

MSU Epidemiologist Speaks Frankly about COVID-19 Dangers

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By: Emily Joan Elliott



Above: Nigel Paneth at his front door in a photo taken with a zoom lens for ELi by Gary Caldwell.

Michigan State University physician-epidemiologist and public health specialist Nigel Paneth has updated ELi on how the COVID-19 pandemic is progressing and what it could mean for East Lansing.

A little over a week ago, Michigan had few documented cases but Paneth warned that most people were not taking the disease seriously enough. When we spoke to Paneth this Sunday, Michigan reported more than 1,000 cases, with Ingham County accounting for 11.

What's going on with testing in Michigan?

Compared to other countries, the United States has lagged behind in testing. Both the United States and South Korea had their first case on the same day in January. It took the United States nearly two months to execute the same number of tests as South Korea did in one week.

The number of tests available has increased dramatically in the past week. In Michigan, Paneth said, Beaumont, Henry Ford, and the University of Michigan hospital systems have developed their own tests. Drive-through testing now exists in Michigan as well. The increase in available tests means more people can be diagnosed.

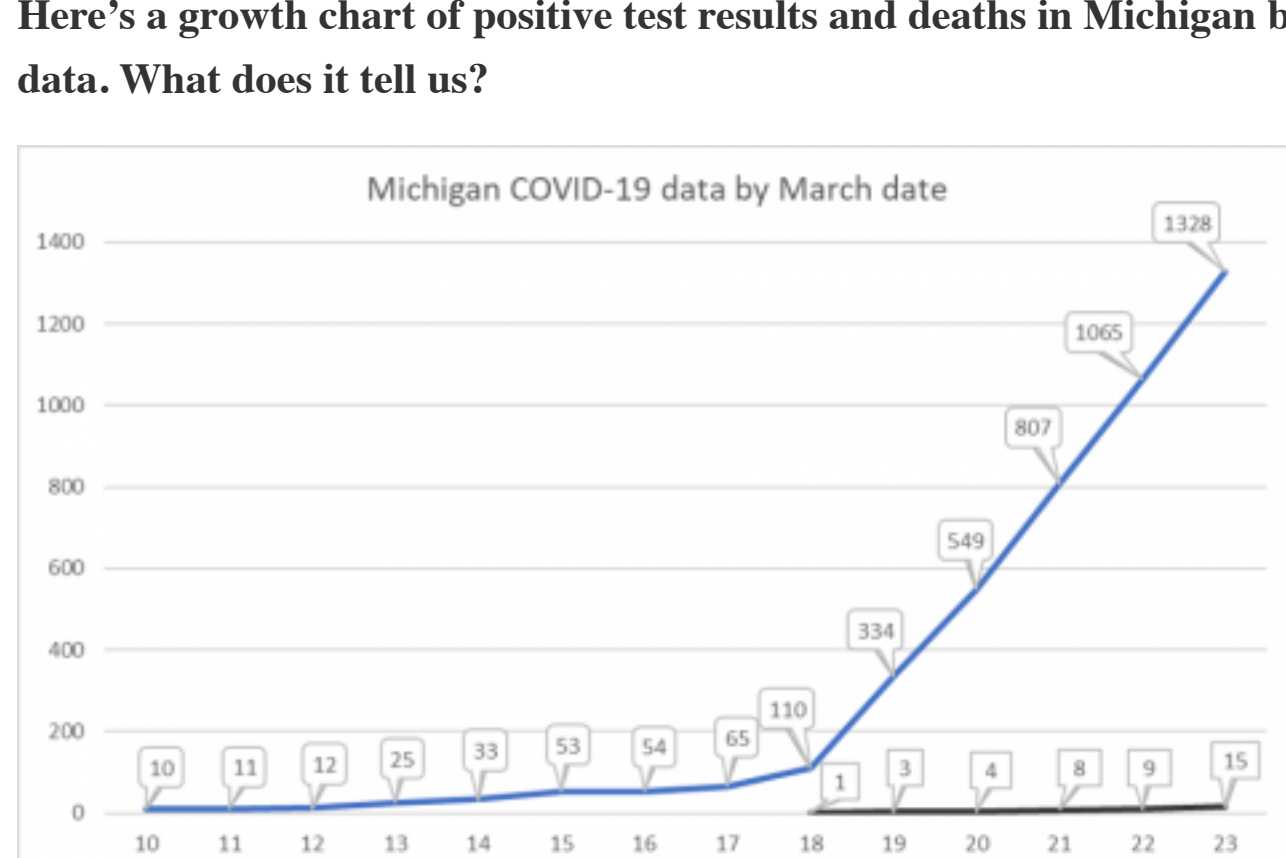
But testing capacity still poses a problem in Michigan. Health care providers make other considerations when administering tests, such as the availability of personal protective equipment for their testers. Currently, there is a national shortage of gloves and masks. As a result, some hotlines that screen would-be patients have turned down testing on people who do not have multiple symptoms or risk factors, because the health care groups don't have the personal protective equipment to undertake all the tests they should be doing.

