

EMR Wake-Up Call

BY BEVERLY A. JENSEN

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THIS PANDEMIC that has shipped most employees out of their offices and jettisoned children out of their schools is providing the time and space to reconsider how we are living our lives. It is an opportunity to reboot—in tech terms—and it is the technology that needs further evaluation for how it is affecting our well-being.

Statistics from health insurance companies are a most-reliable index of the nation's health. The chemicals in our soils, food supply, and medicines surely are a factor in the stats on the population's health, but the most-pervasive pollutant in our lives is EMR (electromagnetic radiation) or EMF (electromagnetic frequencies or fields). Though we cannot see or smell it, our cells feel it.

In early 2019, the Blue Cross-Blue Shield Association issued a report on the health of 55,000,000 millennials, three-quarters of the generation that is covered by insurance. The study found a sharp decline in health begins around age 27, and 54% of that generation has been diagnosed with at least one chronic illness.

For eight of 10 health conditions, millennials are experiencing double-digit increases. Of the top 10 health problems, six are behavioral and mental health conditions (major depression, psychotic conditions, substance use disorders, and hyperactivity), and four are physical (hypertension, high cholesterol, Crohn's disease/ulcerative colitis, and type 2 diabetes).

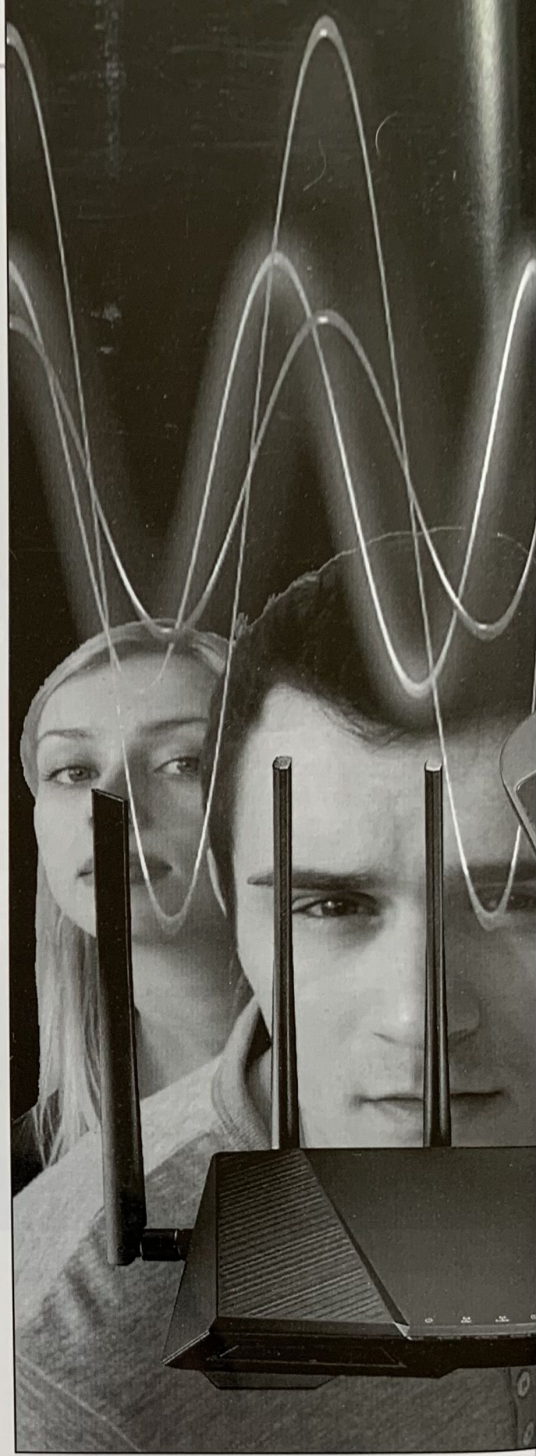
In just three years (2013-16), another Blue

Cross-Blue Shield report found a 47% jump in depression diagnoses in millennials and a 63% increase in adolescents—especially teenage girls.

Blue Cross-Blue Shield did not connect these illnesses with EMF, but thousands of peer-reviewed scientific studies abroad on EMF have found these same illnesses. Regarding neurological brain health, autism has exploded from one in 10,000 children in the 1980s to one in 59 nationwide; anxiety and depression are endemic and severely affecting the nation's youth; and Alzheimer's disease and dementia are the third-leading cause of death by calculations counting deaths due to dementia but not specifying Alzheimer's.

