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**CORONAVIRUS**

# 90% of Lancaster County's Plain community households believed hit by COVID-19

Updated: Mar. 29, 2021, 1:53 p.m. | Published: Mar. 27, 2021, 7:42 a.m.



FILE - In this April 15, 2011 file photo, an Amish farmer plows a field near New Holland, Pa. (Dan Marschka/LNP/LancasterOnline via AP, File) AP

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By **The Associated Press**

By NICOLE C. BRAMBILA, LNP

LANCASTER, Pa. (AP) — Late last spring [a COVID-19 wave tore through the Plain community](#) when they resumed church services, infecting an untold number of Amish and Mennonites in Lancaster County.

The administrator of a medical center in the heart of the Amish community in New Holland estimates as many as 90% of Plain families have since had at least one family member infected, and that this religious enclave achieved what no other community in the United States has: herd immunity.

“So, you would think if COVID was as contagious as they say, it would go through like a tsunami, and it did,” said Allen Hoover, an Old Order Mennonite and administrator of the Parochial Medical Center, a clinic that primarily serves the Plain community.

Public health officials and epidemiologists did not dispute the widespread outbreak Hoover described. But they voiced concern that a misplaced perception of herd immunity in a population that makes up 8% of Lancaster County may compromise the effort to turn the tide on the pandemic.

As Hoover observed, faith in herd immunity has prompted members of the Plain community to relax on key mitigation efforts such as masking and social distancing, and they may see little reason to be vaccinated.

Additionally, it is unknown whether achieving herd immunity last year would be beneficial now.

Six infectious disease experts with whom LNP-LancasterOnline spoke expressed unease with a reliance on the notion the Plain community had achieved herd immunity here. And they pointed out that if not the case, past infections and existing antibodies may provide limited protection.

“Herd immunity is only true at a given point in time,” said Eric Lofgren, an infectious disease epidemiologist at Washington State University. “It’s not a switch that once it gets thrown, you’re good. It’ll wear off.”

This collision of science and personal experience could leave Lancaster County vulnerable just as county health officials seek to make progress vaccinating residents against COVID-19.

“You can have a long period where you think everything is OK, but you have this whole population that’s susceptible,” said David Lo, professor of biomedical sciences and senior associate dean of research at the University of California, Riverside.

Lo added, “All it takes is one person who’s contagious to give you this sudden outbreak.”

- **More:** [25 Pa. counties have substantial spread of COVID-19; positive test rate rises for first time in 3 months](#)

### **‘There’s a real risk of having an outbreak’**

Hoover agreed with these epidemiologists.

He acknowledged that face masks and social distancing have been critical for mitigating the spread of COVID-19; he wears a face covering when interacting with non-Amish. But he also knows many in the Plain community don’t take the same precautions.

“As a general rule, we want to respect those around us,” said Hoover, who has been the medical center’s administrator since 2004. But because of perceived immunity, Hoover said, the Plain community believes public health directives don’t “apply to us.”

It’s a perspective Hoover understands, but doesn’t share.

“We should be careful that we’re not the cause of it spreading,” Hoover said.

[The Parochial Medical Center](#) is not the only medical provider that caters to the Plain community, but with 33,000 active patients, it is arguably the largest.

The Plain community in Lancaster County, which includes both Amish and Mennonites, is not insignificant. Combined, it represents nearly 8% of the county’s population of just more than 545,000 residents, according to estimates from Elizabethtown College’s Young Center for Anabaptist and Pietist Studies.

The dearth of COVID-19 testing among the Plain doesn’t just mean a lack of scientific certainty.

“The reason it’s important is because it’s unlikely that 100% have had the disease,” said David Dowdy, a professor in the epidemiology department at Johns Hopkins Bloomberg School of Public Health.

Under the right conditions, a single infected individual can trigger an outbreak.

Take what happened at Disneyland.

Two decades ago, measles was declared eradicated in the United States because of an effective national vaccination campaign. But that didn’t stop an outbreak from infecting 150 people in seven states, Mexico and Canada in 2014, according to the Centers for

Disease Control and Prevention (CDC). The outbreak was attributed to unvaccinated children.

