Why Coronaviruses Hit Older Adults Hardest

As with flu, immune changes and other health conditions are to blame

by Sarah Elizabeth Adler, AARP, February 5, 2020

As cases of the novel coronavirus known as 2019-nCoV continue to rise worldwide, preliminary estimates suggest that older adults may be particularly susceptible to the respiratory illness, which can cause pneumonia and symptoms like fever, cough and shortness of breath.

"The data coming out of China continues to say that the people who are at higher risk for severe disease and death are those who are older and with underlying health conditions," said Nancy Messonnier, M.D., director of the National Center for Immunization and Respiratory Diseases, a division of the Centers for Disease Control and Prevention (CDC), at a press briefing on Monday.

Preliminary estimates suggest that the virus, which has so far sickened tens of thousands and resulted in hundreds of deaths, has a fatality rate of about 2 percent. Early findings from China, which pertained to the first 17 people to die in the outbreak, revealed that their median age was 75, and a recent study in the New England Journal of Medicine found that the median age of the first 425 people infected with the virus was 59.

This is typical of coronaviruses, a family that includes the viruses behind the SARS and ongoing MERS outbreaks as well as other respiratory viruses like the seasonal flu, says Vineet Menachery, an immunologist at the University of Texas Medical Branch who studies the effect of coronaviruses on aging immune systems.

"During the original SARS outbreak, the lethality rate for the overall number of cases was 10 percent, but that lethality rate jumped to over 50 percent in people over the age of 50," he says.
Underlying conditions play a role

Menachery points to two main reasons for older adults’ increased susceptibility to coronaviruses. The first is that they are more likely to suffer from underlying conditions that hinder the body's ability to cope with and recover from illness, such as chronic obstructive pulmonary disease.

"Age and your condition in life will really drive your susceptibility. You may be in your 40s, but if you have these chronic health conditions, you're going to be more susceptible, just like you see with flu.” — immunologist Vineet Menachery, University of Texas Medical Branch

The second has to do with how our immune response changes with age, the exact mechanisms of which Menachery and other researchers are still working to fully understand. His work with coronaviruses has shown that older mice, for instance, experience more inflammation early on in the course of illness, perhaps “setting the table” for lung damage that can't later be overcome (this novel coronavirus, like the ones responsible for SARS and MERS, affects the part of the lungs where gas exchange — the delivery of oxygen to the bloodstream and the removal of carbon dioxide — takes place).

"As you get older your lungs are not as elastic or as resilient as when you're younger. Those kinds of things, coupled with any kind of health issue you might have, trend toward this loss of airway function and respiratory function."

But, Menachery points out, this doesn't mean that turning 65 — considered the starting point of older adulthood by the CDC and other organizations — automatically puts someone in the high-risk category. “Age and your condition in life will really drive your susceptibility,” he says. “You may be in your 40s, but if you have these chronic health conditions, you're going to be more susceptible, just like you see with flu.”

Scientists are working to develop targeted treatments for 2019-nCoV. In the meantime, U.S. health officials recommend that people halt all nonessential travel to China and practice preventive hygiene measures, including thorough handwashing with soap and water.

The overall risk to the U.S. public remains low, the CDC's Messonnier said Monday. “The focus right now,” she said, “is on travelers returning from places where this disease rate is soaring."

Menachery also notes that the emergence of 2019-nCoV has overlapped with that of another potentially fatal respiratory illness: the flu, which remains at elevated levels across much of the country and has affected an estimated 19 million people so far this season, resulting in at least 180,000 hospitalizations (the majority of them among those 65 and older) and 10,000 deaths.

"It's not too late to get your flu shot,” he says. “It's actually been a really bad flu year.

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CDC Warns That Coronavirus Will Spread in U.S.

How you should prepare for a potential outbreak and travel plans

by Rachel Nania, AARP, Updated March 2, 2020 | Comments: 74

What You Need to Know About the Coronavirus

En español | The U.S. government over the weekend ramped up efforts to keep the coronavirus from spreading. On Saturday, the White House announced expanded airport screenings and new travel restrictions on foreign nationals who have visited Iran in the last 14 days. The U.S. also expanded its highest travel warning (Level 3) to include Italy and Iran, which now join South Korea and China on a list of countries Americans are being told to avoid.

The new rules came as several cases of COVID-19, the disease caused by the new coronavirus, were confirmed in a handful of states across the country. Two Americans died from the illness over the weekend; more deaths were reported Monday. And health officials are investigating a potential outbreak in a long-term care facility in Washington. Preliminary data show older adults and people with underlying health conditions are most at risk for severe cases of COVID-19.

Health officials warned last week that though risk of infection from the novel coronavirus is still low for the general American public, individuals and communities should be prepared for an outbreak.

“It’s not so much a question of if this will happen anymore, but rather more a question of exactly when this will happen and how many people in this country will have severe illness,” Nancy Messonnier, an internist and director of the Center for Disease Control and Prevention’s (CDC) National Center for Respiratory Diseases, told reporters Feb. 25.

