Deep in the Appalachian Mountains, surrounded for miles by nothing but farmland and empty space, the idyllic town of Green Bank, West Virginia, is home to a population of roughly 147 souls. Lately, though, dozens of people have been flocking to the area in search of relief. They are on the run, looking for an escape from what most Americans cannot live without. Suffering from EHS (electromagnetic hypersensitivity), they cannot tolerate exposure to Wi-Fi and other electronic devices like cell phones. In essence, they are allergic to modern civilization, given that there are slightly more cell phones (322 million subscribers) in the US than people (314 million), and electromagnetic radiation is ubiquitous in today’s world.

And so, EHS sufferers have been moving in increasing numbers to this unique “white zone,” where there are no cell phone towers and Wi-Fi is strictly forbidden. In rural Green Bank, televisions don’t work, radios can’t pick up any signals, and no one owns a microwave oven. That’s because Green Bank, the only town of its kind in the entire United States, is located in the National Radio Quiet Zone—a 13,000-square-mile area where such technology is outlawed, to prevent transmissions from interfering with a humongous telescope that picks up waves from the far reaches of the universe, as well as a nearby military radio installation.

For most of us, life in Green Bank sounds like a nightmare. (I mean, how do you check the weather without a smartphone?) But for those who are looking for a respite from what they describe as an extremely debilitating condition, Green Bank is a “virtual” (excuse the pun) paradise.

When I first came across an article describing these Green Bank “Wi-Fi refugees,” and the phenomenon of EHS, I was intrigued. EHS sufferers claim to experience a wide range of symptoms when exposed to the electromagnetic radiation that is produced by many modern-day gadgets, most commonly Wi-Fi devices and cell phones. These symptoms include facial flushing, muscle twitching, insomnia, palpitations, mental confusion and more. However, all of the literature on EHS that I encountered pointed out that the American medical community is highly skeptical of their claims. Currently, Sweden is the only country in the world that recognizes EHS as a legitimate condition, classifying it as a “functional impairment.” The Swedish government estimates that approximately three percent of its citizens suffer from EHS, and provides them with social services—
even paying to shield sufferers’ homes from the radiation they claim affects them so strongly.

Those who experience what they claim is EHS believe that they are pioneers, paving the way for the future when this emerging problem will be more common. Is it true? Can you really be allergic to modern life, or is it quackery? Wishing to learn more about this controversial disorder, I set out on a quest to find sufferers. But it wasn’t easy; as I discovered, many are living off the grid.

Disconnected

Speaking to me from the exile of her remote cabin, miles away from her hometown of Vancouver, Canada, from where she was forcibly uprooted by her illness, 55-year-old Anne Bennett uses an air tube over a regular landline telephone to tell me her story. As I’m about to learn, EHS sufferers can’t use cordless telephones, but Anne’s condition, which she tells me is the most extreme she has heard of among fellow EHS sufferers, forces her to take even more extraordinary precautions to guard her health. “I can’t use a regular phone without losing the ability to speak,” she says. Anne purchased the German-made air tube to keep the wiring of the telephone away from her head, but she still won’t be able to talk to me for long before her symptoms start setting in. Anne tells me that she is at a very extreme stage of EHS, a progressive disorder she has suffered from for over 22 years.

“I used to work for the provincial government and did a lot of overtime. Five or six years ago I started to lose the ability to speak coherently as well as some functioning of my legs, as if I had MS. I also started experiencing mental confusion. I’d lived in the same area for 25 years, but when driving I would get lost within five minutes. My hair started falling out and I was sleeping only two hours a night.”

Some people, she explains, seem to be predisposed to EHS, such as those with high concentrations of heavy metals like mercury in the body. “I was highly exposed because of my job. I would often be on the computer working on a big project until 4 a.m.” She also says that the condition sometimes sets in after an intestinal infection, which is what happened to her. “I also lived in a loft above the main power line for about four years.”

After suffering these symptoms for quite some time, Anne joined a group of people with environmental illnesses. A member of the group offered to visit her home and test the environment using a special meter that would measure how much “dirty electricity” she was being exposed to.