Some of the most-important solutions cost nothing, but simply entail changing behavior. For parents, this may require modeling new habits:

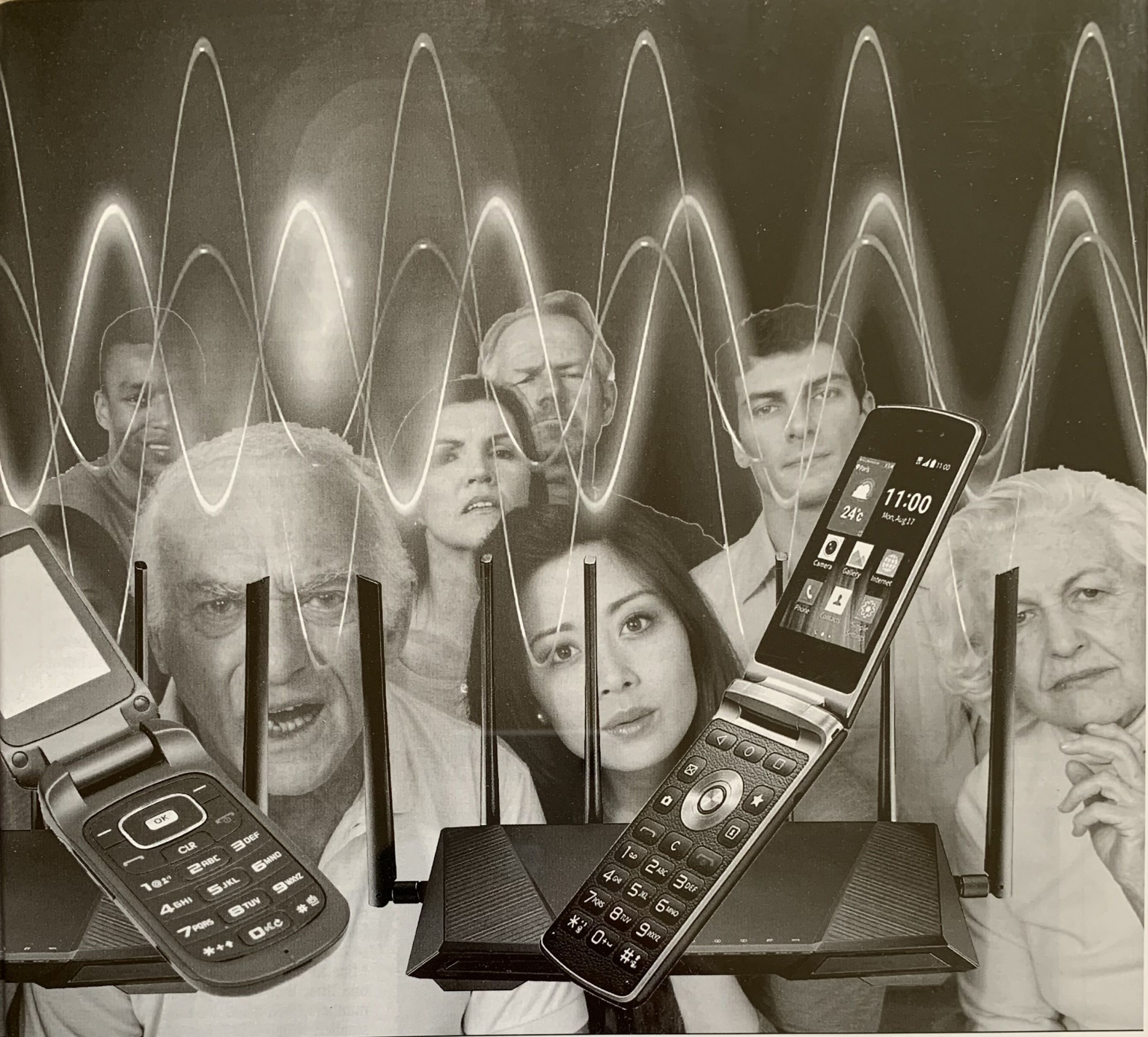
- Remove the router from the living room to the least-used room in the home. Put a metal fabric shield over the router to block much of the radiation and turn it off at night. (Purchase a timer to do this automatically.) Better yet, use cables and hard-wire your devices.
- Keep cell phones away from your body—ears and pockets. Use speakers or air tube ear buds. Also, employ an eye protector screen.
- Banned from the bedroom. Sleep is restorative as the brain cleans out and sorts memory files. No electronics should be in the bedroom; they may be pulsing even in flight mode.
- Purchase a good quality meter in order to discover areas of high radiation, dirty electrici-



ty, or magnetism. Until you can measure it, you really cannot know the conditions in your environment.

