

How swine flu virus hopscotched the globe

By SHARON COHEN and OLGA R. RODRIGUEZ

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-- A 5-year-old Mexican boy takes ill in his dusty village. He coughs, he sneezes, he gasps for breath.

Hundreds of Edgar Hernandez's neighbors in La Gloria _ villagers who live among smelly pig-breeding farms that attract swarms of flies _ already have flu-like symptoms. After they complain repeatedly, government workers arrive to conduct medical tests.

Edgar recovers, but his illness remains a mystery to his family _ at least for a while.

Fast forward about a month, to late April.

A 9-year-old boy arrives at a medical clinic in Elyria, Ohio, an industrial city 20 miles southwest of Cleveland. He has a sore throat, body aches, fever and dizziness.

His mother consults a pediatric nurse practitioner, Sally Fenik; she thinks it's strep throat or an allergy. She also mentions to the nurse they've just returned from visiting relatives in Mexico but doesn't think it's swine flu because no one else in the family is sick.

But on her way to work, Fenik has heard a radio news report about swine flu turning up in states bordering Mexico. She's far away, in the industrial Midwest, but remembers thinking, "Boy, I hope that doesn't start spreading and getting worse."

After a rapid strep test on the boy comes back negative, Fenik does a nasal swab.

A half-hour later, the lab calls. It's the type of influenza linked to swine flu virus.

This past Sunday, the Centers for Disease Control and Prevention confirmed the third-grader from Ohio had swine flu. And then on Monday, the Veracruz governor swooped in by helicopter to La Gloria to tell Edgar's mother what medical experts already know _ the kindergartner was Mexico's first confirmed case of swine flu.

Two boys in communities 1,700 miles apart _ two pieces of a vast epidemiological puzzle.

In this age of global trade and travel, the swine flu outbreak has proven itself a global illness _ a strange new virus that respects no border as it hopscotches from the dirt roads of Mexican villages to the concrete canyons of big-city America to a glittering Hong Kong hotel.

The list of the nationalities of some of its victims, in the last week alone, reads like the index of an atlas: Austria, Britain, Canada, Germany, Israel, Mexico, the Netherlands, Spain, Switzerland, the United States.

Swine flu has been confirmed in 16 deaths, all from Mexico (one Mexican toddler died in Houston). It has sickened nearly 350 people in Mexico, and about 250 others from New York to New Zealand, including children, teens, adults, students and tourists. It has rattled the world's financial markets, pushed oil prices down, caused a run on surgical masks and hand sanitizers, closed schools and churches, postponed sporting events, prompted travel bans, rerouted cruise ships.

It even stopped a superhero in his hairy tracks: Hugh Jackman canceled an appearance in Mexico City to promote "X-Men Origins: Wolverine."

No one knows precisely where the swine flu virus will pop up next.

All they know is that it will.

"Influenzas are hard to predict," Dr. Gregory Gray, director at the Center for Emerging Infectious Diseases at the University of Iowa College of Public Health, said at midweek. "I don't think this will go away in a few days. The way it's moving and the way air transportation goes ... I think this thing is going to spread to every continent in the next week."

Where and how it all began is a medical mystery.

But one of the first hints of trouble surfaced toward the end of winter, just when the flu season should be wrapping up. It came from the Mexican state of Veracruz _ a region that includes a high plain that supplies Mexico with much of its cured pork products and has many villages that are surrounded by pig-breeding farms.

Edgar Hernandez lives in one of them, La Gloria, a hillside hamlet (population 3,000) where people started complaining of bad colds at the end of February. On March 23, Veracruz health officials arrived to take saliva samples.

About a third of some 1,300 townspeople who sought medical attention _ 450 or so _ were diagnosed with acute respiratory infections and given surgical masks and antibiotics.

Edgar fell ill a bit later; the energetic 5-year-old retreated to his bed with a high fever. Other kids in his school already were sick.

People in his town have long complained that some of the pits that hold pig waste are not properly lined; they fear their groundwater is contaminated. They're frustrated and angry, too, about the stench and the swarms of flies that invade their village.

Granjas Carroll de Mexico, half-owned by U.S.-based Smithfield Foods Inc., operates dozens of farms around La Gloria. Smithfield said in a statement this week that it has found no signs or symptoms of swine influenza in its herd or its workers.

Whether La Gloria is ground zero in this outbreak is not yet known.

Mexican health officials downplayed the possibility, pointing out Edgar had the only positive saliva sample among just 35 people tested for the new virus. It wasn't until last week that authorities confirmed the little boy was infected with a new H1N1 strain _ a strange hybrid of pig, bird and human flu virus.

Two children from La Gloria died before being tested; their parents refused to let them be exhumed.

Mexico's chief epidemiologist, Dr. Miguel Angel Lezana, says officials haven't ruled out Mexico, the United States, Asia or Europe as the origin of the swine flu virus.

The CDC has no firm answers either.

"We have no idea where it came from," says Michael Shaw, the CDC's associate director for laboratory science. "Everybody's calling it swine flu, but the better term is swine-like. It's like viruses we have seen in pigs _ it's not something we know was in pigs. It doesn't really have any close relative."

