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What Happened to the Girls in Le Roy

By **SUSAN DOMINUS**

Before the media vans took over Main Street, before the environmental testers came to dig at the soil, before the doctor came to take blood, before strangers started knocking on doors and asking question after question, Katie Krautwurst, a high-school cheerleader from Le Roy, N.Y., woke up from a nap. Instantly, she knew something was wrong. Her chin was jutting forward uncontrollably and her face was contracting into spasms. She was still twitching a few weeks later when her best friend, Thera Sanchez, captain of one of the school's cheerleading squads, awoke from a nap stuttering and then later started twitching, her arms flailing and head jerking. Two weeks after that, Lydia Parker, also a senior, erupted in tics and arm swings and hums. Then word got around that Chelsey Dumars, another cheerleader, who recently moved to town, was making the same strange noises, the same strange movements, leaving school early on the days she could make it to class at all. The numbers grew — 12, then 16, then 18, in a school of 600 — and as they swelled, the ranks of the sufferers came to include a wider swath of the Le Roy high-school hierarchy: girls who weren't cheerleaders, girls who kept to themselves and had studs in their lips. There was even one boy and an older woman, age 36. Parents wept as their daughters stuttered at the dinner table. Teachers shut their classroom doors when they heard a din of outbursts, one cry triggering another, sending the increasingly familiar sounds ricocheting through the halls. Within a few months, as the camera crews continued to descend, the community barely seemed to recognize itself. One expert after another arrived to pontificate about what was wrong in Le Roy, a town of 7,500 in Western New York that had long prided itself on the things it got right. The kids here were wholesome and happy, their parents insisted — “cheerleaders and honor students,” as one father said — products of a place that, while not perfect, was made up more of what was good about small-town America than what was bad. Now, though, the girls' writhing and stuttering suggested something troubling, either arising from within the community or being perpetrated on it, a mystery that proved irresistible for onlookers, whose attention would soon become part of the story itself.

Le Roy's East Main Street displays an impressive row of grand Victorians and

Federalist-style homes built in the 19th century, testament to the flour mills and salt mines that made the town a comfortable place to live. After that came the Jell-O years, when that company and several others employed thousands of people in the area. But Jell-O and most of the rest of the factories took their work elsewhere by the 1960s, and now a good number of those historic homes have been divided into two- or three-family rentals, with peeling paint and rows of crooked mailboxes inside the foyer. Some houses look so beaten down by weather and disrepair that it comes as a surprise to see a light on inside. Le Roy is a working-class community with good schools that attract people who work in nearby Rochester. But it is also a manufacturing town whose prosperous days are behind it — the kind of place where local politicians are always talking about how to bring back the good old days.

Katie Krautwurst and her family live in one of the stately, well-preserved houses in town, a home her mother's ancestors built, its porch now decorated with semicircular American flag banners and a child's antique sled. At the top of a winding staircase is Katie's room, a pink-and-yellow perch where she and Thera sat talking one late February afternoon. The girls grew close a few years ago, when they met through cheerleading and realized they both had a crush on the same guy. "How weird was *that?*" Thera asked, her voice going loud and her eyes going wide. Thera speaks in italics and underlines; Katie, by contrast, is so reserved she could be mistaken for nonchalant. As they talked, Thera was idly going through Katie's walk-in closet to see what was new. Katie's face showed a quick spasm, a twitch, every few minutes, subtle enough that you might miss it if you weren't looking. Thera had a bruise on her left leg from where she had fainted the evening before and landed on her bedside table.

On the afternoon when Katie first started twitching, she was at her boyfriend's house. When the symptoms worsened, his mother called her mother, who told them to call an ambulance and meet her at the emergency room in Rochester. Paramedics strapped Katie onto the stretcher. "Then I couldn't twitch, so it made it even worse, and I was freaking out even more," she said. Doctors at the hospital told Katie and her mother that she was having an anxiety attack. Katie was a straight-A student who admits she can be anxious at times. But her symptoms persisted, so she and her mother went back to the same emergency room a few days later. This time, Katie's mother, Beth Miller, a nurse, insisted they conduct more elaborate tests. After seven hours of testing that included an M.R.I. and a blood panel, the doctors told Miller what she already knew: her daughter had tics.

