Child deaths tied to COVID-19 remain remarkably low eight months into U.S. pandemic [1]

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EXCERPTS

As the United States' covid-19 death toll moves relentlessly beyond 200,000, data shows that only about 100 children and teenagers have died of the disease, a fatality rate that is drawing wonder from clinicians and increasing interest among researchers hoping to understand why.

Covid-19 has become the nation's third-leading cause of death this year, but 18 states had not seen a single fatality among people under 20 as of Sept. 10, according to statistics compiled by the American Academy of Pediatrics and the Children's Hospital Association.

Children are much more likely to die of homicides (there were 1,865 in 2016, according to government data), drowning (995) or even fires and burns (340).

The numbers are all the more remarkable because respiratory diseases typically hit the young and the old hard, and children are often highly vulnerable to infectious disease. In this way, covid-19 is similar to the flu, which killed an estimated 24,000 to 62,000 people last winter, but 188 people age 17 and below. (That was a record high for that age group, however.)

"It seems notable that this pandemic, which has had so much of a toll in mortality and morbidity, does seem to spare kids in a dramatic way," said Larry Steinman, a professor of pediatrics and neurology at Stanford University School of Medicine. Steinman led a team that reviewed why children may enjoy some natural protection from the novel coronavirus in a Sept. 3 article in the Proceedings of the National Academy of Sciences.

Less clear is the role younger people play in spreading the virus to others, even if they do not often become ill themselves — a critical issue as educators struggle to make decisions about reopening schools and child-care centers.

Health-care officials recognized early in the outbreak that children were much less likely than adults to become infected with the virus, show symptoms, require hospitalization or die of covid-19. Nearly 80 percent of the deaths linked to the disease are among people 65 and older, one of the defining demographic characteristics of the U.S. outbreak.

But in the early months, there were concerns that covid-19's true impact on children had yet to emerge — hidden, perhaps, by the country's inadequate testing regimen or because many youngsters were asymptomatic. Now, though testing for people under 18 can still be difficult to find, eight months of data and experience have made researchers more confident in younger people's ability to survive the infection. This is true despite recent upticks in the infection and hospitalization rates for children and teenagers, and a decline in the median age of the infected population.

"I think, in general, it remains true, thankfully, that this is for the most part a very mild infection in children," said Kristin Moffitt, an associate physician of infectious diseases at Boston Children's Hospital.

The issue has become politicized, with President Trump repeatedly exaggerating children's immunity to the virus as he maintains pressure to open public schools. At a rally in Swanton, Ohio, on Monday, Trump falsely asserted that the disease "affects virtually nobody" younger than 18.

"In some states, thousands of people, nobody young. Below the age of 18, like, nobody," Trump said. He credited children's robust immune systems with protecting them.

Such a blanket statement is untrue. According to the pediatric group's data, nearly 550,000 people under age 20 had been diagnosed with the disease as of Sept. 10, roughly 10 percent of the total number of cases at that time.

Some children and adolescents suffer the same terrible symptoms as their elders. In an Aug. 7 review of 208 children and adolescents hospitalized with covid-19, the Centers for Disease Control and Prevention reported that 69 (33.2 percent) required intensive care and 12 (5.8 percent) were put on ventilators. One child died.

“I don’t want people to get the impression that it’s completely benign in children,” said Sean O’Leary, vice chair of the American Academy of Pediatrics’ committee on infectious diseases and a pediatric infectious-disease specialist at Children’s Hospital Colorado. “It’s just that it’s much, much less bad than it is in adults.

“We’ve taken care of quite a few pretty sick kids with this illness,” he added.

Scientists also worry that younger people play an outsize role in spreading the virus, though major outbreaks among younger children in schools have yet to materialize.

When it comes to fatalities, the data is consistent. The CDC last week reported 121 deaths among people under the age of 21 through July 31. Its website, which divides age categories differently, lists just 34 deaths among children 0 to 4 and 58 deaths among children and adolescents aged 5 to 17. The American Academy of Pediatrics lists 105 deaths through Sept. 10.

The median age at death was 16, according to the CDC report that examined fatalities among people younger than 21. As with adults, covid-19 has hit Black, Latino and other minority children at disproportionately high rates.

Even multi-system inflammatory syndrome in children, or MIS-C, which terrified parents when it emerged in May as a side effect of covid-19 in a small number of children, has killed just 19 youngsters, the CDC reported Sept. 17. The immune response condition turned out to be very similar to another inflammatory syndrome, Kawasaki disease, which physicians have experience controlling with certain kinds of drugs. So far, there have been 935 confirmed cases of MIS-C in the United States, mostly in children between 1 and 14 years old.

CDC data is based on case reports, not death certificates, so it is possible that there will be small adjustments. And deaths typically lag behind infections by two to three weeks, so any spike in covid-19 illnesses among younger people could be followed by a jump in fatalities.

But researchers and clinicians who follow the numbers are generally convinced that the observed trend will persist.

“Those numbers are still astonishingly low,” Steinman said.

Researchers said pinpointing why children are faring so much better than adults in this pandemic could offer clues to therapies that might work for everyone. So far, however, there are only theories.

“It’s a mystery. I think there are biological reasons, and I think there are virological reasons,” said Yvonne Maldonado, a professor of pediatrics, health policy and research at Stanford University and chair of the pediatrics academy’s infectious-disease committee.

The leading idea is that children have fewer ACE2 receptors on their cells than older people have. The ACE2 receptor is where the coronavirus latches on as it invades cells. If that proves to be the key, perhaps scientists can find a way to block the virus from attaching there in vulnerable populations, which includes not just older people but those with underlying ailments, such as heart disease and diabetes.

Children’s risk appears to be increased by such problems as well. According to the recent CDC report, just 30 of the 121 young people who died were healthy, while 91 had at least one underlying medical condition, and 54 had two or more. These included chronic lung diseases such as asthma, as well as obesity, neurological and developmental conditions, and cardiovascular problems.

Another theory is that children develop some immunity from the numerous colds most of them contract. Some colds are caused by coronaviruses, and scientists such as Steinman have suggested that parts of children’s immune systems can become “cross-reactive” to the coronavirus that causes covid-19. One recent review raised doubts about that, however.

As with most medical issues during the pandemic, the answers may not come until later, when more extensive research is conducted. A study sponsored by the CDC is tracking 800 children hospitalized at 35 sites around the country in an effort to determine why they were more vulnerable to the virus and why others seemed to better resist it.

“It’s one of the many million-dollar questions,” Moffitt said. “Anything that has been suggested so far is still a hypothesis and is still being investigated.”

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