This is by no means a complete list of actions you should take to protect your family from EMF. There are websites with lists of steps to take to protect yourself and your children. The younger they are, the greater the impact.

"The pandemic is kerosene thrown on the fire," says psychologist Nicholas Kardaras, author of *Glow Kids: How Screen Addiction Is Hijacking Our Kids—and How to Break the Trance*. "Screen time has doubled with home schooling." Kardaras recommends parents become very proactive in arranging activities after the online school hours. "Get them out in nature for walks or sports, social events. Find recreational activities, anything that's not sedentary or solitary. Playing e-games online



doesn't give teens the feedback they need to discover their own identity. Parents need to set hard limits on screen time, particularly at this time when everyone is working remotely."

The consequences to the child's cognitive and social development from online time also is a concern to Camilla Rees, EMF advisor to Citizens for Health and author of *The Wireless Elephant in the Room*. "Humans learn through relationships, and we're spending too much time with technology. At an average of five hours a day online, we're spending one-third of our waking life online. Consider what you are forfeiting in your life by staying online."

Rees recommends creating a technology-free sanctuary in the home, a space to hang out and have conversations or just relax. The sanctuary should be the culmination of putting boundaries on devices.

Since all the cell phones are "at home," I

recommend checking them in at the door—put them on flight mode and deposit in one place, a basket. Schedule a "phoning time" for everyone, maybe twice a day, limiting the total time spent to a preset amount. This could become a healthy form of tech-break or tech-fast.

Increasingly, we are recognizing the addictive behaviors attached to the use of our electronics. There are support groups for tech addiction, just as for alcohol and drugs.

In his recovery clinics, Kardaras is seeing increasing cases of fragility and mental illness in young people. He describes how our algorithm-fueled social media is polarizing and contributes to a societal diagnosis of borderline personality disorder, which is typified by volatility (instant gratification has been learned by clicks) and binary "black and white" thinking. "This societal diagnosis is an existential crisis that is tearing apart the very fabric of society

and creating reactive, fragile, dysregulated, and unwell young adults."

Electronic devices and much of the technology add improvement to our lives—our cultures, education, medical care, governance, and more. We can and must learn how to use them safely. We have to get smart—or smarter. We can shield ourselves by screen protectors, metal-lined fabrics, various stones and crystals, reducing time on the devices, and increasing distance from them.

Ultimately, delivery requires fiber-optic cable, not wireless transmission. This is necessary for an efficient communication network that is safe for the population and the planet's ecosystem. This was understood and agreed upon between the telecom operators and states some 30 years ago.

Susan Crawford, professor of law at Harvard University and former member of the

Obama Administration, is the author of *Fiber: The Coming Tech Revolution and Why America Might Miss It*. Regarding the nation's status in the world vis-à-vis Internet connectivity, she posits that it should be available to all for seamless, unlimited transmission at a cost that is insignificant to the customer.

Instead, in the U.S., 42,000,000 are without access to the Internet, according to the organization Broadband Now, twice the number the FCC claims. These are populations living in inner cities who cannot afford the U.S.'s rates and those in rural areas without access.

In the 1990s, many states wrote contracts with telecom companies granting them exclusive contracts for developing communication networks. Concessions by the states for favorable regulations essentially granted the telecoms public utility status. In return, the telecoms promised to build out the fiber-optic cable system and to wire the schools.

With few exceptions, neither occurred. The companies and the state regulatory agencies largely forgot the promises. Telephone customers still are paying monthly fees for these promises, and telecom rates in the U.S. are the highest in the world while wireless access never will be built out—and for health's sake, should not be.

Notes Crawford: "We're paying rent essentially as a country to a handful of companies that are selling second-rate, extraordinarily expensive Internet access. This is actually dumbing down the entire country and our

ability to compete on the international stage. That's the issue."

While there are physical and mental health issues with current levels of radiation, what will occur as the next generation (5G) overtakes the landscape? Scientists from all over the world have issued a declaration, the 5G Appeal, calling for a moratorium on the increase of 5G cell antennas, citing human health effects and impacts on wildlife.

Legal advisors to cities are recommending localities buy insurance before they roll out 5G in neighborhoods. Swiss Re, a re-insurance group, classifies EMF as a pollutant and rates 5G as a "high" emerging risk, cautioning that "potential claims for health impairments may come with a long latency." That is, years between exposure and health claims. Lloyd's of London declared EMF a pollutant in 2015 and canceled coverage of related health claims for corporate policies.