Katie was still twitching when she saw Thera early the next week at the art class they were taking together. "I was really weirded out," Thera said. "I got upset, really upset." When, a

few weeks later, Thera's symptoms came on, she and Katie did not connect the events. "A lot of people have tics," Katie said, as if she thought at the time it was just something girls got, like cramps or a cold. It's true that tics are not that uncommon — one in a hundred high-school students experiences them at one time or another. Last summer, Katie played soccer with two girls who were displaying tics on and off for more than a year. One was diagnosed with Tourette's syndrome.

When doctors told Thera's mother, Melisa Phillips, that her daughter's tics were stress-related, she "went along with it," she told me. "I know she has a huge heart, and she's wound tight." Thera also had an episode of tics three years ago. But when Phillips learned that other girls were coming down with similar symptoms, she began to wonder if there was more to this than stress.

Other parents were wondering the same thing: Maybe there was something in the water at the school or in the ground under the playing fields. By mid-January, the number of known cases was around 12, and parents eagerly awaited the preliminary results of an investigation by the New York State Department of Health. But at the community meeting where the results were to be announced, officials said that out of deference to the patients' privacy, their diagnosis could not be revealed. They did try to assure the crowd that the school's environment was safe, but the air-quality tests they performed left a number of parents unsatisfied, including Katie's mother and stepfather, Don Miller. Five days after the meeting, Katie, Thera and their mothers — all of them photogenic and sympathetic — appeared on the "Today" show. "I'm trying to get all the information together so I can proceed in finding a cure for our daughters," Beth Miller told Ann Curry.

On the show, Katie's tics seemed under control, but Thera's were extreme: she jerked her head to the side and swung her arm across her body and occasionally stuttered over a word before making a guttural cry. She looked impossibly brave for showing herself in that state on national television. "I was always so active, and everybody was always happy to be around me," she said, in fits and starts. "But I don't feel like myself anymore."

The story took off quickly, not just on the local and national news but on Facebook and autism blogs and sites devoted to mental health and environmental issues. The day after Katie and Thera appeared on "Today," a neurologist in Buffalo whose practice had seen many of the girls was given the greenlight to speak about the diagnosis: it was conversion disorder, he said, which meant the girls were subconsciously converting stress into physical symptoms. And because so many students were afflicted with similar symptoms, it was also considered to be mass psychogenic illness, which is another way of saying mass hysteria.

To many parents, the diagnosis was woefully inadequate, even insulting. “It’s a very hard pill for me to swallow — what are we, living in the 1600s?” the guardian of one of the girls said. Besides, kids are always stressed, and some of these kids may have been less stressed than most. On CNN, James DuPont, the father of an afflicted girl, said, “A lot of these kids were just, you know, having a happy, normal life.” Miller told me she did not buy the diagnosis, not one bit. “My daughter hasn’t had any trauma,” she said. “She was just happy, going along. She was as happy as can be.”

Long before any teenagers started twitching, the conversation at the coffee shop in town or at the counter of Jim DuPont’s television-repair shop would turn, from time to time, to speculation about what kind of waste Le Roy’s manufacturing plants might have left behind. Some of the older residents remember that they could always tell what flavor the Jell-O factory was producing on a given day based on the color of the water in Oatka Creek. What else, they wonder, got dumped on Le Roy?

Beth Miller suspects that there was a cancer cluster on the street where she once lived in Le Roy — she and several of her neighbors have been stricken with tumors — and early on, she suspected that Katie’s symptoms might have something to do with the environment as well. Not long after she started pursuing these leads, someone placed under her doormat documentation about a train accident near Le Roy in 1970, in which tens of thousands of gallons of toxic chemicals were spilled into the soil, including trichloroethylene, a solvent that has been linked, in high levels of exposure, to nervous-system damage, among other things.

Three months into Katie’s illness, Miller contacted Erin Brockovich, the environmental activist played by Julia Roberts in the film of the same name. [Brockovich sent a team to Le Roy to test the soil on school grounds](#), theorizing that the school might have been built on earth trucked in from the contaminated site. “We don’t have all the answers, but we are suspicious,” Brockovich told USA Today. “They have not ruled everything out yet.”

On Saturday, Jan. 28, Brockovich’s team, accompanied by a crew from CNN and a handful of other reporters, arrived at the Le Roy high school to perform their tests, only to find members of the local police waiting to escort them off the property. The mood in Le Roy, already tense, was now charged with anger. “I will tell you that usually in settings or situations like this, when I’m confronted by officials barring access to something, they usually have something to hide,” Bob Bowcock, one of Brockovich’s testers, told CNN.

