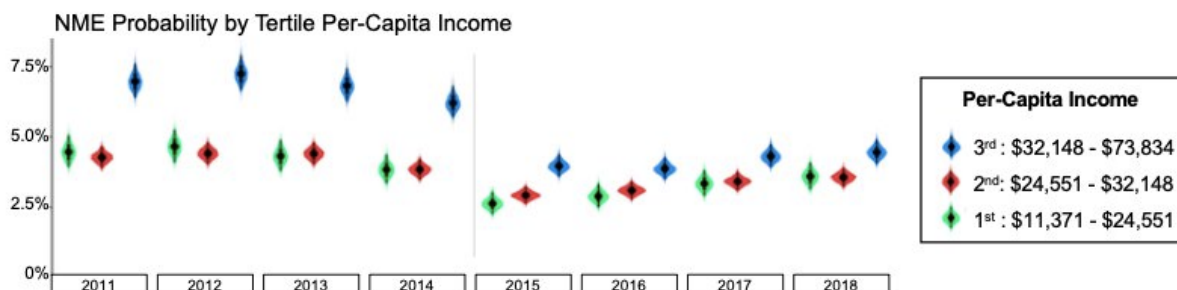


Success of Michigan's rule to reduce vaccine exemptions for kids was short-lived

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Prior to 2015, Michiganders in the highest tertile of per capita income had the highest probability of obtaining an NME compared to low- and middle-income earners. After the implementation of Michigan’s administrative rule change, this gap diminished substantially. Credit: University of Michigan

Adding the hurdle of vaccine education prior to obtaining a nonmedical exemption may improve vaccination rates in the short term, but policymakers may want to consider different, more holistic strategies to change parental behaviors in the long term, according to a new University of Michigan study. Researchers say the study, published in the journal *Pediatrics*, provides insights into the effects that an administrative rule change in 2015 had on pediatric vaccinations in Michigan. The January 2015 rule required parents seeking nonmedical vaccination exemptions, or NMEs, for their children to attend an in-person vaccine education session at their local health department before

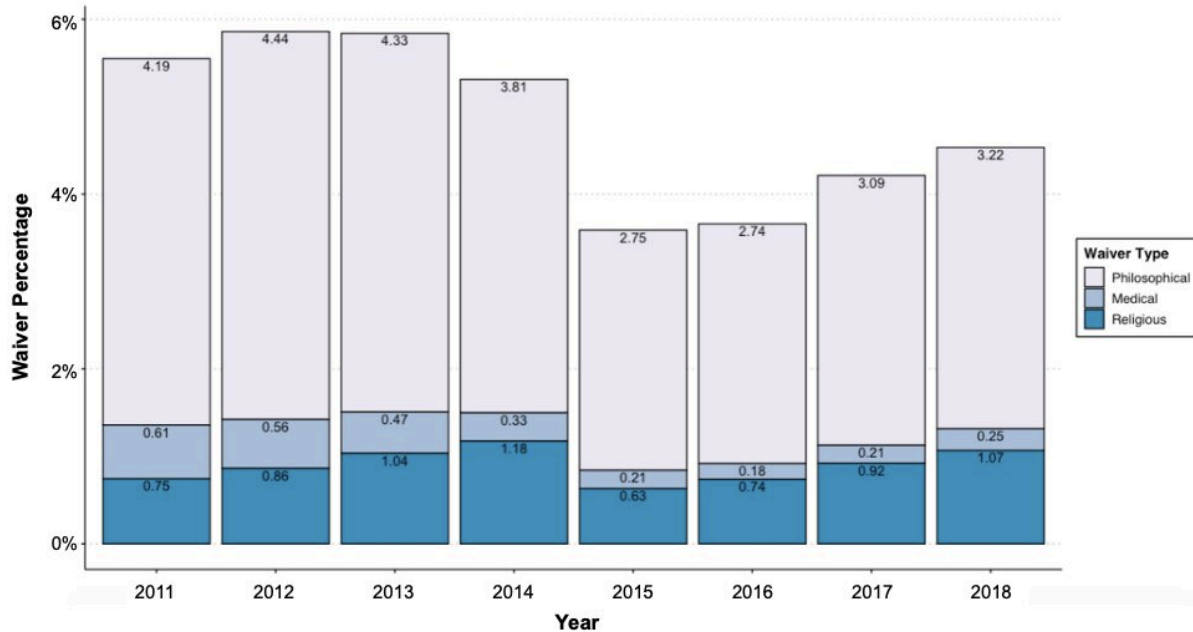
obtaining the exemption waiver.

"Although Michigan's administrative rule change caused a short-term decline in nonmedical exemptions, rates have risen dramatically in the following four years since the policy was implemented," said lead author Nina Masters, who did the research as part of her doctoral dissertation at the Department of Epidemiology at U-M's School of Public Health.

"This rule change did not cause a sustained reduction in the rate or spatial distribution of nonmedical exemptions in the state."

For their study, the researchers used vaccination data of all Michigan kindergartners enrolled in schools with five or more students, including public, private, charter and virtual schools between 2011 and 2018. They analyzed sociodemographic predictors of nonmedical exemptions before and after the administrative rule, as well as measuring the persistence and school district-level geographic clustering of these exemptions.

They found that while NMEs among kindergartners fell by 32% immediately after the rule change, by 2018 the rates had rebounded by 26%. Interestingly, they note, income disparities in NME rates decreased after the rule change.



While vaccine exemption waivers decreased immediately after Michigan’s January 2015 rule change, by 2018 a large rebound is apparent among philosophical and religious exemptions, while medical waiver rates remained low. Credit: University of Michigan

"It shows that it's not just enough to make it inconvenient to get the exemption. If we're thinking about behavior change, you have to make it not just a little harder, but a lot harder to get the exemption. Whether we want to go down the road of fully coercive policies ... that's a longer and harder discussion," said Jon Zelner, assistant professor of epidemiology at U-M's School of Public Health and one of the authors of the study.

Other findings include:

- The medical exemption rates in Michigan decreased after the rule change and have remained at these reduced levels since 2015.

- The rate of religious exemptions in Michigan has rebounded faster than philosophical exemptions. This is concerning since the 2019 measles outbreaks in Oakland County were primarily driven by religious exemption clusters.
- The study confirmed the high rates of NMEs in Oakland, Macomb and Wayne counties, and identified school district-level clustering of religious exemptions in Macomb County, indicating regions in which vaccine-preventable disease risk may be high at a finer scale.
- Private schools had nearly twice the average rate of NMEs compared to public and charter schools.
- Researchers say the high rates of NMEs among kindergartners enrolled in virtual schools is worrying especially as enrollment has increased nearly tenfold over the study period, from 57 students in 2011 to 487 in 2018.

Zelner said they also observed a shift in terms of the relationships between per capita income and the likelihood of getting nonmedical exemptions over time.

"We used to think of vaccine hesitancy as a problem of wealthier, more privileged individuals who had concerns about vaccination and they were finding ways to get their [kids](#) on alternative schedules or or just out of pediatric vaccines altogether," he said. "Just like the behaviors change over time, the demographics of the folks involved and the reasons for exemption change as well."

More information: Nina B. Masters et al, Evaluating Michigan's Administrative Rule Change on Nonmedical Vaccine Exemptions, *Pediatrics* (2021). [DOI: 10.1542/peds.2021-049942](https://doi.org/10.1542/peds.2021-049942)

Provided by University of Michigan

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