“The two things that affect my body the most are wireless technology and dirty electricity.” Unfamiliar with the latter term, I asked Anne to define it. She explained that it refers
to unusable excess electricity given off by many appliances—a concept that isn't accepted by the scientific community as a legitimate concern. The meter revealed levels that were so high she felt compelled to move.

Anne's symptoms improved, but since then she has had to relocate several times. “When I started sleeping in a tent, my insomnia of 16 years finally went away completely. Now that I understand what was bothering me, I live away from people and cell phone towers. I live on a large acreage so I have no close neighbors, at the edge of a watershed. I'm actually on the edge of the wilderness.”

I ask Anne what daily life is like for her. “After using some refrigerators it can take me hours to regain my speech function. I don’t use a normal fridge. Mine is shielded by grounded aluminum, and I turn it on and off from a distance, using a six-foot-long bamboo pole with a rubber tip at the end. I live by myself, with all the power off except for two breakers. At night I turn on the hot water tank. I have filters that take out the dirty electricity, without which I'd be too mentally confused to function. As of a year and a half ago, I can no longer use my computer or my stove. I use a hotplate at a distance, or a toaster oven or slow cooker.”

Anne tells me she doesn't have as severe a case as another woman she spoke to in Calgary, who can't even open a fridge. “Her kids have to bring her food. “I'm happy to tell my story,” Anne explains, “because if I'd known sooner, it wouldn't have developed to this extent.”

“What would you have done?” I question her.

“There isn't that much I could have done. It's still an emerging field,” she admits. “But I would have had my home professionally tested for dirty electricity. There are two companies in North America right now that manufacture filters.”

“Are you socially isolated because of your condition?”

“Yes, extremely!”

I'm aware that many people who claim to suffer from eHS say that they can't be in the vicinity of a working cell phone without experiencing a wide range of horrible symptoms. In today's world, that obviously doesn't lend itself to a rich social life. “I can't go anywhere where there are people! I wanted to get married and have children, but I was too sick to even think about it. Sometimes, I barely had enough energy to cook. My groceries are delivered. I'm basically housebound. I can go for walks, but I haven't been able to go shopping in a store for five years. I have a few friends who pick things up for me, and one friend I go on walks with once a week. The library mails me books. It's a service they offer for homebound people. I can't attend any family events or travel to see my mother, who is elderly and lives an hour's drive away, so she has to come here a few times a year.”

I ask Anne if she's ever considered moving out to Green Bank, to become a part of the eHS community there; I've read there are similar areas in other countries, too. “I need a lot of support right now,” she replies. “I need to have my groceries delivered. I would never see my family again. It would be very hard for me to
Anne wasn’t the only EHS sufferer I spoke to with the conviction that she has a dire warning for mankind. Eva, another sufferer, tells me that her mother is involved in an organization that was formed to warn people about the dangers of wireless and other technologies, such as cell phones and smart meters, which she claims “were put on the market without testing beforehand.”

When the school Eva and her younger brother attended announced it was making Wi-Fi available on campus, Eva’s mother was concerned. “She started to do research and learned that it hadn’t been tested for safety” before becoming widespread. Eva’s mother ended up switching them to a different school. “A few years later we had a new router put in our house when we got a new landline. It sat under my mother’s desk for three months. She started to have heart palpitations and thought she was having a heart attack. She actually ran to the hospital. She was also experiencing migraines, thyroid issues and terrible irritable bowel syndrome.”

When someone came to visit and showed Eva’s mother that his laptop was connecting to a wireless router somewhere in the house, Eva’s mother unplugged the new router under her desk immediately. “Within one week all her symptoms went away,” Eva claims.

While Eva’s mother was successful at shielding her children from Wi-Fi when they were small, that changed as soon as she went off to college, where she was suddenly exposed to countless routers. “One time, after returning in mid-February after a break, I couldn’t fall asleep in my dorm room. My heart was racing and I was throwing up. After three nights, my mother came down with a meter and discovered that my neighbor had started to use a wireless router over the vacation. I wasn’t making my symptoms up!” she insists. Throughout our conversation I can tell she has had to defend herself in the face of ridicule countless times.