In the days that followed, groups of residents made their way to the site of the former spill,

to compare notes and to see what there was to see. “I am very angry,” said Robyn Horn, a mother of four. “I mean, what are they trying to hide? They wouldn’t let them take a little bit of soil?” The Batavian, a local online newspaper, posted a poll asking, “Are you confident Le Roy schools are looking out for the best interest of students?” Of the 1,600 people who responded, 67 percent answered no.

And so on the first Saturday morning in February, five months into the crisis, there was another community meeting. Kim Cox, the school superintendent, stood before the town’s parents and faced hostile questions about a host of environmental concerns: natural gas wells on school property, toxic-waste cleanup sites within a few miles and a sticky orange substance oozing out of the playing fields.

“What are you doing now to protect our children in school right now?” one of the parents asked.

Cox offered her best assurances: that environmental testing had already been done; and that no known environmental toxin, the country’s best experts agreed, would cause these particular symptoms or account for an affliction affecting almost exclusively teenage girls and not boys or teachers or any other staff members.

A small woman in the audience stood up and began to shout, “You guys need to prove to us it is safe for my daughter to be in this school.” The superintendent tried to respond, but the woman pointed her finger at her and said: “No, I’m done listening to you. You need to do something!” Then she stormed out of the room, a man with a video camera hustling after her.

Right around this time — when Brockovich started appearing in the news and everyone was talking about toxins and trust in local officials was at an all-time low — the neurologists in Buffalo who were treating some of the girls started seeing their patients’ conditions worsen. One of the doctors, Laszlo Mechtler, [told The Batavian](#) that patients who had been improving were suddenly in his office, “crying, ‘This chemical is in my head and I’m damaged for the rest of my life.’” Doctors also saw an increase in cases, which they attributed to sensational coverage and increased stress. As more girls got sick, the story got bigger, and then more girls got sick.

Katie and Thera thought some other girls in town might be suffering from conversion disorder. But not them. “No,” Katie said. “Me and Thera, we’ve definitely had times we’ve been stressed out, but this wasn’t the time we were stressed out.”

As the afternoon we spent talking wore on, the pink on Katie's bedroom wall turning a darker rose, she started packing up a bag to go to her boyfriend's house. The families were close — her boyfriend's mother drove her and her mom to the hospital the second time she went. Her own mother could not drive, Katie explained, because she was recovering from brain surgery.

In addition to her tumor, Beth Miller suffers from trigeminal neuralgia, a nerve condition that causes excruciating pain in her face. In the weeks leading up to the surgery, she was so sick she sometimes had trouble getting out of bed. The surgery took place just a week before the onset of Katie's tics.

Katie could see the line of questioning that piece of information might provoke, so she quickly clarified. "She's had, like, 13," Katie said of the surgeries. If that seems like something that might be hard on a child, Katie isn't one to dwell on it. "I'm so used to it," she said, her voice trailing off in a huge yawn. "Seriously, it was like a walk in the park."

Thera was perched on the bed, biting her nail. It was not just cheerleading and clothes that bound the girls: both have gone through a lot with their families — troubles of very different natures, but troubles nonetheless. Several years ago there was a traumatic loss in Thera's family, the details of which they requested remain private. And now her relationship with her biological father, with whom she hasn't lived since she was very young, was weighing on her. She was feeling particularly bad about it lately, losing sleep over some harsh words they recently exchanged. She and her mother were angry that, even after she started having seizures, he didn't come up from his home in South Carolina to help out. "I used to be Sissy to him, and now I'm just Thera," she told me. "And he used to be Dad, and now he's just Frank."

Not long after Thera's symptoms began, her mother started dating someone new. But, Thera said, she liked him.

Katie looked up from her cellphone. "Oh, so you like him, now?" Thera said that she did, a lot. She had just been wary at first. "I have trust issues," she said. "I think I have that right."

Over the course of the afternoon, both girls yawned, one after the other; one mentioned her stomach hurt, then the other one did, too. They spoke in shorthand and overlapping sentences. Thera reached into Katie's closet and pulled out a jumper. "It's a onesie," she said. Katie laughed.

"Katie told me that she wouldn't wish tics on anyone," Thera said, "but if it had to be

someone, she was glad she was going through it with her best friend.”

