to be helpful for people with EHS. They suggest symptom treatment instead.

**2002(6):** Two EHS prevalence studies are published. One study (by Lena Hillert et al.) shows 1.5% of people in Sweden reporting EHS. A study by Patrick Levallois (et al.) reports 3.2% of people in California having EHS, with 0.5% there reporting severe effects.

**2002(7):** The Freiburger Appeal is initially signed by 53 German physicians and later by more than 3000 physicians worldwide. It requests stricter limits on radio frequency exposures.

**2003(1):** Several Danish city councils revolt against the many mobile phone base stations they have to approve, when the health effects are unknown. After four months they are ordered to accept the towers. One major city restricts tower sitings for another seven years.

**2003(2):** Scientists at the Dutch TNO research center find that radiation from mobile phone base stations has a stimulatory effect on humans.

**2004(1):** Dr. Michael Rohan, a psychiatrist, discovers that the electromagnetic radiation in an MRI scanner is stimulating to people with depression.

**2004(2):** An engineer at the British Broadcasting Corporation’s research center demonstrates that dirty electricity radiates from household wiring. The BBC’s concern was interference with their short wave radio service.

**2005(1):** The World Health Organization issues a “fact sheet” about EHS. It states that “The symptoms are certainly real” and “Treatment of affected individuals should focus on the health symptoms and the clinical picture, and not on the person’s perceived need for reducing or eliminating EMF in the workplace or home.”

**2005(2):** Psychologists at King’s College review 31 studies testing people with EHS and concluded they could find “no robust evidence” EHS is “biophysical.”

**2005(3):** Professor of pediatrics Michael Ruff states that his group practice provides health care for 800 Amish families. They have never seen a single Amish



child with Attention Deficit Disorder (ADD). The Amish is a religious sect that bans electronics, such as cell phones and televisions. Many live without electricity entirely.

**2005(4):** The government of Australia establishes a radio quiet zone in the Murchison area of Western Australia. It protects a large radio observatory. The most restricted zone has a radius of 70 kilometers (43 miles).

**2006(1):** A massive mobile phone cancer study is made in Denmark, with over 420,000 phone users. It found no cancer risk, but the study had major design flaws as it placed people using cordless phones in the “unexposed” control group along with 200,000 business users of mobile phones. The effort was funded by the mobile industry.

**2006(2):** The film *Thank You For Smoking* is about a charismatic spin-doctor for the tobacco industry. When he finds himself in need of new clients he applies his talents in the service of the mobile phone industry.

**2006(3):** The trade journal *Microwave News* publishes an investigation documenting that journal articles showing no DNA damage are overwhelmingly funded by special interests, while those that do show damage are mostly independently funded.

**2007(1):** Professor Martin Pall proposes his voltage-gated calcium channel (VGCC) theory to explain EHS.

**2007(2):** Australian telecom engineer John Patterson tries to warn the public about the health effects of the base stations. The media ignores him and he is fired from his job. He borrows an old army tank and rams seven towers in Sydney suburbs before he is arrested. Then the media interviews him.

**2007(3):** 4% of 20,000 people in Colchester, Great Britain, report in a survey that they are electrically sensitive.

**2007(4):** The first BioInitiative report is released. Produced by a large group of independent scientists and public health experts from five countries, it concludes that current radiation standards are not protective of the public health. The report supports the existence of EHS.

**2007(5):** Eight hospitals in Sweden have modified rooms to accommodate patients with EHS.

**2007(6):** The U.S. National Academy of Sciences convenes a group to prioritize research on health effects from wireless devices. EHS is given the lowest priority.

**2007(7):** An EHS community is started in Green Bank, West Virginia. Mobile phone base stations are banned there because of a large radio observatory.

**2007(8):** Swiss scientists investigated whether industry funding of studies including human exposure to mobile phones affected the results. They found that 33% of industry-funded studies found health effects, while 82% of non-industry funded studies found health effects. These results confirm the 2006 *Microwave News* investigation. Another confirmation was published by David O. Carpenter in 2019.

**2008(1):** A woman in Australia is involuntarily committed to a mental ward because of “Fixed belief that she is sensitive to chemicals and electromagnetic forces,” according to the paperwork. Other Australians with EHS have also been subject to such mistreatment.

**2008(2):** The French magazine *Le Monde* does a front page feature article about people with electrical sensitivities.

**2008(3):** The scientists Franz Adlkofer and Hugo Rüdiger find that mobile phones damage DNA.

**2008(4):** An operation is apparently launched to make it appear that Adlkofer and Rüdiger falsified their data. They are eventually exonerated by two separate investigations.

**2008(5):** Ninety pregnant women and thirty newborn babies were exposed to mobile phones for ten minutes in Egyptian hospitals. The scientists found that both the fetuses and the newborn babies increased their heart rates and lowered their blood flow.