When will we know if social distancing is working?

Paneth stated that given the issues with testing enumerated above, our statistics on the number of people infected are inadequate. He believes that we will need to look at the number of people who die daily to see if we are flattening the curve.

Paneth cautions that looking at death rates means that it will take us longer to know how well social distancing is working. After initial infection, it usually takes 2 to 14 days for symptoms to manifest. The disease then needs to run its course, in which patients either recover or pass away. For people infected today, it will take us several weeks to know the outcome of their cases.

Here's a growth chart of positive test results and deaths in Michigan based on a chart from Click On Detroit using publicly available data. What does it tell us?



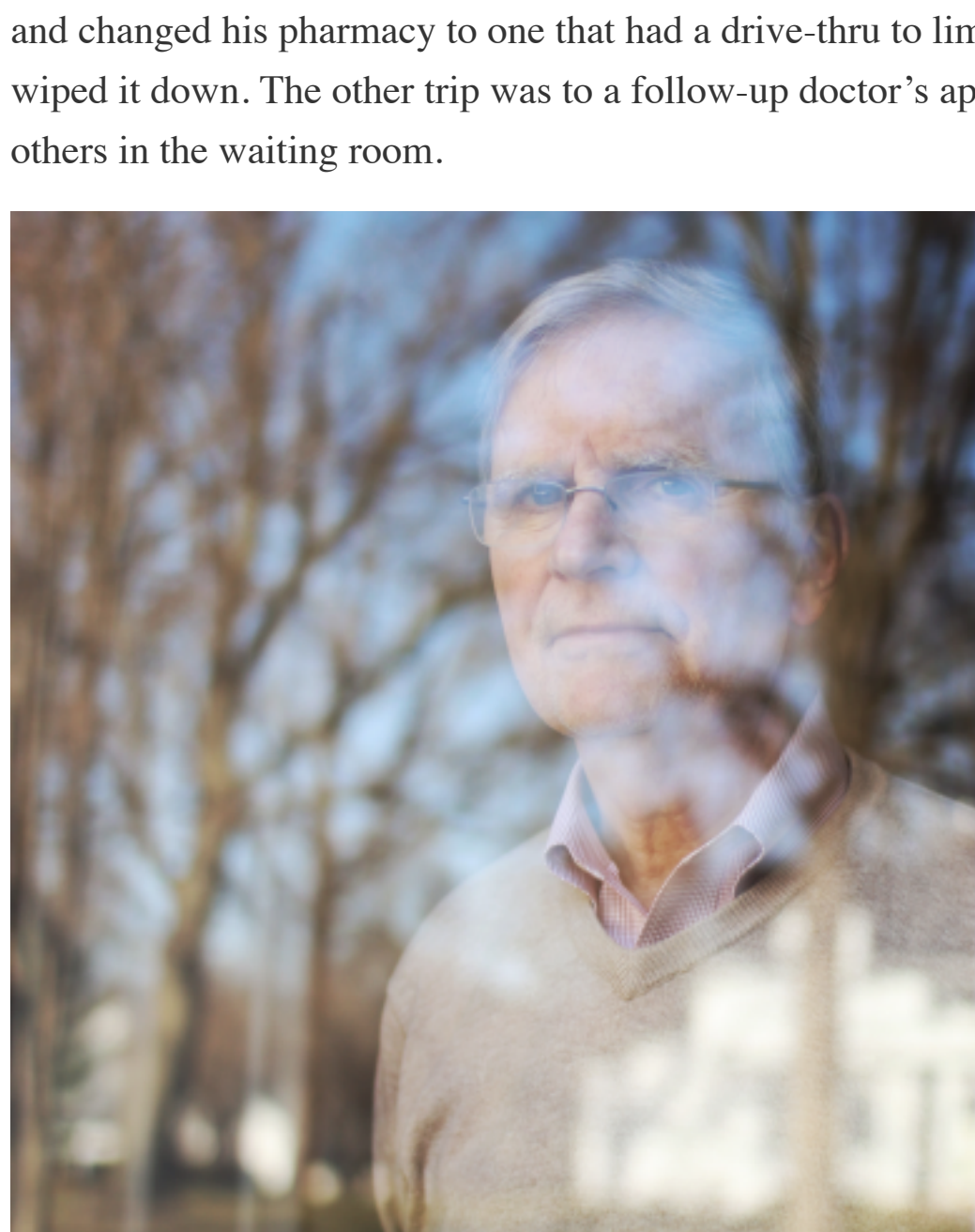
Says Paneth, this chart basically confirms that we are lacking the tests we need.