Like everything else in high school, the girls’ symptoms were broken down by status: there were the kids who were really sick and then the kids whose illness was “psychological” and then the kids who were faking it so they could get on the news. No matter how many times the doctors explained that these symptoms were real, something the girls could not control, the finger-pointing persisted. One mother even went on Facebook to publicly accuse her daughter’s best friend of faking, before apologizing the next day. “If they were faking it, I’d like to know how they can cause it,” said Dave Watson, guardian for one of the affected cheerleaders. “It’s not like any one movement is more exaggerated than the next. It’s pretty damn consistent. I’d like someone to explain to me how they could walk around all day and do it consciously.”

Conversion disorder presents something of a paradox in that it engages some voluntary pathways in the brain but is experienced by the patient as wholly involuntary. One study found overlapping, but distinctly different, brain activity in patients diagnosed with conversion disorder and patients asked to “fake” the same illness, in this case a limp ankle, suggesting “more complex mental activity” in patients with conversion disorder. The very notion of what makes a movement feel voluntary — and whether movements actually are voluntary, or only feel that way as a result of some post hoc coordinating that happens in the brain — is another philosophical and neurological question.

Researchers think the illness might have something to do with the amygdala, a locus of startle and fear responses in the brain, which has been shown to be overactive in patients with conversion disorder. “Ordinarily, the amygdala might create psychological distress, but instead, in these cases, it would create an involuntary movement,” says Mark Hallett, a senior investigator at the National Institute of Neurological Disorders and Stroke. He added, though, that while the theory is plausible, “we’re at a primitive level” in terms of understanding how it works.

Conversion disorder is somewhat better understood now than it was when the French neurologist Jean Martin Charcot displayed his patients’ fainting fits to hundreds of dazzled audience members in the 1870s. Fainting and nonepileptic seizures are common symptoms, as are seemingly paralyzed limbs; less common, but still well represented, are certain types of tics and twitches. Recent research has confirmed some of Freud’s early theorizing on the subject, finding that a history of trauma is higher in patients with conversion disorder than in other kinds of psychiatric patients.

Part of what is baffling about the Le Roy case is that it seems to combine two equally poorly understood phenomena: conversion disorder and mass psychogenic illness. Jennifer McVige, a doctor at the Dent Neurologic Institute in Buffalo who has seen 14 patients from Le Roy (neither Katie nor Thera is her patient), has said that most of them are dealing with serious stressors or trauma. That history is somewhat unusual for mass psychogenic illness, which is not generally thought to target people with a particular psychological background. In other ways, however, the case in Le Roy is a textbook example. Half of mass psychogenic illnesses occur in schools, and they are far more common in young women than any other category. Simon Wessely, an epidemiologist at King's College in London and chairman of the department of psychological medicine, estimates that hundreds of outbreaks occur every year in the United States — just this past November, 22 students fell ill with stomach complaints at a football game in Houston, and no one so much as noticed outside the local news. Motor mass hysterias — twitching, fainting, stuttering — are more rare and draw more attention. In the past 10 years there have been three such outbreaks in the United States, which Robert Bartholomew, a sociologist specializing in the subject at Botany Downs Secondary College in Auckland, New Zealand, says is a surprising number for so short a period of time.

How could one person's illness be reflected in another person's neural pathways, playing a trick on consciousness, convincing the host that it originated in her own body? In the last decade, scientists have begun to explore the concept that regions in our brain once thought to activate only our own activity or sensations are also firing what are known as mirror neurons when we witness someone else perform an action or feel a sensation. Mass psychogenic illness could be thought of as the maladaptive version of the kind of empathy that finds expression in actual physical sensation: the contagious yawn or sympathetic nausea or the sibling who grabs his own finger when he sees his brother's bleed.

Any two people, as they try to delicately disagree or flirt or compare notes on the best route to Boston, might unwittingly match vocal tones or even frequency of eye blinks. In one study, researchers found that subjects trying to form an alliance with someone else subconsciously tap their feet to match the tapping of that person's foot, or touch their faces with the same frequency. "It's happening unconsciously, but it is serving the goals you need it to serve," says Jessica Lakin, the chairwoman of the psychology department at Drew University in New Jersey, who studies what's known as the chameleon effect. Another study contrived to make subjects feel excluded from an online game; when those subjects were next introduced to someone new, they matched foot-tapping even more assiduously (and equally subconsciously) as if all the more motivated, at some primal level, to bond through

physical mimicry. Mass psychogenic illness, whatever its mysterious mechanism, seems deeply connected to empathy and to a longing for what social psychologists call affiliation: belonging.