**2008(6):** Scientists at the Cleveland Clinic find that mobile phones decrease men’s sperm quality, possibly leading to infertility. Overall sperm quality has been gradually decreasing for decades.

**2008(7):** Swedish telephone company TeliaSonera no longer repairs damaged telephone landlines. A couple years later they start dismantling working lines. Customers are referred to Telia's wireless services. Activist groups protest on behalf of the electrosensitive, but with no success.

**2008(8):** A large Danish study finds that children of mothers who use mobile phones while pregnant are 80% more likely to have behavioral problems at age seven. The authors replicated the study with 29,000 other children and found a similar result.

**2008(9):** The United Nations Convention on the Rights of Persons with Disabilities takes effect. It is signed by 161 countries (the United States signed but didn't ratify). The convention forbids discrimination against people with disabilities and encourages reasonable accommodation in housing, work, education, voting, communication, etc.

**2008(10):** The first publicly-funded low-EMF housing in the United States opens in rural Arizona, near the town of Snowflake.

**2008(11):** A review of 14 epidemiological studies from five countries found increased risk of Alzheimers disease from exposure to extremely low frequency EMF (i.e. from power lines, electrical machinery, welding, etc.).

**2009(1):** The French NGO Next-Up opens a low-EMF campground in the rural province of Drome.

**2009(2):** Demonstrators temporarily shut down a new mobile phone tower in St. Märgen, Germany, by covering the antenna with foil. The area is one of the last tower-free areas in Germany and a refuge for a 32-year old EHS sufferer.

**2009(3):** Swedish professor Leif Salford repeats his warning that mobile phones comprise "the World's largest biological experiment" at a Congressional hearing in Washington, D.C.

**2009(4):** The mobile phone company AT&T requests that telephone landlines be banned in the United States. The request is denied by the Federal Communications Commission.

**2009(5):** Demonstrators drag a Faraday cage on wheels through Gothenburg, Sweden, to protest the mobile phone base stations.

**2010(1):** Two towers belonging to KRKO AM radio in Snohomish Valley, USA, are destroyed by protesters.

**2010(2):** The organization Stop Smart Meters! is started in California and quickly has affiliates across the United States.

**2010(3):** Cancer researcher Devra Davis publishes the book *Disconnect* about mobile phones and the telecom industry's efforts to deny their health effects.

**2010(4):** The city of San Francisco enacts an ordinance mandating mobile phone retailers display radiation levels for each phone. The city dropped the ordinance after three years due to heavy industry pressure.

**2010(5):** Michael Peevey, chair of the California Public Utilities Commission, acknowledges that EHS is a "real" illness in a private e-mail to Brian Cherry of the giant Pacific Gas & Electric utility. He did not say it publicly.

**2011(1):** The Supreme Court of Italy determines that the powerful Vatican Radio transmitters caused leukemia in several people who lived in the area.

**2011(2):** The ten-year Interphone study involved 13 countries. The final report is much delayed and inconclusive whether mobile phones cause cancer or not. The study is heavily criticized for major design flaws that could skew the results. Another major problem was that the mobile industry refused to share their all-important data on how much people actually used their phones.

**2011(3):** German scientists Klaus Buchner and Horst Eger showed that even 18 months after a mobile phone base station was activated in the town of Rimbach, the citizens' hormones had not returned to their previous levels.

**2011(4):** The chairman of the World Health Organization's committee evaluating cancer risks from wireless devices steps down. It was discovered that he co-owned a small company that lobbied on behalf of the mobile industry.

**2011(5):** The World Health Organization classifies radio-frequency radiation as a Group 2B "possible" cancerous agent.

**2011(6):** A study at the U.S. National Institutes of Health (NIH) shows that when people use a mobile phone it changes the activity of the brain. The scientists could

see increased glucose metabolism in some areas, but could not say whether it indicated harm or not.

**2011(7):** The European Union's Council of Europe issues Resolution 1815 in support of people with EHS and "early warning" scientists.

**2011(8):** A study by Kaiser Foundation scientists finds that children exposed to elevated magnetic fields while in the womb are more likely to develop asthma.

**2011(9):** Dr. Chiara De Luca notes that out of 620 patients seen at an MCS clinic in Italy, 35% also had EHS.

**2011(10):** Scientists at Louisiana State University demonstrate that a test person with EHS can accurately detect an electrical field of common household strength. The person was exposed to 150 active and 300 sham double-blind tests.

**2012(1):** The European Union and the United States both start phasing out incandescent light bulbs.

**2012(2):** The Austrian Medical Association becomes the first national medical society to recognize EHS.

**2012(3):** The American Academy of Pediatrics, which represents 60,000 pediatricians in the United States, urges the Federal Communications Commission (FCC) to reconsider its radiation standards.