"Deaths surely lag behind cases by a week or two, so we are clearly still greatly undercounting the caseload in our state. We need more testing desperately. And we need a program of testing the asymptomatic [people without symptoms] in our population, which is impossible now because of the lack of testing capacity. But until we do that we will have a hard time quelling this outbreak with anything other than complete lockdown."

What should social distancing look like?

Paneth, who is in his 70s, shared what he has done to social distance in the past week. He has gone outside to grab the newspaper. But, after reading, he discards it and washes his hands.

Otherwise, he has left the house only twice, wearing a respirator mask that he owns. One trip was to the pharmacy. Paneth had actually called and changed his pharmacy to one that had a drive-thru to limit his interactions. After receiving his credit card back from the drive-thru clerk, he wiped it down. The other trip was to a follow-up doctor's appointment with his wife. Neither sat down, and both stood at least 6 feet away from others in the waiting room.



Above: Paneth photographed through the window by ELi photographer Gary Caldwell.

Paneth encourages everyone to consider what is truly essential. Maintaining one's health through medication pickup and critical doctor's appointments are essential, but family get-togethers aren't.

While it might seem like a great suffering to miss a grandchild's birthday party, Paneth was painfully honest. True suffering, he said, would be laying in the ICU on a ventilator after contracting COVID-19 at a party or get-together.

Some people have little choice but to go to work. Paneth noted that people such as grocery store workers are essential to the community's survival. However, in an ideal situation, roughly 90 percent of the population would remain at home.

How long will social distancing have to last?

According to Paneth, it is almost impossible to know without accurate data. We should plan for this to last quite a while due to the issues with testing in the area (and across the United States).

The ideal approach would end social distancing sooner rather than later. In this hypothetical situation, health care providers could go door to door in Michigan and test every single resident. The sick could then be quarantined, with the most severe cases being treated at the hospitals and mild ones at home. Those who test negative might fall under more relaxed rules. Tests would have to be repeated weekly.