Cheerleaders frequently come up in case histories of mass psychogenic illness at schools, partly because psychogenic outbreaks often start with someone of high social status. But it might also be that their enviable unity is what makes them more susceptible. In 2002, 10 students, 5 of them cheerleaders, in a rural town in North Carolina suffered from nonepileptic seizures and fainting spells. In 1952, the Associated Press reported that 165 members of the Tigerettes cheerleading squad from Monroe, La., fainted before halftime at a high-school football game in nearby Natchez, Miss. There were no unusual circumstances, other than a little bit of heat and an embarrassing incident in which the girls had come onto the field after the first quarter, by accident. So many girls were fainting in quick succession that five ambulances raced across the field at once. “It looked like the racetrack at Indianapolis,” a spectator said.

Most cases resolve quickly. Authorities say something reassuring about the environment, the symptoms fade and everyone moves on. “Things only go wrong,” Wessely wrote in 1995, “when the nature of an outbreak is not recognized, and a fruitless and expensive search for toxins, fumes and gases begins. Anxiety, far from being reduced, increases. It is only then that long-term psychological problems may develop.” A school in the United Kingdom was plagued for years by the concern that a strange odor was making students and teachers ill, even though public-health officials found no problem. Administrators relocated the school temporarily, but teachers still worried that the books they brought with them could contaminate the new space.

The environmental concerns in Le Roy seemed to be gaining traction rather than being put to rest. At times, it was hard to distinguish between paranoia and justifiable concern. Soon after Brockovich’s testers were turned away from the school, a WPIX reporter showed footage of dozens of corroding barrels near the site of the train derailment, some of them oozing a putty-colored material, in an area marked “Hazardous Waste.” E.P.A. officials told the reporter that despite the labels, they did not believe “for one second” that the barrels contained hazardous materials — then sent men in hazmat suits to test and later remove them. “With the government, our own health department, collaborating with the school, with Dent, it’s almost just short of a conspiracy,” James DuPont, one of the fathers, said. “People are getting that thing, like they’re trying to hide something.”

“That mass psychogenic illness — that’s just a bunch of hoggy,” said Heather Parker. It

was around noon on a Sunday in late January, and she was getting ready to leave the house to go to her job doing technical support at TurboTax. Her 17-year-old daughter Lydia, who took ill one week after Thera in mid-October, was curled up in an armchair in the living room. As she talked, Lydia's right arm moved, over and over and over, in what looked like a hitchhiking gesture that had lost its way.

There was a calmness to the movement, an acceptance, that was different from what she displayed in a dramatic interview on "Dr. Drew," a TV show on HLN hosted by Drew Pinsky, in late January. On that show, Lydia's face looked distressed, and her arm swung far more wildly. She had bruises on the side of her face from where had she punched herself. Beside her that day, Thera fidgeted and twitched.

Thera and Lydia are in the same grade, but before they both started suffering from tics, "we weren't as close as we are now," Lydia said. Lydia is not the cheerleading type or the honor-roll type — she has friends, but a small circle, and she was never much of a student. In some of the earliest news clips, her hair is blond; a few months later it is red; then, most recently, a purply black. She knew Thera from art class. "She is a phenomenal artist," Lydia said. "She can draw like there's no tomorrow. And she's in cheerleading. She has a bunch of friends. She has an amazing boyfriend — and she wasn't stressed out. It's heartbreaking for her." It was only when she thought of Thera's pain that Lydia's eyes looked as if they were tearing up.

Precisely because Thera seemed to have the world at her feet, it's hard for Lydia to accept what the doctors have said about conversion disorder. But there's one thing Lydia is certain of. "It's not the environment," she said. "I always drank my own Snapple."

The "Dr. Drew" interview was broadcast live from Thera's home. Several minutes into a discussion with a medical expert, the camera suddenly cut back to Thera. "Oops," Drew Pinsky said. "Thera is having a little bit of a reaction there. Thera, are you O.K.?" She had slid slowly to her mother's lap and then onto the floor. "Is her airway O.K.?" Pinsky asked. "Do you need me to call the paramedics?" Her mother looked oddly calm, explaining that Thera had epilepsy. Recently she had also been experiencing nonepileptic seizures, which are a common form of psychogenic illness in people who have epilepsy. "It's going to pass," she said. Thera was conscious, eyes open, but seizing up on the floor. Soon after the cameras stopped rolling, Lydia temporarily blacked out. Within a few days, she was feeling so much numbness in her legs, she had to rely on a wheelchair. She borrowed Thera's.