Since the virus was first detected in Wuhan, China, in December, it has spread to more than 55 countries. It has sickened more than 87,000 people and killed more than 2,800, mostly in China.

So far, the U.S. has been able to keep its number of confirmed COVID-19 cases low by detecting, tracking and isolating cases through travel restrictions, quarantines and contact tracing. But with a growing number of countries experiencing community spread of the illness, “successful containment at our borders becomes harder and harder,” Messonnier said last week. “Ultimately, we expect we will see community spread in this country.”

Public health officials will continue efforts to contain the disease and are broadening COVID-19 testing criteria in an effort to identify cases early. They are also working on strategies for minimizing the impact of a potential coronavirus outbreak on communities.

What is the U.S. doing to prepare?

In the absence of a vaccine to prevent COVID-19 or medication to treat it, the CDC is preparing for an outbreak with non-pharmacological interventions. What these interventions look like at the community level will vary, depending on local conditions, Messonnier said.
“Social distancing” — avoiding crowds and staying home when you are sick — will likely be one of the top strategies recommended by officials. Depending on the severity of the situation, communities may see school closures, an increase in teleworking and the cancellation of mass gatherings.

In the health care setting, hospitals may need to triage patients differently, and providers may need to increase telehealth services and delay elective surgeries, Messonnier said.

Though these types of disruptions to everyday life seem “overwhelming and severe,” Messonnier emphasized these “are things people need to start thinking about now.”

Workers should be asking their employers if teleworking is an option, she said. And people with children and grandchildren can check in with school systems about plans for teleschooling.

“All of these questions can help you be better prepared for what might happen,” Messonnier said.

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The CDC has issued guidance for health care providers, and state and local health departments are working to make sure hospitals and clinics have what they need to limit the spread of the illness. Plans to distribute more testing kits at the local level are also in the works.

“During an outbreak of a new virus, there is a lot of uncertainty,” Messonnier acknowledged. Guidance and advice will likely be “interim and fluid, subject to change as we learn more,” she added.

What else is being done to protect Americans?

Since COVID-19 was first identified in Wuhan, the virus has spread to more than 55 countries, including the U.S. It has led to quarantines on cruise ships and lockdowns at resorts.
The World Health Organization (WHO) and the U.S. government have declared the coronavirus outbreak a public health emergency, and federal officials are warning Americans not to travel to China, South Korea, Italy and Iran due to a high number of COVID-19 cases.

The CDC also is advising travelers headed to Japan to exercise increased caution, and says older adults and people with chronic medical conditions should consider postponing nonessential travel.

If you do travel to a country that’s experiencing a spike in coronavirus cases, the CDC recommends that you wash your hands often, avoid contact with sick people, and avoid touching your eyes, nose and mouth with unwashed hands.

The U.S. government is also encouraging citizens to reconsider travel by cruise ship to Asia. Those planning cruise travel to other international destinations should be prepared for strict screening procedures, the State Department says — even disruptions to travel itineraries. Passengers planning cruise vacations should contact their cruise line companies directly on the current rules and restrictions.

To date, COVID-19 has sickened more than 87,000 people and killed more than 2,800 (mostly in China). And the numbers continue to climb.

How is the coronavirus spreading?

Health officials are still trying to better understand how COVID-19 is spreading among people. Most of what experts do know is largely based on what is known about similar coronaviruses. When person-to-person transmission occurred with Middle Eastern respiratory syndrome coronavirus (MERS-CoV) and severe acute respiratory syndrome coronavirus (SARS-CoV), respiratory droplets from coughs and sneezes from an infected person were the likely culprit, according to the CDC. Those droplets can land in the mouths or noses of nearby people or be inhaled into the lungs.

It may be possible to get COVID-19 by touching a contaminated surface or object and then touching your mouth, nose or eyes, “but this is not thought to be the main way the virus spreads,” the CDC says.

Health officials are still working to better understand how easily the virus is spread from person to person. It may be possible for an infected person to spread the virus before exhibiting symptoms. However, people are thought to be most contagious when they are sick with the symptoms of the virus, the CDC says.

What’s the best way to protect myself?

The best way to prevent the spread of COVID-19 is to avoid exposure. This is why the CDC has recommended avoiding trips to China, South Korea, Italy and Iran and has heightened travel warnings for areas with sustained community spread.

Health officials also advise taking everyday steps that can prevent the spread of respiratory viruses. Wash your hands often with soap and water (scrub for at least 20 seconds), and use alcohol-based hand sanitizer when soap is not an option. Avoid touching your eyes, nose and mouth with unwashed hands, and steer clear of sick people.

Some other advice: Stay home when you are sick, and clean and disinfect frequently touched objects and surfaces.
What are the symptoms?

Patients with COVID-19 have reported symptoms similar to other respiratory illnesses, including mild to severe symptoms of fever, cough and shortness of breath that typically begin two to 14 days after exposure, the CDC reports. Many patients with severe complications from the virus have pneumonia in both lungs.

The CDC is asking those with symptoms to call their local health department for advice before seeking care. If you can’t reach the health department, call your health care provider before going in, to avoid spreading germs to others. The CDC also has tips for what to do if you become infected with COVID-19.