This hypothetical is unlikely to become reality any time soon, but it suggests just how long social distancing may last. Beyond seeing an actual reduction in cases, relaxing social distancing in a safe way requires adequate numbers of tests and personal protective equipment. We don't have that.

Are young people just as susceptible to COVID-19 as older people?

Paneth emphasized that while anyone can contract the disease, people over the age of 50 are still most likely to suffer the worst symptoms and die from the disease. The risk increases with age.

According to Paneth, age 30 seems to be the general threshold for people who will fall ill due to COVID-19. People under age 30 seem to have very mild symptoms or appear asymptomatic (having no apparent symptoms). Looking at all deaths in China and Italy, only one person under the age of 30 died.

People between ages 30 and 50 are at risk, but people older than 50, and particularly those with underlying conditions, still face the greatest risk. The over-50 crowd seem to have more cases overall and the most severe cases.

Following up on Paneth's comments, ELi looked into the breakdown of cases by age in Michigan. People under 30 account for only 9 percent of all confirmed cases. People between ages 30 and 50 account for 32 percent, and people over 50 represent 58 percent of cases. (This only adds up to 99 percent, but these are the figures available from the state.)

So far, it seems all deaths in Michigan occurred in patients over age 50, many of whom had underlying conditions. (Paneth recommends that individuals interested in seeing statistical breakdowns by age and other factors visit [this page](#).)

Paneth does not want younger people to draw the conclusion that they will be unaffected by the disease. They must strictly observe social distancing measures. Since they may appear asymptomatic while carrying the disease, they can unwittingly transmit the virus to more vulnerable populations.



Above: Photo by Gary Caldwell taken at ELHS before schools were shut down.

What about the "convalescent serum" Paneth mentioned last time we spoke?

Last week, Paneth mentioned the possibility of using convalescent serum to treat COVID-19. The use of convalescent serum involves taking the antibodies of those who have recovered from the virus — by taking their blood plasma — and giving the antibodies to someone else to help their weaker immune system fight the virus. Its use has a long history, including during the influenza pandemic that ravaged the world in 1918 and 1919.

Even as the number of deaths continue to rise, many people are recovering from COVID-19. The initial outbreak of COVID-19 in New York State centered in New Rochelle, a suburb several miles north of New York City. Gov. Andrew Cuomo declared a containment zone to stem the tide of the virus' spread. Those patients are recovering and many are eager to help.

According to Paneth, the community there is self-organizing and working with health professionals. Ideally, mobile vans would go to homes to test former patients for the presence of the virus and antibodies to the virus. Those who still have the virus present would be barred from participation.

For those who only have antibodies present in their blood, the mobile vans would return a second time to collect their plasma, which holds the antibodies.

Paneth is working with fellow scientists and doctors from across the United States, including from Johns Hopkins and the Mayo Clinic. The group had been in communication over other issues in the past few years but have organized now specifically to address the current public health crisis.

At first, the serum would fall under compassionate use guidelines, which permit doctors to administer new, untested drugs and treatments to seriously ill patients to whom no other treatments are available.

Paneth, who oversees communication for the group, is currently working to develop a website that will include information on the serum and will provide a place for doctors to input data on how their patients respond to the serum. Following compassionate use, the serum may be used in controlled clinical trials.

Although the serum will most likely be used in New York City first due to the overwhelming number of cases there, it should expand from there.

What have we learned about COVID-19 over the course of the past week?

As Paneth's work with convalescent serum suggests, there are various initiatives underway to explore novel treatments. Some drugs being considered for compassionate use, and some people received a vaccine as part of a clinical trial.

Paneth argued that at this point, social distancing is still the most important tool at our disposal, but only if we all take it seriously. He compared the pandemic to a forest fire, like those that have decimated Australia and California. If we don't do everything to contain and stamp out the first fire, it will only spread, leaving a trail of destruction behind.

ELi has a special section dedicated to our reporting on COVID-19 for East Lansing. See it here and sign up for ELi's mailer to stay informed.

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