

Strict school vaccine mandates work, and parents don't game the system – new research

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Families are increasingly seeking nonmedical exemptions to routine childhood vaccines, making communities more vulnerable to preventable diseases.

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When four states between 2015 and 2021 stopped allowing parents to opt their children out of receiving routine vaccines without a medical reason, vaccination rates among kindergartners increased substantially. That's the key finding from our new study published in the medical journal *JAMA Pediatrics*.

All states require children entering kindergarten to be vaccinated against infectious diseases like measles and polio. Parents can request medical exemptions if, for example, their child has a severe allergy to a vaccine ingredient. But most states also allow nonmedical exemptions based on religious or philosophical beliefs. To examine whether state policy on vaccine exemptions could counter falling vaccination rates, we probed data from approximately 2.8 million kindergartners across multiple states from 2011 to 2023.

California, New York, Maine and Connecticut completely eliminated nonmedical exemptions during this period. In those states, exemption rates fell by 3.2 percentage points on average within three years – meaning tens of thousands more children gained protection against diseases like measles.

We examined rates for all four vaccines that are required in most states for children to attend school: diphtheria-tetanus-acellular pertussis, hepatitis B, measles-mumps-rubella and polio. Vaccination rates increased for all of them after nonmedical exemptions were eliminated.

One common concern with not allowing nonmedical exemptions is that parents would simply seek medical exemptions instead. But that didn't happen in any significant numbers, we found. While California did see an initial uptick in medical exemptions after its 2015 repeal, they declined after the state implemented centralized review processes in 2021. Overall, medical exemptions increased by only 0.4 percentage points – a statistically significant but clinically modest difference.

We also examined states that took a more limited approach. Vermont repealed philosophical exemptions but retained religious exemptions in 2015. Washington repealed nonmedical exemptions only for the MMR vaccine in 2019. These partial repeals were less effective, producing smaller and less persistent increases in vaccination rates than those from total repeal.

The timing matters too. Our findings show that vaccination rates rise over time, with the largest increases observed three to four years after repeal. This is partly because many states don't immediately enforce legislation for all children, allowing for gradual phase-in periods.



California, New York, Maine and Connecticut eliminated nonmedical vaccine exemptions, meaning children must be vaccinated to attend school unless they have a valid medical reason.

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Why it matters

Vaccination rates for routine childhood vaccines are falling sharply in the U.S. – primarily because more families are seeking exemptions for their children. Between 2011 and 2023, overall kindergarten exemption rates more than doubled, from 1.6% to 3.3%. This trend has accelerated during and after the COVID-19 pandemic, as vaccine skepticism has become increasingly mainstream

This trend leaves more children vulnerable to preventable diseases. Measles, for example, requires about 95% vaccination coverage to prevent outbreaks, and even small drops below that threshold can leave communities vulnerable. In 2025, the country surpassed 1,600 measles cases – the highest count since 1992. Public health experts worry that the U.S. could lose its measles elimination status, which was declared by the World Health Organization in 2000.

Our study shows that comprehensive policy changes can meaningfully protect vaccination coverage. When states eliminate religious, philosophical and other nonmedical vaccine exemptions, childhood vaccination rates increase – without parents simply shifting to medical exemptions.

These findings provide valuable evidence in the face of declining vaccination coverage, and they reveal what's at stake for states considering weakening vaccine requirements. In September 2025, Florida announced its plan to end vaccine mandates for hepatitis B, chickenpox and bacterial meningitis, with seven additional diseases expected to follow.

What's next

Our research demonstrates that policy-level solutions work. But they require comprehensive implementation and adequate enforcement mechanisms.

We're now expanding this research to look at a critical question: Do unvaccinated children cluster together in certain neighborhoods or communities? Even when a state's overall vaccination rate looks healthy, there might be specific towns or school districts where rates are dangerously low – leaving those areas vulnerable to disease outbreaks.

Understanding these patterns will help public health officials target interventions for the communities at highest risk for outbreaks.

The Research Brief is a short take on interesting academic work.

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