By early April, the Veracruz government notified Mexican authorities of a possible flu outbreak in La Gloria. This alert happened to come around Holy Week, a time when lots of people in this largely Catholic country travel to visit family.

On April 12, Mexican health authorities notified the CDC and the Pan American Health Organization of the unexplained cases of severe respiratory illness.

One day later, people started dying.

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Adela Maria Gutierrez was the first.

She arrived at a hospital in Oaxaca, in far southern Mexico, gasping for air, her oxygen-starved hands and legs a ghastly shade of blue. They gave her antibiotics, but she only got worse.

A lab technician conducted some tests. Surprisingly, the cause appeared to be a virus related to the highly contagious SARS, or severe acute respiratory syndrome. Gerardo Juarez, the chemist, immediately e-mailed a report to the hospital. "I was afraid for what it could do to the patient," he recalls.

The hospital quickly put Gutierrez in isolation and began searching for any other possible people infected among her family and neighbors. A second round of tests showed it was not the SARS-related virus, leaving doctors puzzled.

By then, the 38-year-old mother of three was dead.

Her death was not just tragic, but alarming: Gutierrez had worked door-to-door for Mexico's tax collection agency, interviewing scores of people. As it turns out, one of her co-workers, a temporary employee, was from Veracruz, the state on the Gulf of Mexico where the first swine case was confirmed. Family members said that woman had a bad cough.

On April 17, the Mexican government issued a national health alert requiring all hospitals to report cases of severe respiratory illnesses.

By then, there were indications the outbreak's tentacles had reached beyond Mexico.

CDC test results showed a swine-like flu had infected two American children, 9 and 10, in neighboring California counties.

Soon, health departments in elsewhere report more swine flu cases. They fit no particular geographic pattern: Arizona and Indiana. Massachusetts and Kansas. Texas and Michigan.

And no distinct profile: toddlers, high schoolers, college students. A baggage handler, a businessman, a doctor. Some had traveled to Mexico, others hadn't ventured outside their communities.

That isn't surprising, says Gray, the Iowa infectious disease expert.

"People can be carrying the virus and have no symptoms at all and be passing it on to others," he says. "The virus can live on surfaces and on inanimate objects _ such as door handles or dirty tissues. It doesn't live that long. It's also transmitted through coughing and sneezing. The bottom line is there are lots of ways this virus can go from human to human. It's difficult to defeat all of them."

But, Gray says, "it's not a cause for panic. ... It does not seem to be inordinately lethal. Time will tell. It's certainly not anything like SARS. What we're seeing is a good demonstration of how respiratory viruses move quickly over a vast geographic area. ... These events probably happen all the time."

On the afternoon of April 24, Mexico's top epidemiologist got word from a lab in Canada. The respiratory infections that Mexican health officials had downplayed as common flu was a new swine flu.

The CDC said the strains matched the new virus popping up in the United States.

Mexico was gripped by a full-blown health crisis.

Striking images flashed on TV screens and splashed across front pages around the globe. There were Mexican soldiers handing out surgical masks to people in the subway, doctors in full-body white protective suits, a couple kissing through surgical masks outside the Palacio de Bellas Artes in Mexico City.

As swine flu moved across the world's time zones, one fact became glaringly apparent: The only deaths were in Mexico, with the exception of a 23-month-old from Mexico City who died in Houston.

Why?

"That is the \$64,000 question," says Dr. Ronald Hershov, associate professor of epidemiology at the University of Illinois-Chicago School of Public Health.

Hershov notes a few possibilities: That there may not be enough cases to draw any conclusion. That the virus changed outside of Mexico, though that appears unlikely. And that, unlike Mexico, the U.S. health system had the advantage of knowing from the onset that it was dealing with a swine flu virus.

"We really don't know enough details to have an explanation," he says.

Even without deaths, the illness caused fear, anxiety _ and discomfort _ in the United States.

That became clear in New York City on April 23, when students at St. Francis Preparatory School in Queens formed a long line in the nurse's office. It soon snaked out the door. The teens complained of fever, nausea, sore throats and achy bones. Several had recently returned from a spring break trip to Cancun.

That night, Rachel Mele's parents rushed her to the hospital.

"I could barely even catch my breath," the 16-year-old recalled. "I've never felt a pain like that before. My throat, it was burning, like, it was the worst burning sensation I ever got before. I couldn't even swallow. I couldn't even let up air. I could barely breathe through my mouth."

She recovered but, as some people improved, others got sick.

No one knows for certain how many people have been sickened. Labs in the United States and Mexico are moving away from testing all suspected cases and focusing on spotting new outbreak hot spots or ways to limit its spread.

But as more cases are reported, schools are closing across the United States and sporting events are being canceled. So, too, was the

annual Mayfest in Fort Worth, Tex., which usually attracts 200,000 people over four days.

Mexico City, which already had closed its schools and museums, took a larger step: It ordered a five-day national shutdown, starting Friday, of all but "essential" businesses and urges people to stay inside.

The bustling capital of about 20 million is eerily quiet.

The few people still outside are wearing masks.

http://www.washingtonpost.com/wp-dyn/content/article/2009/05/01/AR2009050102861_pf.html