

# Restoring Community Immunity in America

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Vaccines are safe and effective, and when a sufficiently high percentage of people are immunized, community immunity from a vaccine protects even the unvaccinated. To protect public safety, states passed laws to achieve community immunity, including requiring vaccination before entering school. To achieve the political will to pass those vaccination laws, legislatures also included nonmedical exemptions, which initially were rarely used by parents because most understood the dangers of vaccine-preventable diseases, such as polio and measles.

Thanks to vaccines, this present generation of parents no longer have experience with these diseases. However, some saw the opportunity to exploit these circumstances for personal gain by spreading vaccine misinformation over the internet and social media to fuel parental anxiety and promote sales of their supplements and books,<sup>1</sup> leading to increased use of nonmedical exemptions.

Concerned policymakers have sought to stem the erosion of community immunity through parental education and increasing administrative barriers for exemptions. However, it is difficult to change behavior in people exposed to vaccine misinformation, as is indicated in vaccine hesitancy research.<sup>2</sup> There is greater promise for restoring community immunity with stricter vaccination policies and enforcement, and careful evaluation of vaccination laws is critical to understand what is required to achieve and maintain community immunity to protect all children.<sup>3</sup>

Omer et al<sup>4</sup> examined the impact of SB5005, implemented by the state of Washington in 2011, which required parental counseling by a licensed health care provider about the risks and benefits of immunizations to obtain a nonmedical exemption. SB5005 was the model for a 2012 law I authored in California: AB2109. Although SB5005 and AB2109 reduced exemption rates, researchers in this study showed that the percentage of students who had completed all immunizations trended down after an initial rise with the implementation of SB5005, and entrants out of compliance trended up as well. The law's effect may primarily be on parents who are not truly vaccine hesitant but did not get their child to a health provider. Requiring families to visit a health provider for counseling made the burden similar to bringing the child to be vaccinated. However, vaccine hesitancy resumed increasing after implementation of the law.

In California, AB2109, which reduced nonmedical exemptions for the first time in over a decade from 3.15% to 2.5% in 1 year, did not restore community immunity. The 2015 measles outbreak, beginning at Disneyland, spread across California and the country, reminding the public they were no longer safe from measles. Parents demanded action, and I authored SB277, abolishing nonmedical exemptions, which became law despite vociferous, well-funded opposition by antivaccine groups. In SB277's first year of implementation, California's kindergarten class achieved a vaccination rate of 96% through educational and public health

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efforts to increase public awareness and improve compliance with state vaccination laws.<sup>5</sup> Further evaluation is needed to fully determine the success of SB277; however, numerous pediatricians have informed me that they now need to spend less time persuading families to vaccinate their children, but there are also reports of some physicians monetizing their license by selling medical exemptions.<sup>6</sup>

Thus, vaccination policy should not only address barriers to nonmedical exemptions but also address medical exemptions and the role of antivaccine groups in endangering public safety. Standards of care for granting medical exemptions must be clearly defined by the medical profession, and public health authorities should review medical exemptions to ensure these standards are met. Organizations that set professional standards (including certification boards, medical specialty societies, and licensing bodies) should sanction physicians who seek profit from unprofessional conduct that undermines public health and endangers children and communities. Antivaccine physicians tout these credentials to gain credibility with parents. In addition, policymakers need to establish consequences for people profiting from spreading misinformation that enables the spread of disease. Half of all Twitter posts about vaccines contain antivaccine beliefs.<sup>7</sup> Just this year in Minnesota, antivaccine groups targeted a community, causing a significant drop in vaccination rates.<sup>8</sup> The resulting measles outbreak exposed

>8000 people, sickened 79 (of which 73 were <10 years old), and hospitalized 22.<sup>9</sup>

Most importantly, pediatricians need to build the political will to pass effective vaccine policy. Antivaccine groups are organized and well funded, and they resort to intimidation and threats to suppress proscience advocacy on social media<sup>10</sup> and in legislatures. To create the political will to pass SB277, we organized proscience parents to lead a broad coalition of not only physicians and public health advocates but also education, business, labor, and local government groups. Educating the public that vaccines are safe and effective is not enough. To protect our children and communities, child health advocates must organize proscience parents who care about public safety in their community to campaign for laws to restore community immunity. Vaccines work. Every child needs community immunity. For our children's safety, we must fight back.

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