

Rapid rise in monkeypox spurs calls for better tests, more vaccine doses

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With U.S. monkeypox cases going from zero to more than 6,000 in less than three months, Northeastern University professors concerned about the pace of transmission are calling for better tests and more vaccine doses to stop the viral outbreak in its tracks.

"It's very striking to see this pox" in the U.S., especially with cases

declining in parts of the world where monkeypox has a historical presence, says Mansoor Amiji, who chairs the Department of Pharmaceutical Sciences at Northeastern University.

Amiji calls the rise in cases in the U.S. and Europe "fairly rapid and steep."

So far the U.S. government has secured 1.1 million doses of vaccine for monkeypox, according to Politico.

"That is still not enough. We have a lot of work to do," says Neil Maniar, director of Northeastern University's Master of Public Health Program.

Since May of this year, monkeypox cases have appeared more than 25,000 times in countries where the disease is not endemic, prompting the World Health Organization to declare a public health emergency of concern July 23.

The Centers for Disease Control and Prevention says that as of Aug. 3, there have been 26,208 cases of monkeypox worldwide, only 344 of which were in seven countries in Africa historically reporting monkeypox.

The majority of the other cases have been clustered in Europe and the United States—which had 6,617 cases as of Aug. 3—with hundreds of cases also being reported in South America and Canada.

"It's a little more concerning than it was a few weeks ago," says Jared Auclair, Northeastern University's associate dean of professional programs and graduate affairs, whose Burlington laboratory is partnering with a Boston biotech company to explore population surveillance of monkeypox.

"We should be more aggressive with testing and other interventions," especially for populations at higher risk of developing the [monkeypox virus](#), also known as MPV, Auclair says.

The CDC says that many but not all cases of monkeypox are occurring among gay, bisexual and other men who have sex with men, underscoring the need to reach out to those populations with education, testing and vaccination programs.

The federal health agency says monkeypox is spread through direct contact with [bodily fluids](#), scabs or rashes on the body of someone who has the virus or direct contact with materials such as linens or clothing that have touched the bodily fluids or rash of an infected person.

"It can also be spread by respiratory secretions during prolonged, face-to-face contact, or during intimate physical contact, such as kissing, cuddling or sex. In addition, pregnant people can spread the virus to their fetus through the placenta," the CDC says.

The rise in cases in New York, California and Illinois—which have 1,666, 826 and 547 cases as of Aug. 3—prompted officials in those states to declare states of emergency in late July and early August to bolster vaccination and other efforts to stem the viral outbreak.

In Massachusetts, which had 134 monkeypox cases as of Aug. 2, a good portion of the [vaccine doses](#) supplied to the state by the CDC July 5 went to Outer Cape Health Services, a healthcare organization that serves people in the area of Provincetown, a municipality with a large gay year-round and summer population.

"I don't know a townie who isn't vaccinated. We had access to it early," says Massachusetts state Sen. Julian Cyr, D-Truro.

"We have been fortunate we've been able to vaccinate a number of our residents and seasonal workers," he says.

One of the historic epicenters of the HIV/AIDS epidemic and last summer's Delta COVID-19 outbreak, Provincetown is "a place that knows how to pull together public healthcare and political resources to get information out to the community on critical issues" such as monkeypox, Cyr says.

But there's not enough vaccine available on a state or national level, Cyr says. "The demand for the vaccine is huge."

The fact that monkeypox is transmitted mainly by bodily fluids means it is less of a contagion threat to the general population than the novel coronavirus, Amiji says. "We don't have airborne transmission in this case. It's contact transmission."

Monkeypox is also a recognized virus with established testing and treatment protocols in place, he says. "It's a little bit of a mixed blessing, where we are with monkeypox."

"It's not like COVID where we had to develop a new test," Maniar says.

But there are limits to the monkeypox testing that is available, he says.

"Right now we can only test when someone has active lesions. We're only able to test when someone has developed the symptoms of monkeypox," Maniar says, calling the issue "a key roadblock for us in getting this outbreak under control."

Auclair says his lab and other organizations are trying to come up with sample mediums that could aid in detecting monkeypox earlier, either through nasal swabs or saliva, for example, or, on a broader population

approach, through wastewater.

The earlier people can be isolated and treated, the better, Auclair says, adding that he doesn't see a need for the pop-up testing sites that took place during the COVID pandemic.

Unlike COVID, a single-stranded RNA virus, monkeypox is a stable, double-stranded DNA virus, which makes it much less likely to mutate, Auclair says. "We're not going to have different variants of monkeypox floating around any time soon."

There are two vaccines available for monkeypox, with the two-shot JYNNEOS, which is manufactured in Denmark, being preferred by U.S. health officials over ACAM2000, which can cause side effects in people with weakened immune systems, according to Medpage Today.

The CDC recommends the vaccine for those who have been exposed to monkeypox or those who are likely to get the virus. The federal health agency recommends the vaccine be given within four days of exposure but says the severity of the disease can be reduced if the vaccine is administered up to 14 days of exposure to monkeypox.

There have been few deaths associated with the current monkeypox outbreak, but some sufferers are hospitalized due to severe pain from the pustules.

"These blisters go deep into the skin," penetrating into the dermal area where nerve endings are located, Amiji says.

Other symptoms of monkeypox include fever, swollen lymph nodes and muscle aches and chills.

Some people think the isolation that people experience during the

COVID-19 pandemic may have contributed to the unexpectedly robust spread of monkeypox, Maniar says.

"We're in this day and age right now where our immune systems are not trained as much to fight off things as they were prior to the pandemic," he says.

It's important for public health officials to get the word out about monkeypox, in [different languages](#) and literacy levels, so people know symptoms, risk factors and what precautions they can take, Maniar says.

Pre-existing health disparities put some communities at greater risk, he says. "We really have to close those gaps as quickly and sustainably as possible."

"We know that there are going to be infectious disease outbreaks. It's the nature of this world," Maniar says.

"What's different here is that we understand [monkeypox](#)," he says. "We should be able to respond to this much more rapidly, much more broadly and much more effectively."

Provided by Northeastern University

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