The implication is this: If an outbreak of a highly contagious disease for which there is a proven vaccine could happen at the Happiest Place on Earth, it can happen in Lancaster County.


An outbreak among the Plain would impact the wider community because while these religious sects are insular, they are not isolated. The Plain mingle with the English, as they refer to their non-Amish neighbors, at grocery stores, their places of business and other public places.

“There could easily still be pockets of the (Plain) community who have not been infected, and if they’re infected, there’s a real risk of having an outbreak,” Dowdy said.

**1. Just the Facts: Coronavirus (COVID-19) a Respiratory Virus!**

**Germes are Everywhere!**

Germes (Bacteria or Virus) are so small we can't see them with our eyes. Germes can only be seen by using a microscope.




A microscope makes germes bigger.

Did you know that 1,000 germes can live on the top of a pencil eraser?

**Germes are everywhere:**


- In food, water, and soil
- In our mouth and in our body
- On our skin, face, hands and nose
- On pets and animals
- On toys, floors, furnisher and clothing



**COVID-19:**

- Is a virus that causes fever, cough, and shortness of breath.
- Is spread before the ill person has symptoms.
- Causes symptoms 2 days to 14 days after exposure.
- Causes little illness to severe illness that can result in death.
- Does not have a vaccine to prevent the illness.
- Does not have a medicine that helps fight the illness.
- Spreads from person to person & direct contact of the virus.

Germes are spread by contact & also spread in the air by droplets. A droplet (drip/plet) is a very small drop of liquid.



**2. Germes Travel Through the Air!**

A cough can travel 1-5 feet in the air!

1-5 feet @ 60 mph (miles per hour)

A sneeze can travel 8-15 feet in the air!


8-15 feet @ 100 mph (miles per hour)

Virus do not divide like bacteria.

A virus goes inside a body cell and destroys the cell. Then the virus looks for another cell to destroy.

COVID-19 virus goes to the lungs and can cause difficulty breathing.


COVID-19 is more catching (3 times more) then the flu.



COVID-19 virus can stay on hard surfaces in a room for **2 hours to 24 hours or more.**

That's why it's important to block a cough or sneeze with your hand, snuppie or elbow

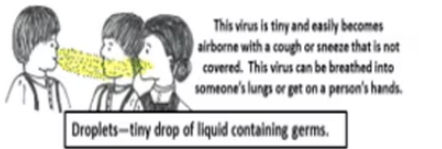
And wipe down hard surfaces to reduce the amount of germes.



**3. Facts to Help Decrease the Spread of COVID-19!**

This virus is tiny and easily becomes airborne with a cough or sneeze that is not covered. This virus can be breathed into someone's lungs or get on a person's hands.


**Droplets—tiny drop of liquid containing germes.**




If you touch germes that are on a hard surface like a desk, table, doorknob, or toy and don't wash off the germes, you can get sick.

That's why it's important **NOT** to touch your face (nose, mouth and eyes) before washing with soap and water.


**Don't touch your nose/mouth!**



Germes on a doorknob can rub onto your hands and if you don't wash before eating, you could get sick.



Germes on our hands can be spread by shaking someone's hand.



The Penn State Extension Office (Lancaster Farm and Home Center) has distributed this flyer on coronavirus to Amish and Old Order Mennonite families in Lancaster and Chester counties.

### 'It was bad here in the spring'

The Plain community followed the example of its English neighbors and shuttered schoolhouses and canceled biweekly church services when the novel coronavirus threatened to overwhelm Pennsylvania's health-care system last spring.

Initially, compliance with public health directives was about not being offensive to non-Amish neighbors, Hoover said.

But as the pandemic wore on, messages from skeptical lawmakers and English neighbors suggested that the virus wasn't a big concern.

For example, back in early May, a number of Lancaster County elected officials — including state Sen. Ryan Aument, a Mount Joy Republican — said they would join a handful of other counties to defy Gov. Tom Wolf's stay-at-home orders to save the local economy, which had been battered in the shutdown.

County Commissioner Josh Parsons, a Republican, challenged the legal basis for requiring face masks. And state Rep. David Zimmerman, a Republican who represents a large swath of eastern Lancaster County, home to a large number of Plain, criticized the governor's handling of the pandemic.