"We can no longer assume that any current or future wireless technology is safe, including 5G, without adequate testing," says Ronald Melnick, lead scientist of a study by the U.S. Department of Health's National Toxicology Program.

To expedite the deployment of 5G, in March 2018, the FCC waived for telecom companies requirements put in place by other Federal agencies to protect the nation's environmental, health, and cultural interests. Native American tribes and the Natural Resources Defense Council contested the FCC

ruling. In a unanimous decision, the U.S. District Court of Appeals in Washington, D.C., in 2019 ruled against the FCC, finding the Commission's deregulation of small cells "arbitrary and capricious."

This court decision unleashed hope—and action—in communities across the U.S. that cities have legal means to investigate the effects of 5G and decide for themselves whether to allow a deployment of small cells for 5G in their streets.

What are the likely health effects of 5G? Telecom industry representatives told a Senate committee that there had been no studies of the safety or health effects of this level of radiation.

The Soviets conducted 60 studies on low-level (microwave) radiation effects in the workplace from 1960-90. The level of permitted radiation in Russia is 1/100th that of the U.S., and the 5G spectrum will be retained by the military, not licensed for commercial use.

Mice and white rats commonly are used in research labs because they are similar to humans in genetic, biological, and behavioral characteristics. Many symptoms of humans can be replicated in these animals. In the late 1990s, scientists in Greece conducted an experiment with mice to test the effects of varying levels of electromagnetic radiation on them. Their gestation period is 30 days, so generational changes are tracked quite easily. Only in recent years have scientists begun to understand that health impacts our grandparents experienced are carried genetically onto later offspring.

Young pairs of mice (male and female) were put in cages on the ground in a broadcasting antenna park. The levels of EMF at the ground level were well within U.S. current safety guidelines—this was 2G. One set of cages was put in a location with a higher level of radiation exposure, and the other set of cages in a location with lower exposure. Mice in the high-radiation section produced one litter that was approximately normal in numbers, then a second litter that was much smaller, which was followed by complete infertility—not a mouse was born. At the lower level of EMF exposure, complete sterility took longer. They produced four litters with decreasing numbers, then no more.

The birthrate in the U.S. has declined every year for the past eight years. One in six couples cannot get pregnant when they want to, and miscarriages are a topic of discussion as common as having a cold.

As a society, the U.S.—as well as other nations—needs to raise public awareness of the consequences to human and planetary health from electromagnetic radiation. Ideally, public concern should affect prompt improvements in policy for the planet's welfare. Awareness and changing usage habits are a beginning. ★

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Fiber-Optic Wars

Some 750 municipalities around the country have moved ahead and installed their own fiber-optic network. The negative juggernaut the U.S. economy is in now due to the pandemic shutdown exposes how uneven and inequitable the communication infrastructure is. The digital divide turns out to be a chasm. The U.S. has no plan or policy in place to upgrade Internet connectivity to what is standard in many Asian countries and northern Europe—universal fiber-optic cable for the nation.

The telecom companies still may be held accountable, as consumers already have paid the bill for building the fiber-optic cable network. An independent consortium of senior staffers from the FCC, state advocates, attorneys general offices, lawyers, and telco consultants, dubbed the Irregulars, have worked for years to untangle FCC cost accounting rules, exposing a financial cross-subsidy scheme that cost consumers an estimated \$50,000,000,000 to \$60,000,000,000 annually in overcharges for 15 or more years.

The District Court of Washington, D.C., ruled in the *Irregulars v. FCC* (2019) that the states are independent of the FCC's accounting rules. So, states can investigate the financial statements of the telecom public utilities and recover the cross-subsidies that were falsely assigned.

An investigation of cross-subsidies between Verizon New York, the state-based telecommunications utility, and all the other Verizon lines of business resulted in an estimated settlement of \$300,000,000-\$500,000,000 from Verizon New York that requires construction of fiber optics to rural areas and maintenance of the public-funding utility infrastructure.

Bruce Kushnick, executive director of New Networks and cofounder of the Irregulars, expressed in an email the process with Verizon New York when the company's 2019 Annual Report was released. Verizon New York is the state's primary wireline—a public telecommunications utility just like water, gas, or electric.

"We estimate that wired Local Service portion of this utility was overcharged an estimated \$1.1-\$1.6 billion, in just 2019, in just New York, and this includes almost a billion in wireless cross-subsidies. Nationwide, this equates to Local Service being overcharged in America an estimated \$16-\$23 billion in just 2019."

Any legal proceedings against Verizon New York by the Irregulars will be a play-book for other states to hold their public telecom utilities accountable. The misappropriated funds over 15 years is estimated, nationally, at one trillion dollars.