On the day we spoke, Lydia no longer needed the wheelchair, but she still did not seem well.

She was having trouble sleeping and was on 11 different prescription medications. As we spoke, Lydia's 5-year-old sister silently came into the living room and crawled under a fleece leopard-print blanket beside her, looking out warily. Lydia's mother works long hours, and her grandmother works nights. That leaves Lydia to give her sister dinner, to put her to bed, to take her along on trips to the mall with her friends.

As for their father, "No one knows where he is," Lydia said. And even if he were around, she would not trust him to watch her sister. "He was always violent since maybe I was 10," she said. The worst incident occurred in February 2009. Her father had been drinking. "I threw a shoe at him, he kept yelling at me and punched me in the back of the head," Lydia said. "We ended up in a corner just like that, punching each other in the face for 10 minutes before my grandmother pulled him off." Lydia, her arm swinging steadily, spoke in a low, almost disinterested monotone. Fourteen at the time of the attack, she filed a police report.

"He reached out to me on Facebook a couple of days ago," Lydia said. For the first and only time during the interview, she let out two loud humming noises. "He found out from watching — *hmm, hmm* — from the news and stuff. I didn't really let it bother me."

Her sister got up and wandered into the kitchen to get some potato chips. "It isn't important," Lydia said. "It isn't relevant."

The psychiatric department at the Rochester Medical Center was partially funded by a gift from Helen Woodward Rivas, heir to the Jell-O fortune and resident of Le Roy. (The department, its chairman liked to say, "rests firmly on a foundation of Jell-O.") It also happened to be the scholarly home of a physician-psychiatrist named George Engel, who was best known for promoting what he called the "biopsychosocial" model of diagnosing and treating illnesses. His influential 1977 paper in *Science* argued that doctors should evaluate the life circumstances, family backgrounds, income levels and daily habits of patients in addition to their physical health.

Engel would have seen biopsychosocial factors everywhere in Le Roy, a town that changed, like so many others in Western New York, when its factories closed down. The median income there, even as recently as 1980, was almost 9 percent above the national average; now it's below average. Where there were once single-family homes owned by their residents, there is a higher than average number of rental properties, meaning a more transient population. And the town's changes in family structure follow a trend that is particularly pronounced in working-class communities — more divorce, more single mothers. In 1980, Le Roy had fewer single mothers living there than in most of the country;

now that number, too, is higher than the national average. Economically, “you see a decline in Le Roy, relative to the rest of the country,” said Andrew Beveridge, a sociology professor at Queens College and a consultant in census statistics for The New York Times. “The change in household structure — that’s quite stark.”

A common thread emerged among the five girls I interviewed extensively: none had stable relationships with their biological fathers. And the father of a sixth girl had seen little of his high-school daughter until his concern about the tics galvanized their relationship. Another student was a foster child who switched foster homes shortly before his tics came on; yet another is in the custody of an older sibling. Another two have spotty contact with their fathers. One young woman I interviewed was close to homeless after she and her mother left her father’s trailer. They’re staying with a friend of a friend while her mother, who was laid off two times in the last year, tries to scrape together first and last month’s rent so they can get a place of their own.

Nineteen-year-old Chelsey Dumars was both estranged from her own parents and a single mother herself. But she was also proof of the way that families could be put back together again in new variations. She lives in a narrow house by the railroad tracks that belongs to Penny Privitera-Watson and Dave Watson, the mother and stepfather of her former boyfriend, Peter. Chelsey moved in with them not long after she found herself pregnant last year. She and Peter were just friends at that point — the father was someone else — but she was on the outs with her own parents, who live in nearby Brockport, and needed help. Penny’s sister runs a day care center behind the house, which means that Chelsey could go back to school — and cheerleading — knowing that her baby was well cared for.

Chelsey’s symptoms came on about two weeks after Thera’s. Her head twisted to the side every few minutes, her mouth grimacing as if she had tried and failed to stop the movement midway. At times, her neck twisted so severely that she was afraid to eat for fear of choking. Watson and his wife have taken her to various doctors and hospitals and are frustrated by what they see as an inadequate diagnosis. “These girls are no more stressed than the girls the year before and the year before that,” Watson said. Peter suggested another reason for people to accept the diagnosis of conversion disorder: The way he saw it, it didn’t offer much hope. “It’s like it’s incurable unless you eliminate the stress,” he said. “And there’s stress everywhere you go.”