"The Amish are a distinct group, but they also respond, in many ways, like many rural Lancasterians," said Steve Nolt, interim director of the Young Center. "I think there was a lot of non-Amish influence on the Amish."

As their English neighbors resumed pre-pandemic activities, the Plain community did as well, Nolt and others said.

By late April, when Pennsylvania was still under stay-at-home orders, the Plain community had resumed worship services, where they shared communion cups and holy kisses, a church greeting among believers.

Infections quickly followed.

"It was bad here in the spring; one patient right after another," said Pam Cooper, a physician's assistant at the Parochial Medical Center.

Just how deep into the community the infections spread is impossible to know. Hoover speculated that among those displaying symptoms, fewer than 10% consented to be tested.

In late April and early May, when Hoover said the virus ran unimpeded through the Plain community, the county's positivity rate — the percent of positive tests — exceeded 20%, its highest of the pandemic, according to Covid Act Now, a nonprofit that provides local disease data. (Last year, the World Health Organization recommended governments use a rate of 5% or lower for two weeks as the threshold for reopening.)

If Hoover's assessment is accurate, and if more Plain patients had been tested, the positivity rate could very well have been higher.

While so few were tested, many exhibited all the symptoms that have become so emblematic of the disease.

Cooper estimated the medical center saw — on average — nearly a dozen infections a day, or roughly 15% of the patients it serves daily.

The disease, as has been true in the wider community, knew no boundaries. Hoover became infected in November; at least one of his children was infected twice.

"It really went through pretty quick, in a few weeks," Cooper said.

The number of patients ebbed in the summer before picking up again in the fall, although not at nearly the rate as was seen in the spring.

Cases now are rare. Hoover said Tuesday that the center hasn't had a patient present with COVID-19 symptoms in roughly six weeks.

### **'You'd actually have to test the herd'**

Epidemiologists from the University of Pittsburgh, Washington State, Johns Hopkins, Emory and the University of California all said a widespread outbreak leading to herd immunity in the Plain community would be rare, but possible.

"It's extremely unusual," Lofgren, at Washington State University, said of herd immunity to COVID-19. "It would be the first general population in the United States that's done it."

Significant outbreaks have been identified elsewhere.

The CDC, for example, studied COVID-19 outbreaks among smaller Amish communities in rural Ohio and Indiana.

As the CDC has noted, the Amish emphasis on strong social bonds and religious gatherings posed a unique public health challenge during the pandemic.

Unlike the outbreak Hoover described in Lancaster County, however, the Ohio and Indiana communities conducted testing.

"They really contributed to a lot of spread of COVID in the community," said Shirley Bixby, director of nursing for the Ashland County Board of Health in northeastern Ohio. "It was quite nerve-wracking."

In Indiana, COVID-19 infections were so common among the Amish that residents believe most had been exposed.

At the height of the summer outbreak, seven out of 10 COVID-19 tests came back positive, said Dr. Daniel N. Kragt, a physician at Dayspring Christian Health Care in Middlebury, Indiana.

Dayspring is a cash-only provider in the middle of the Amish community, about 35 miles east of South Bend.

For all the tests Kragt conducted, about 40% of Amish patients declined.

Making scientific conclusions about immunity is difficult, Kragt noted, because very often “the herd doesn’t want” to be tested.

“To say you have herd immunity, you’d actually have to test the herd,” Kragt said.

- **More:** [FEMA will reimburse families for COVID-19 funeral costs: What you need to do to get up to \\$9,000](#)

### **‘Plenty’ of death certificates**

COVID-19 has been devastating to Pennsylvania seniors, with nine out of every 10 fatalities among those 60 and older. In Lancaster County, 96% of COVID-19 fatalities as of March 17 — 926 of 968 — have been people age 60 or older.

The same appears to be true for the elderly in the Plain community, as Hoover estimated most deaths were 70 and older.

Cooper said she signed “plenty” of death certificates during that time.

But the death toll may never be known.