Today, Eva is still in school but struggles to attend classes because of the presence of so many routers. “It gets worse when I’m really close to one, such as in someone’s home, as opposed to a shopping mall.”

“How does the EHS affect you?”

“My symptoms are nausea, heart palpitations, headaches, dizziness and anxiety, and my blood sugar drops. I have filters in my plugs to reduce dirty electricity and use special light bulbs.”

Eva and her mother wear specially-lined clothing to shield them from Wi-Fi’s effects, and her mother has even designed hats out of the special fabric.

She tells me that her mother’s case is even more severe. “She basically lives out in the middle of nowhere. She can’t function in the city. Cell towers are
being put up everywhere, so even though she lives an hour outside the city limits, even that is sometimes too much. She just bought a house a seven-hour drive out in the country, where she’s planning on moving soon because it’s much more isolated. But it’s getting much more difficult to hide, harder and harder to find safe places,” she says.

“Before I experienced this myself I was a skeptic. I thought my mother was a nut job, but since I’ve had these experiences, I’ve been able to prove to myself that there is no way this is in my head.”

A big problem for EHS sufferers, Eva tells me, is a rise in the use of smart meters by utility companies to measure our use of electricity. Instead of sending out an employee to read meters in people’s homes, smart meters use wireless technology to send the information directly to the company. And EHS sufferers aren’t too happy about it.

A Not-So-Smart Meter

Kim Goldberg, an author and journalist who writes mostly about environmental issues, lives in Nanaimo, British Columbia. The recipient of a $25,000 grant from the Canada Council for the Arts, she is currently writing a book about EHS that is due to be released in late 2014 entitled Refugium: Wi-Fi Exiles and the Coming Electroplague.

Kim’s research into EHS was actually triggered by the smart meter. In the province of British Columbia, she tells me, ten percent of the population has rejected this new form of technology that has come under fire by many who are worried about electromagnetic radiation. Kim refused to have a smart meter installed in her home out of concern for its reported ill effects, and her subsequent involvement in the cause brought her into contact with numerous EHS sufferers. It was then that she decided to write a book on the subject, recording the stories of sufferers who she says are ridiculed and even committed to psychiatric institutions, where “they rot away until someone understands what their issue really is and gets them out.” Many of her subjects are “desperate and emotionally depleted from no one believing them.”

I ask for her personal story.

“I’ve lived my life very deliberately avoiding wireless technology. I never owned a cell phone, cordless phone or microwave oven. I never used Wi-Fi or had a wireless mouse or keyboard. And I never will. I own my own home, and the thought that a corporation can come and install a carcinogenic microwave transmitter on the side of my house—and I have no choice—is outrageous. This is happening all across North America even though people have become extremely ill.” Kim tells me that some of the people she has interviewed are severely affected. “They’ve been living in their cars or couch surfing in an attempt to find a safe place to sleep. A lot of cars now have wireless circuitry, and some EHS sufferers need some kind of shielding material, like a metal window screen between themselves and the dashboard. It’s becoming inescapable.”

Kim tells me that “there has been one school district after another where they announce with great fanfare that Wi-Fi is being added. What happens is that children start having serious cardiac issues—arrhythmia, palpitations—even heart attacks!” She says that parents are begging for the Wi-Fi to be removed, but instead “they just go out and buy defibrillators for every school so they won’t be sued.”

“Really? How many stories like this have you heard?” I question her.

“I keep reading newspaper articles about it. Maybe it’s being reported on more frequently in Canada than the US,” she conjectures. “Some parents who are now homeschooling say their kids were experiencing heart palpitations.”

I’m surprised. I think that most people have Wi-Fi in their homes; Kim doesn’t agree. She says that many people who become aware of the danger get rid of their Wi-Fi.
“Why have you been avoiding wireless technology?”
“I’m convinced that it’s carcinogenic. I haven’t noticed that I’m sensitive to these technologies yet, but maybe it’s because I’ve avoided these frequencies.” Kim does find, though, that her computer monitor and keyboard have started to cause symptoms. “My face, eyes and lips feel sunburned; one of my ears gets blocked; my throat gets sore; my sinuses are blocked; I have insomnia. If I stay away from my computer for 24 hours all my symptoms abate, but they return within a few minutes as soon as I go back.”