Are older adults more at risk?

Older adults are being hit particularly hard by the coronavirus, early data show. The majority of people who have died from the disease are over age 50, Bloomberg reports, citing information from China’s National Health Commission. And a study in the New England Journal of Medicine that analyzed the first 425 people with the virus found that the median age of patients was 59.

“Obviously, older people have less reserves, so they’re more at risk for any type of infection causing complications,” says Amesh Adalja, an infectious disease physician and senior scholar at the Johns Hopkins University Center for Health Security. This includes other respiratory illnesses, such as the flu and pneumonia.

The CDC’s Messonnier says the agency is “working on everything we can do” to make sure older adults and people with underlying health conditions have access to “optimal care,” should they become sick with the coronavirus.

As for how older Americans should be protecting themselves, Adalja adds, “There’s nothing particularly that I would do other than the normal commonsense hand-hygiene etiquette.”

What about those face masks?

Surgical masks offer some level of protection but only when worn properly. Experts recommend a snug-fitting N95 respirator, which blocks large-particle droplets and most small particles that are transmitted by coughs and sneezes, according to the Food and Drug Administration (FDA). These masks are available at most drugstores and home-improvement outlets.

That said, there is no need for them among the general public in the U.S. at this time, Messonnier says. And depleting supplies now will only make preventive efforts more complicated if the virus starts spreading in communities.

How is it treated?
There is no specific antiviral treatment for COVID-19 at this time, just relief from symptoms. However, a clinical trial is underway to test the safety and efficacy of the drug remdesivir as a potential treatment in adults with COVID-19.

**What’s the deal with a vaccine?**

Scientists at the National Institutes of Health (NIH) and elsewhere have been working on developing a vaccine for COVID-19 since Chinese health authorities made the genetic sequence of the virus available. But a vaccine is likely several months away, at minimum, from being available to the public.

**Why does it take so long?**

A vaccine will need to be tested in monthslong clinical trials to determine its safety and effectiveness in people, explains Anthony Fauci, an immunologist and director of the National Institute of Allergy and Infectious Diseases (NIAID), part of the NIH. If the vaccine proves safe and effective in the trials and is rushed through regulatory processes, it will still need to be produced for the masses, which will likely add several more months to the timeline.

**Will a flu shot provide protection?**

There is no evidence that the flu shot or the pneumococcal vaccination will provide any protection from the coronavirus, Messonnier says. Both, however, will increase your chances of staying healthy this winter. And it’s important to keep in mind that like COVID-19, the flu can be deadly. The CDC estimates that the flu was responsible for 34,200 deaths in the 2018-19 season.

Protecting yourself from the flu also lessens the burden on the health care system, should the U.S. see a spike in COVID-19 cases, says public health expert Syra Madad, who serves as the senior director of the System-wide Special Pathogens Program at New York City Health + Hospitals.

A healthy population helps hospitals “prioritize and focus on the patients that are coming in with this type of disease, versus those that are coming with seasonal flu,” she says.

**What should I do about travel plans?**

Because the risk of COVID-19 spreading throughout the U.S. community is low at this time, there is no reason to fear or halt domestic travel plans, Madad notes.

“Continue to live your day-to-day life,” while taking “everyday preventative measures,” she says. Wash your hands regularly, stay away from people who are sick and wipe down “high-touch” surfaces.

This advice could change, however, if COVID-19 begins spreading at the community level in the U.S.

If you have international travel plans, the CDC recommends visiting its Travel Health Notices website for any precautions and travel alerts related to your destination.

Because the situation is constantly changing, make sure you get your travel advice from credible sources, such as the CDC and WHO, Madad says. There’s a lot of misinformation out there fueling unwarranted fear and anxiety.
“It’s important to stay informed, but it’s not a time to panic right now,” she adds.

**What about pets, packages?**

Some people have expressed concern that the virus may spread by way of pets. While the CDC recommends that people traveling to China avoid animals, both dead and alive, the agency says “there is no reason to think that any animal or pets in the U.S. might be a source of infection with this new coronavirus.”

But it is always a good idea to wash your hands with soap and water after coming into contact with pets. “This protects you against various common bacteria such as *E. coli* and salmonella that can pass between pets and humans,” the WHO says.

There is a similar concern over packages arriving from China, about which both the CDC and the WHO say there is currently no evidence to show the virus can spread this way.

**What, exactly, is the coronavirus?**

Coronaviruses, named for their crownlike shape, are a large family of viruses that are common in many species of animals. Several coronaviruses can infect people, according to the CDC. These strains mostly cause cold-like symptoms but can sometimes progress to more complicated lower respiratory tract illnesses, such as pneumonia or bronchitis.

On rare occasion, animal coronaviruses can evolve and spread among humans, as seen with MERS and SARS. The virus at the center of the latest outbreak is being referred to as a novel (new) coronavirus, since it’s something that health officials have not seen before.

*This story will be updated periodically with new developments in the global outbreak. Check back regularly.*

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