Lancaster County Coroner Dr. Stephen Diamantoni identified fewer than a dozen deaths in the Plain community, an estimate he derived at by using decedent location and last name.

Virus-related deaths, Cooper speculated, were likely listed as pneumonia.

Diamantoni does not dispute this.

“People have to die from something,” Diamantoni said. “If they don’t want any intervention done, these people could slip under the radar.”

Even if more virus testing had been done, it's unlikely the public would know much more about the disease's impact. That's because demographic information collected by health departments — such as race and ethnicity — does not include religion.

The fatalities have not gone unnoticed.

A contributor to *The Diary*, a monthly newspaper published in Kirkwood with Amish reports on crops, births, deaths, weddings and ordinations across the United States, tallied the annual number of obituaries since 2015.

“As you can see, the number of deaths this year is 100 count higher than any of the five previous years,” Joas D. Troyer, of Hestand, Kentucky, wrote in January's edition. “This may give us a good idea how many people died from coronavirus.”

### **No ‘magic number’**

Herd immunity — either through infection or vaccination — has been touted as the way back to normal.

“The only true herd immunity that we can bring as a community is for people to be vaccinated,” said Alice Yoder, executive director of Community Health at Penn Medicine Lancaster General Health.

Because immunologists don't yet know what the threshold is for COVID-19 immunity, Dr. Anthony Fauci, the nation's top infectious disease expert, has said the coronavirus could require vaccination rates as high as 90%.

“The key is that there is not necessarily a magic number,” said Dowdy, at Johns Hopkins Bloomberg School of Public Health.

The lack of infection data on the notoriously private Plain community makes proving or disproving whether Anabaptists (a Christian community of which Amish and Mennonites are a part) achieved herd immunity impossible 11 months later. Testing could be conducted now, but the absence of antibodies — Dowdy and other experts said — doesn't mean the lack of infection.

As the United States races to stay ahead of virus mutations, the more pressing issue — these experts said — was vaccine hesitancy. As of March 16, there were two other mutations in Pennsylvania: 68 cases of the UK variant and one South African case, according to the CDC.



“The higher the vaccination in the (Plain) community, the better it will be for the entire community,” said Dr. Amesh Adalja, an infectious diseases physician and senior scholar at the Johns Hopkins Center for Health Security.

Despite lower childhood vaccination rates among the Amish, there is no religious prohibition, said Nolt, at Elizabethtown College, who has written 14 books about the Amish.

In a 2017 doctoral study that examined Amish perceptions in Lancaster County, Cooper found the majority had a positive attitude toward immunizations and roughly six in 10 surveyed were likely to vaccinate their children.

As Cooper noted in her study, three out four of those she surveyed said they had never discussed vaccination with their health care provider.

“Providers are missing many opportunities to discuss vaccines with Amish parents,” wrote Cooper, at the Parochial Medical Center.

### **‘God helps those who help themselves’**

Vaccine efforts among the Plain community could prove challenging.

“I think it will be a very hard sell,” Hoover said.

The Amish have been persuaded to embrace mass vaccination efforts before, most notably after a polio outbreak in 1979 and a rash of measles in 1991. This has left health officials hopeful the Anabaptists will respond again.

The Pennsylvania Amish Safety Committee and other partnerships will be crucial to outreach efforts that have already begun. Comprised of five elected Old Order Amish men, the committee provides safety information and has helped spearhead issues such as the 2011 effort to cover holes in haylofts after emergency room doctors encountered a number of Plain sect children who had fallen through.

The goal, Lancaster General’s Yoder said, is to achieve a vaccination rate protective of the entire community.

“Of course,” Yoder said, “there might be some concern that we don’t reach that.”

The way Dr. Holmes Morton sees it, these religious sects must take responsibility for getting vaccinated to protect their Lancaster County neighbors.

“I just think the Plain community has to get involved in a public-health sense,” said Morton, founder of the Central Pennsylvania Clinic in Belleville, Mifflin County.

Morton, who first created the Clinic for Special Children in Strasburg, is renowned for his pioneering work on genetic diseases among Plain children.

“Just because you’re Plain doesn’t mean you’re exempt,” Morton said. “God helps those who help themselves.”

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