**2012(4):** The poor Himalayan country of Bhutan finally introduces electrical service. Within four years, the rates of diabetes quadruple in the electrified areas, despite no change in the local diet.

**2012(5):** U.S. Representative Dennis Kucinich introduces the Cellphone Right to Know Act in Congress. It is supported by the American Academy of Pediatrics, but it goes nowhere.

**2012(6):** An article by scientists at the King's College Psychiatry Department claims that people with EHS just want to retreat from society and live like hermits.

**2012(7):** Residents of a Los Angeles suburb are plagued by stray electricity from a substation next door. People get shocked when taking a shower or touching a gas line. The utilities replace steel pipes with plastic to mitigate.

**2012(8):** The Supreme Court of Italy rules that a businessman developed a tumor after using a mobile phone for five to six hours a day for a dozen years.

**2013(1):** Martha Herbert of Harvard Medical School suggests that autism may be linked to wireless technologies.

**2013(2):** A co-operatively owned apartment building for people with MCS and EHS opens in Zurich, Switzerland.

**2013(3):** President Obama appoints mobile phone industry lobbyist Tom Wheeler as head of the U.S. Federal Communications Commission. It is the agency charged with ensuring mobile phones are safe.

**2013(4):** Belgium becomes the first country to mandate a meaningful warning label on mobile phones.

**2013(5):** Belgium bans marketing mobile phones to children.

**2013(6):** Five 9<sup>th</sup>-graders from Hjallerup school in Denmark become world famous when their science project demonstrates that Wi-Fi stunts the growth of watercress plants.

**2013(7):** The first non-electric and wireless free summer camp for electrically sensitive children is held in Sweden.

**2013(8):** The American Academy of Pediatrics, representing 60,000 pediatric health professionals, supports a reassessment of cell phone radiation standards, and states that “Current FCC standards do not account for the unique vulnerability and use patterns specific to pregnant women and children.”

**2014(1):** Scientists at the University of Oldenburg, Germany, demonstrate that radiation from transmission towers interferes with the navigation of migratory birds.

**2014(2):** A Canadian artist operates a mobile-phone free café for two weeks to make a statement about the need to “disconnect” and interact with people instead. Called Faraday Café, it is shielded to block wireless signals.

**2014(3):** The United States Centers for Disease Control and Prevention (CDC) posts on their website: “Along with many organizations worldwide, we recommend caution in cell phone use.” When contacted by the press the CDC had no response and the wording was soon replaced with “There is no scientific evidence that provides a definite answer . . .”

**2015(1):** Professor Dominique Belpomme of France suggests eleven biomarkers to objectively diagnose EHS, based on his study of 675 EHS patients.

**2015(2):** The TV series *Better Call Saul* features a fictional character with EHS, who is portrayed as mentally ill.

**2015(3):** The Swedish EHS patient organization wins in court against a company selling bogus EMF protection devices and services.

**2015(4):** The city of Berkeley, California, enacts an ordinance requiring mobile phone retailers to inform customers about possible health effects.

**2015(5):** The International EMF Scientist Appeal is signed by 237 scientists who have done research in the field of biological and health effects from electromagnetic fields. They ask that children and pregnant women be protected and that low-radiation zones be created, among several other requests.

**2015(6):** France enacts a law that prohibits wireless devices in daycares; bans advertising targeting children under 14 and imposes other restrictions on wireless.

**2015(7):** British teenager Jenny Fry commits suicide because the Wi-Fi in her school was unbearable and her teachers were apparently nasty to her when she tried to get their help.

**2015(8):** Harvard University publishes a report detailing how the U.S. Federal Communications Commission is controlled by the mobile phone industry it regulates.

**2016(1):** Australian Broadcasting Corporation airs the Catalyst TV episode “Wi-Fried,” which features scientists on both sides of the issue, including Devra Davis. The telecom industry got the program removed, since it “promoted” an “unorthodox view.”

**2016(2):** The Autism One conference features a heavily shielded tent so families can try for themselves whether a low-EMF environment helps their autistic children.

**2016(3):** The U.S. Federal Communications Commission issues a Consumer Guide, which states: “Some health and safety interest groups have interpreted certain reports to suggest that wireless device use may be linked to cancer and other illnesses, posing potentially greater risks for children than adults. While these assertions have gained increased public attention, currently no scientific evidence establishes a causal link between wireless device use and cancer or other illnesses.”

**2016(4):** The European Union requires cell phone manufacturers to list how much their wares irradiate a person when held 5 millimeters (0.2 inches) away. Some manufacturers use up to 25 millimeters (1 inch) to get misleadingly low numbers.

**2016(5):** Massive demonstrations in Seongju, South Korea, opposes the installation of a powerful military radar station because of the electromagnetic radiation. It is part of a new THAAD anti-missile system.

**2016(6):** Several people working at the U.S. embassy in Havana, Cuba, experience symptoms such as memory problems, brain fog, concentration problems, irritability, etc. The cause is unknown, though some sort of microwave weapon is speculated.

