

Anti-vaccine parents cluster in rich, white areas

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California research also shows high rates of medical exemptions in the same schools.

(HealthDay)—Parents who cite "personal beliefs" to get their children exempted from routine vaccinations are typically white and well-to-do—at least in California, a new study finds.

The results, published June 1 in *Pediatrics*, confirm what other studies have suggested: Anti-vaccine sentiment in the United States appears strongest among wealthier white families.

But the study also found another pattern that surprised experts: California schools with [high rates](#) of personal-belief exemptions often had high rates of exemptions for medical reasons, too.

"There's no clear explanation for why that would be," said Dr. Paul

Offit, chief of infectious diseases at Children's Hospital of Philadelphia, who was not involved in the study.

But the concern, he added, is that some children exempted for medical reasons could be put at risk if their classmates are not vaccinated against diseases like measles, mumps, whooping cough and chickenpox.

Normally, when a small number of people remain unvaccinated, they are still protected by the "herd immunity" that builds when most people in a community are immunized.

But if enough parents delay or skip vaccinating their children, that herd immunity could be compromised, explained Margaret Carrel, one of the researchers on the new study and an assistant professor at the University of Iowa.

In fact, U.S. health officials have blamed personal-belief exemptions for helping to fuel this year's measles outbreak.

As of May 1, 169 people in 20 states and Washington, D.C., had been sickened by measles, according to the U.S. Centers for Disease Control and Prevention. The main outbreak was traced to Disneyland, in California.

The CDC says it probably began with an unvaccinated traveler who became infected in another country before visiting the amusement park, where he or she encountered other unvaccinated people.

In the United States, all states require children to receive numerous routine vaccinations. But every state also allows exemptions for medical reasons. That includes children with severe allergies to vaccine ingredients, and those with a weakened immune system—from cancer or cancer treatment, for example.

In addition, 20 states permit personal-belief exemptions, according to the National Conference of State Legislatures.

California is one of them, but that could soon change. Earlier this month, the state senate passed a bill that would ban parents from seeking [vaccine exemptions](#) for nonmedical reasons. It was not clear whether Gov. Jerry Brown would sign off on it.

Opponents of the restriction argue that parents should be able to choose for their own children.

Offit disagreed. "If vaccines actually caused the problems that these people claim, then they would have an argument," he said. "But personal-belief exemptions are based on risks that don't exist."

Most famously, the purported link between the measles, mumps and rubella (MMR) vaccine and autism came from a fraudulent 1998 study, and many studies since have shown no such risk.

And whenever parents choose not to vaccinate their children, it's not just a personal decision, Offit said.

"You don't have the right to put other people at risk," he said. "This is something that affects all of us."

Carrel agreed. "Vaccines protect not only an individual child but the children around them, and they constitute an enormous public good," she said.

For the study, Carrel's team used state records to look for "clusters" of personal-belief exemptions for kindergartners at over 5,000 California schools. They found many such clusters across Northern California and in wealthy coastal areas outside of Los Angeles and other large cities.

Those schools typically had relatively large percentages of white students. The exemption "hotspots" also had a higher proportion of private or charter schools, compared to areas of the state with low rates of personal-belief exemptions.

The patterns at individual schools ranged hugely. Some had no kindergartners with personal-belief exemptions, while others had rates as high as 79 percent.

Medical exemptions were less common, going as high as 19 percent in some schools.

What's worrying, Carrel said, is that certain schools with high rates of [medical exemptions](#) also had high rates of personal-belief waivers.

"Our findings do reflect the concern of many parents whose [children](#) require a [medical exemption], that the herd immunity protection that they depend on may be compromised," Carrel said.

But why was there such overlap at some schools? Carrel said it's not clear.

Offit, however, speculated on a possible explanation: Parents at those schools are more likely to get a doctor to give their child a medical exemption, legitimate or not.

While the study looked only at California, Offit said he thinks similar patterns of demographics on parents would show up in other states as well.

More information: The CDC has more on [vaccine safety](#).

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