There are, of course, dozens of girls at the Le Roy high school with plenty of stress and difficult family situations who did not start twitching and jerking — and many more who suffer neither poverty nor trauma nor family illness, and watched, their mother and father

sitting beside them, as their friends appeared on the nightly news. Why these girls? One could try to connect the dots: the relationships of cheerleading and art class and friendship, the way the symptoms seemed to flow from the girls at the top of the social heap to those who looked up to them, the commonality of a certain kind of vulnerability. But the workings of the illness are in some ways as mysterious as the hidden codes of adolescence itself.

Hysteria, the medical historian Robert Woolsey writes, is a “protolanguage,” its symptoms “a code used by a patient to communicate a message which, for various reasons, cannot be verbalized.” As their parents and the media and town officials conducted a conversation all around them, the girls in Le Roy seemed to be sharing a language that maybe even they did not fully understand. That so many people in town were more preoccupied with environmental waste than the homes of the affected young people suggests that their message may have been hard for some of the adults to hear, too.

But there were also some Le Roy residents who knew the girls’ backgrounds and who made the link between those histories and the symptoms. Lynne Belluscio, the director of the Le Roy Historical Society, said that in a small town, “people weren’t going to go and shout, ‘Say, these kids have got these kinds of problems.’” They were not going to say it at a community meeting, and they might not even say it to friends. “That’s damaged the trust within the community,” she said.

The sickness of the girls seemed to ripple out to affect the health of the whole community, which suddenly found itself an object of fascination and fear and mistrust. Five basketball games were canceled when parents of players in neighboring counties voted not to let their children travel to Le Roy. Belluscio has a friend who is worried that her real estate sale is falling through, a common tale in recent weeks, and local businesses were complaining that commerce was down, because people had fears about the water, not to mention an aversion to the media vans up and down Main Street. “It’s emotionally exhausting to people who love this community,” said Lorie Longhany, chairwoman of the Genesee County Democratic Committee. “Without laying any blame on any of these families — they’re going through their private hell with this. But it’s not private hell, it’s public hell. It’s almost like a depression has just settled over Le Roy.”

Eventually, the E.P.A. tested the barrels and found they did not contain hazardous waste. Eventually, it was discovered that the sticky orange ooze on the playing fields was something known as rust fungus, which is common to Kentucky bluegrass. And yet Erin Brockovich said there was more to investigate. It seemed the door on potentially dangerous toxins could never fully be closed.

In her book “Hystories,” the feminist critic Elaine Showalter argues that hysterical epidemics require three ingredients: physician-enthusiasts and theorists; unhappy and vulnerable patients; and supportive cultural environments. The physician-enthusiast generally offers “a unified field theory of a vague syndrome, providing a clear and coherent explanation for its many confusing symptoms,” she writes.

Le Roy certainly had vulnerable patients and a supportive environment. And in late January, Rosario Trifiletti, a pediatric neurologist from Ramsey, N.J., stepped forward with a theory of the illness. In a local doctor’s office, where a group of concerned parents had gathered to hear what he had to say, Trifiletti laid out his thinking: the girls were suffering from an illness similar to PANDAS (Pediatric Autoimmune Neuropsychiatric Disorders Associated with Streptococcus), a disease in which the immune system alters the neurochemistry of young people suffering from strep infection. The parents had questions, and Trifiletti seemed to have reasonable answers. If it was an infection, why would it only affect girls? Trifiletti explained that it might be their more sensitive endocrine systems. Why so many girls, if PANDAS is generally rare? It could be a particularly virulent infection. What about the environmental toxins? That might be compromising their immune systems in ways that left them particularly vulnerable to this kind of autoimmune disease.

Susan Swedo, the neurologist at the National Institutes of Health who first described the disease, has implied that she doubted PANDAS or a similar syndrome could be responsible for the symptoms in Le Roy. The phenomenon is rare enough that the odds of so many students suffering from it at once, all in one high school, were almost impossible. But a week later, after examining the girls, Trifiletti revealed on “Dr. Drew” that all nine of the girls he tested showed evidence of either strep exposure or exposure to the organism associated with pneumonia. Results were far from conclusive, and he would need to study the levels of antibodies in their blood over time to know more, but he said there was enough evidence to get them started on antibiotics and anti-inflammatories.