Kim believes that everyone will eventually be affected by artificial electromagnetic frequencies in some way, and that quite a few people have symptoms that they mistakenly attribute to other issues. “It’s a natural, logical response to the bombardment of artificial electromagnetic radiation in modern society.” She also believes her symptoms would worsen if she allowed a smart meter to be installed on her home. “I’m keeping it off for now. As long as I can fight BC Hydro [her power company], I’ll keep it off my house.”

In fact, Janet, a woman in her forties, points the finger of blame at her smart meter. Janet is speaking to me from her newest location; she’s clearly moved around a lot in search of what she says is “safe housing.”

Janet was renting a house and living in the airtight basement suite when, unbeknownst to her, a smart meter was installed just outside her room. “I had ringing in my ear, really bad eczema, and my computer started feeling like a live wire whenever I touched it.”

She moved to a different house and continued to feel sick, only to discover that there was a smart meter right near her head. It felt like she had the flu, but that was only the beginning of a downward spiral. “I would wake up startled in the middle of the night, and see lights on in the room through my eyelids when nothing was on. I had crazy symptoms: My hair went white on one side, and it continues to change color even now. I get stabbing pains in my head. My blood feels like it’s bubbling when I’m near cell phone towers, cell phones and radar. I have digestive problems, memory loss and burns on my hands between my fingers.”

Janet originally thought she was allergic to electricity. “I lived without power for a while and felt much better. Whenever I turned on the stove I would get a horrible buzzing in my legs. Nowadays, I still turn off all the power at night. I pack the fridge with ice and shut everything down.

“During the day, if I go into a café or library, the Wi-Fi there makes my eyes blurry and my brain foggy, and I hear buzzing in my body. I limit my exposure.” Janet doesn’t use shielding material like Eva because it’s too expensive. Like Anne, Janet can’t work because of EHS, so she’s on disability. “I don’t have the money to move to the No Radio Quiet Zone. I don’t even have the means to get there.”

Janet believes she is electrosensitive because she was exposed to toxic mold in her first apartment. “My immune system was shut down because of it.”

Janet echoes Anne’s prediction. “This is the coming plague,” she says. “We need to lessen our exposure. I have no Wi-Fi in my house. I have a radio but I sometimes have to move away from it. And I can’t be under condensed fluorescent light bulbs.

“A lot of people think I’m just crazy. Honestly, I wish it were psychological, because that would be a lot easier to handle. I’ve seen many doctors who don’t believe me.”
Baloney, Say Some Doctors

For the most part, the medical community doesn’t buy it. Many doctors believe that EHS is a psychosomatic ailment. According to the Daily Mail, Dr. James Rubin, a senior lecturer in psychological medicine at King’s College, London, has reviewed more than 50 studies and found no evidence of sensitivity to microwave radiation.

While he doesn’t question that what sufferers experience is real, he does query its cause. “There are various explanations for what people believe to be behind EHS. A third may have a recorded medical condition such as asthma or even depression, which they think has been triggered by, say, mobile phone usage, but which they would have suffered anyway…. Then there are those who don’t have a medically-defined reason for a set of symptoms, perhaps headaches, so they come to their own conclusions. The point about EHS is that it is all based on self-diagnosis. There is no specific medical test for it. It can also come down to a self-fulfilling prophecy, where an individual can worry himself sick. The expectation triggers the physical symptoms.” Rubin and his colleagues were “unable to find any robust evidence to support the existence of electromagnetic hypersensitivity as a biologic entity.”

There is also no question in the mind of Bob Park, a physics professor at the University of Maryland, that EHS is bogus, insisting that there is no scientific evidence the disorder exists. “There’s not only no science, there’s science showing that there’s no science,” Park told media outlets.