**2017(1):** Arizona becomes the first American state to enact a law that gives the telecom industry unrestricted right to mount transmitters on lamp posts and erect small towers.

**2017(2):** Governor Jerry Brown vetoes a similar law in California.

**2017(3):** The documentary film *The Sensitives*, directed by Drew Xanthopoulos, is released. It features three families stricken with MCS and EHS.

**2017(4):** A group of scientists visit the World Health Organization in Switzerland. WHO still refuses to take non-thermal EMF health effects and EHS seriously and won't issue a diagnostic code for EHS.

**2017(5):** The Danish public TV station DR2 airs a program about EHS as part of a series about unexplained phenomena. They repeatedly test whether four persons



with EHS can tell if a Wi-Fi transmitter is on inside a shielded room. They all could, without knowing whether it was on or not.

**2017(6):** A court orders the California Public Health Department to release a document warning the public about health risks from mobile phones. The department kept the document secret for eight years, apparently for political reasons.

**2017(7):** More than half of all households in the United States no longer have a landline telephone.

**2017(8):** Dr. Gunnar Heuser finds physical changes in the brains of people with EHS, using fMRI imaging.

**2017(9):** The rates of ADHD, diabetes and depression among people aged 34-36 skyrockets in just three years. ADHD increases by 37%.

**2018(1):** A survey by scientists at National Cheng Kung University finds that 4.6% of people on Taiwan consider themselves electrically sensitive.

**2018(2):** Netflix airs the seven-part series *Afflicted* about people with controversial illnesses, such as EHS. It paints them all as psychosomatic.

**2018(3):** France bans children up to age 15 from using mobile phones anywhere on school properties.

**2018(4):** Two large-scale American studies expose rats to mobile phone radiation. Both demonstrate the radiation causes cancer.

**2018(5):** A large-scale study by the Ramazzini Institute in Italy confirms the two American Studies.

**2018(6):** The U.S. Federal Communication Commission issues a rule to “capture a broad range of state and local actions that prohibit or have the effect of prohibiting” the rapid roll-out of 5G services. The rule restricts the use of fees, spacing, aesthetics, delays and other methods a state or municipality can use to protect its residents.

**2018(7):** A French-Belgian research team tests 535 people with EHS with an ultrasonic brain scanner. They find more than 80% have damage in the middle cerebral artery area of the temporal lobes.

**2019(1):** The World Health Organization issues guidelines that children below age 2 should not use screens at all, and children aged 2 to 4 should use screens no more than one hour a day.

**2019(2):** The Swedish organization of electrosensitives state they have about a hundred members who are children or teenagers who are unable to attend school due to EHS.

**2019(3):** 31 demonstrations against the new 5G telecom systems are held across the United States on a single day.

**2019(4):** The *New York Times*, which is very pro-wireless, claims that "radio waves become safer at higher frequencies," as an argument that the new 5G technologies are benign.

**2019(5):** The U.S. Federal Communications Commission opens frequencies from 95 gigahertz to 3000 gigahertz for limited commercial use, including sale of wireless devices to the public. The radio amateur and radio astronomy communities objected to the extremely lax regulation, but were over ruled.

**2020(1):** The private organization ICNIRP issues new guidelines for EMF radiation, that are no more protective than the old. They brush off the science as "unsubstantiated" and "no evidence." Despite its secretive finances and invitation-only membership, ICNIRP effectively sets the global standards for electromagnetic radiation.

**2021(1):** A Court of Appeal in California recognizes EHS as a disability. School teacher Laurie Brown sued her school district which refused to accommodate her inability to tolerate Wi-Fi.

### **About this document**

There are many more events than can be listed here. Surely we missed some that should be included.

Some readers may complain that this list contains too few studies that do not show health effects. Having more would be like reporting on all Thomas Edison's failed attempts at creating his light bulb.

Much research still needs to be done. As more science comes in, prudent people might take reasonable precautions. Eventually, the health authorities may gradually take some action, and then eventually the general public may accept the situation.

That is how it went with cigarettes and other now-accepted health threats. This process takes many decades, especially when there are major financial interests involved, as there are here.

For a comprehensive discussion of the thousands of scientific studies that already point to health effects from wireless and other forms of man-made radiation, see the BioInitiative reports ([bioinitiative.org](http://bioinitiative.org)).

## **References**

The references for this document are in the separate file: [www.eiwellspring.org/hist/EMFtimelineReference.htm](http://www.eiwellspring.org/hist/EMFtimelineReference.htm). The references are indexed after the year they appear on the list.

## **More historic information**

See [www.eiwellspring.org/ehshistory.html](http://www.eiwellspring.org/ehshistory.html) for other historic information regarding EMF health effects.

*2019 (updated 2021)*