After that, more lines were drawn in Le Roy. Some girls, including a few who had been receiving treatment at Dent, started seeing Trifiletti and taking the medications he prescribed. Others remained with their original neurologists, and were bullied on Facebook by those who were now taking the antibiotics: if you got better without the pills, you had surely been faking all along. The accusations invariably exacerbated the symptoms. Wessely, the epidemiologist, cited a medical-journal paper whose title had long resonated with him: “If You Have to Prove You Are Ill, You Can’t Get Better.”

When I spoke to him in late February, Trifiletti told me that the girls he was treating were

showing dramatic signs of improvement. Katie's parents said they believed that she was responding well to the antibiotics; Chelsey's family reported that the drugs are helping her as well. But another patient of Trifiletti's said she was still fainting.

When the subject of the girls' personal backgrounds came up — the biopsychosocial factors that might be affecting their health — Trifiletti said he had not had the time to ask them about those kinds of things. The abuse, the troubling family circumstances — much of it came as news to him. "Jeez, I didn't realize the extent," Trifiletti said. "These aren't things people want to talk about. I don't know, maybe I'm wrong. It's hard to distinguish between the drug and the placebo effect."

Trifiletti's PANDAS-like disease was so vaguely formulated that it was impossible to rule out. There was no way to know whether the antibiotics were really doing the work or serving as placebos. Then again, even the benefits of therapy could be considered a placebo effect: to believe in mass hysteria is to believe in the power of the mind to convince itself of almost anything.

Jennifer McVige, the neurologist at Dent who has been treating many of the girls, told me she was seeing dramatic improvements in many of the girls as well, especially after news outlets took down videos showing them experiencing tics. But she also suggested that their recovery would probably come in fits and starts. "It'll get better and then something stressful will happen — a breakup or the loss of a family member — and those physical sensations could start coming back," she said.

McVige is young and warm and won some girls' trust even before they could accept what she had to say. "I love her," Lydia Parker had said to me. "I just don't like the diagnosis."

McVige's approach has been to offer them cognitive behavioral therapy, psychological counseling, antidepressants and exhaustive testing. "If you come off saying, 'It's in your head, you have to deal with it,' people don't want to hear that," McVige said. "The first thing you need to do is say: 'No, you're right. There is a problem. The first thing I'll do is make sure there's nothing metabolic or organic or infectious.'" McVige checked their thyroid, their hemoglobin, their drug levels and their strep exposure, as well as other possibilities, and encouraged the girls' families to seek out other infectious-disease specialists for further confirmation.

She also found a way to talk about conversion disorder that put it on a continuum with other, less threatening forms of stress-induced illness. "I also work with migraine patients,

and I tell the girls, the first thing we talk to migraine patients about is their level of stress,” McVige said. While the girls waited for various test results, she asked them to keep a diary and write down anything that was on their minds. “If there’s nothing there, great, no harm done — but nobody ever got harmed by taking a good hard look at your life,” she said. Even some of the girls who do not subscribe to the diagnosis of conversion disorder — Katie, for example — have been receiving therapy in addition to taking antibiotics. And slowly, McVige feels, more and more of her own patients have started to accept that their life stressors might be connected to their symptoms.

The day after Trifiletti announced his findings on television, Thera was in high spirits, feeling so strong that she went to the basketball game where her team would be cheering. Maybe she was relieved that there was some resolution to her illness, a way forward that did not entail believing that her symptoms were purely psychological or that the rest of her classmates would soon fall ill from environmental toxins. After months of missed school, she started returning for a few hours a week and even felt up to working with a friend on her “individual,” a performance that cheerleaders give at games, solo, in practice for possible competition.

Thera was still too weak to do the splits and jumps of her teammates, but she looked confident when she took the floor at halftime for her individual routine. A few girls chanted her name: Thera, Thera, Thera.

In the middle of the gym, with everyone’s eyes on her, she didn’t look vulnerable or troubled or like someone who would be the subject of intense media fascination. She looked like a lovely girl who could dance, surrounded by the community who knew her as a person before everyone else came to know her as a cheerleader with tics.

The music started. She raised her hands up in the air, then turned around and looked sweetly back at the crowd. Watching her dance, it was easy to feel optimistic about her future. Thera would get better. And surely, the other girls would follow.

Susan Dominus is a staff writer for the magazine. She last wrote about the actress Maria Schneider in the Lives They Lived Issue.

Editor: Lauren Kern

This article has been revised to reflect the following correction:

Correction: March 11, 2012

An article on Page 28 this weekend about teenage girls in a New York town afflicted with a twitching disorder misstates the number of times the mother of one was laid off in the last year. It is two, not three.