At the opposite end of the spectrum are physicians and scientists who disagree and champion the cause. Dr. Erica Mallery-Blythe is one medical doctor who certainly does believe people like Anne, Eva and Janet. “I used to practice emergency medicine, but now my life is dedicated to the subject of EHS, which I think is fascinating and extremely important.” Currently serving as medical advisor for ElectroSensitivity-UK, and a trustee for EM-Radiation Research Trust, Mallery-Blythe has been researching EHS exclusively for four and a half years, and advises sufferers on how to restructure their lives to improve their health.

“I realized that the very unusually high microwave fields we are exposed to in our daily lives, especially at work, in schools and hospitals, are very unnatural, and it all happened within a very short time period. Only 100 years ago a lot of people didn’t even have electricity. Now, in only a handful of decades, we are being exposed to incredibly high levels that almost obliterate the natural background radiation called ‘Schumann resonance,’ whose frequency is the same as human brain waves.”

“This radiation existed naturally?” I ask her to clarify.

“Yes. It’s an ELF—or extremely low frequency electromagnetic field produced between the surface of the earth and the ionosphere, and the human brain alpha wave is closely synchronized with the 7.83 Hz fundamental. Now it’s difficult to measure because of all the other artificial fields that we’re bombarded with. People are getting very sick. And children are the most vulnerable to radiation, as are pregnant women and those who are immunosuppressed.

“The human body is very electromagnetically dependent. The brain and heart are both reliant on electromagnetic fields to function normally. We are electromagnetic beings. Our biorhythms are programmed to respond to natural variations in fields. When you start changing that environment, it’s bound to have an effect on human physiology. We’re already seeing that. The group of people with electromagnetic hypersensitivity is fascinating, because they’re feeling the detrimental effects.”

“Why? What is it about certain people that predisposes them?”

“We don’t really know. We’re not sure if it’s a genetic predisposition or if anyone can develop it with enough cumulative exposure. There are many theories, including the concept that certain individuals may conduct electromagnetic fields more efficiently than others. We are all excellent conductors, but individual variations in tissue composition (water, electrolytes, metals, etc.) means that each individual’s conductivity will vary. Increased body conductivity and absorption could mean greater physiological effect. There’s a growing number of people who not only have debilitating symptoms but fortunately made the link that they’re being caused by radiation. In many cases they
revert to normal when they avoid the radiation, and all their symptoms disappear. But the longer they have symptoms, the harder it is to reverse the pathophysiology.”

Dr. Mallery-Blythe recognizes that there are many who suggest that EHS is a psychological condition. “But it’s not true,” she says.

“Then why do so many doctors believe it is?” I ask her.

“Because EHS can be very hard to prove. There are only a very limited number of medical papers on this subject showing objective proof. Provocation studies sometimes fail to demonstrate that people who claim to suffer from it can detect the fields, but there are obvious explanations for this. Firstly it is much easier to imply the absence of a condition like this, than to demonstrate its existence. The studies which have failed to show the phenomenon have very obvious flaws.”

She explains it with an analogy: Suppose someone has hay fever. How soon might he react when exposed to allergens? He might sneeze immediately, in an hour, or he might have a good day and not react at all. “The same thing is true of EHS. Some people walk into a study and are already very sick. Others would react, but aren’t given enough time. And some people are only affected by one type of radiation frequency, just as one person might die from peanut exposure and another will have no problem with peanuts but can die from a bee sting. What is extremely important is that although, as expected, some studies fail to show a link with exposure, others very clearly demonstrate the phenomenon. One positive study is not counterbalanced by a negative one. Positive findings in this case (for example the study published in 2011 in the International Journal of Neuroscience, concluding that EHS is a ‘bona fide’ novel neurological syndrome) are very important proof of existence of electromagnetic hypersensitivity, and the study design used must therefore be repeated carefully and evolved, to best elucidate the most subtle points and complexity of the condition.”

Dr. Mallery-Blythe also tells me that much of the research is funded by the communications industry, which has huge resources that independent scientists lack. “It’s been proven that funding influences results.” Kim Goldberg concurred with this sentiment. “The IT [information technology] industry is
very powerful. It sways public opinion and policy.” Kim feels that this is why EHS is so largely unrecognized here, and that this is why the scientific community has been slow to legitimize EHS.

“Why do you feel the medical community is so skeptical?”

“It's a slow process. So many other conditions were initially thought to be psychological. Dyslexia, autism, even MS. There are loads of different disorders that weren't properly recognized in the early stages. Of course in this case, there are great financial pressures against recognition of this phenomenon also.”

As Kim Goldberg mentioned, it’s rare to receive a diagnosis of EHS. She told me that Women’s College Hospital in Toronto just went on record saying that family doctors need to become aware of the symptoms and learn to diagnose it—the first time a Canadian medical institution has addressed the issue.

“How many people are affected worldwide?” I ask her.

“Studies suggest that around three percent of the population is hypersensitive in certain developed countries. This is in the absence of hard and fast diagnostic criteria, just people who attribute their symptoms to EHS and it's affecting their lives.”

Of those, approximately one percent is affected so severely they cannot work or live in a metropolitan area—like Anne or Janet.

“A much larger population has mild to moderate sensitivity, although they may not have picked up on the link. The symptoms usually affect the central nervous system and cardiac cycles, which are very electrically dependent. But it can affect every cell in your body, so it can manifest in very different ways. Some of the most common symptoms are headaches and insomnia, particularly among women and children. ADHD, autism, asthma, allergies and food intolerances are also probably linked and on the rise. Alzheimer’s and MS can also be associated with it, as well as ADHD, autism, asthma, allergies and food intolerances are also probably linked and on the rise.

Alzheimer’s and MS can also be associated with it, as well as some cancers. I think there’s a huge number of people with mild to moderate EHS who haven’t figured it out yet. A lot of things that are becoming epidemic, like insomnia, are almost considered normal nowadays.”

“But how do you know that electromagnetic radiation is the culprit? Maybe something else in the environment is responsible,” I challenge the doctor.

“There are enough people who have shut off all their devices and their symptoms disappeared,” she counters.

Dr. Mallery-Blythe tells me that EHS sufferers often have a hard time convincing family members and doctors about their condition. “It’s a disaster. We’ve even seen a number of suicides. Some people are wrongly diagnosed with mental health issues.”

She tells me she was personally involved in several cases where she had to explain to psychiatrists that it wasn’t a psychological condition. She often functions as an advocate for EHS patients who need support and someone to speak to their healthcare practitioners on their behalf.

“How do other medical practitioners regard you? Do they accept your position?”

“Fifty-fifty. Half of the doctors are extremely open-minded, but plenty have their minds already made up and aren’t interested in what I have to say.

“It’s difficult to conduct a research study when we don’t fully understand how something works. It’s also much easier to disprove something than it is to prove it. Many studies, that failed to demonstrate a link between provocation with an EHS trigger and a response, are poorly constructed and don’t take important things into account.”

“Are you personally fearful?” I ask Dr. Mallery-Blythe.

“Absolutely. I loved wireless technology. It’s convenient and has many benefits, but I made a very conscious decision not to expose my body to it once I began reading the research. I was totally unaware of it during my medical training, and it was a real eye-opener.” She tells me that she no longer has Wi-Fi or a cordless telephone and believes that everyone should be taking precautions to reduce the risk and minimize exposure, particularly when sleeping. “We aren’t encouraged to do that from a governmental level, but huge bodies of academics and scientists are telling us to.”

For example, the World Health Organization and International Agency for Research on Cancer classified this type of radiation as a Class 2B carcinogen in 2011, and the Health Protection Agency issued a warning that children under the age of 16 shouldn’t use cell phones except for cases of emergency. Likewise, two years ago the European Assembly passed Resolution 1815, which among other things calls for restrictions on Wi-Fi in schools, and restrictions on the use of mobile phones by children.

“That’s a very clear message, but it’s been swept under the carpet,” she concludes.

When I first heard about Green Bank, West Virginia, I wondered how so many people could live without modern technology. I’m way too connected to my cell phone and laptop to give them up, so maybe it’s just easier to pooh-pooh the whole idea and conclude that EHS is imaginary. That’s because the alternative is distinctly frightening—that I’m the one who’s living under a rock. ■