



Children's Hospital
Colorado



COLORADO CHILDREN'S
IMMUNIZATION COALITION

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In Midst of Nationwide Outbreaks, Colorado's Immunization Rates Lag, Cost of Preventable Disease Remains High

Charges to treat flu in Colorado surpassed \$367 million during the 2017-18 flu season

AURORA, Colo.— Despite a recent nationwide outbreak of measles resulting in the highest number of cases in nearly 30 years and a growing Hepatitis A outbreak in Colorado, Colorado's vaccination rates continue to lag, according to an independent report released today by Children's Hospital Colorado (Children's Colorado) and the Colorado Children's Immunization Coalition (CCIC).

In 2018, only 87% of Colorado kindergarteners were fully vaccinated against measles—down from 89% in 2017—and nearly 5% of kindergarteners submitted exemptions for one or more vaccines, leaving Coloradans, especially the state's youngest residents, vulnerable to an outbreak. And though cases of influenza resulted in over \$367 million in hospital and emergency department charges and more than 42,000 missed work days in Colorado in 2017-18, only 45% of Coloradans received a flu vaccine. The report, [Vaccine-Preventable Diseases in Colorado's Children](#), also finds that improving rates of influenza vaccination to just 70% could prevent \$22 million in treatment charges and \$1.4 million in lost wages and productivity.

Prepared by pediatricians and researchers from the department of Epidemiology at Children's Colorado, the report provides an analysis of the state of immunization in Colorado based on hospital and emergency department data from the Colorado Hospital Association and the Colorado Department of Public Health and Environment (CDPHE). The second report in a series this year, the September installment provides the latest update on local and national preventable disease outbreaks and highlights immunization data from 2018-19 and its implications for health and safety in Colorado's schools and child care facilities. It also examines immunization views reported by Denver religious leaders and underscores the potential economic savings of increased influenza vaccination.

Key findings from the report include:

Outbreaks of vaccine-preventable diseases, including hepatitis A and measles, are on the rise across the United States.

- Over the past three years, there have been hepatitis A outbreaks in 30 states with over 24,000 cases and 240 deaths reported; Colorado has been experiencing a hepatitis A outbreak since October 2018 with over 140 cases and 100 hospitalizations. Colorado public health officials and health care facilities are working to prevent further spread of hepatitis A through education and

vaccination efforts.

- Over 1,200 cases of measles have been reported across 30 states in 2019. One in every 10 cases has been hospitalized, and half have experienced complications.
- Colorado is especially vulnerable to a measles outbreak due to low measles, mumps, and rubella (MMR) vaccination coverage; according to school report data from the state health department, only 87% of kindergarteners are up to date with MMR—far below the 95% threshold needed to prevent measles from spreading in the community.

School and child care immunization data from the 2018-19 school year demonstrate high rates of exemption to school vaccination requirements and low compliance for kindergarteners and older children.

- Kindergarten exemption rates to school-required vaccines remain one of the highest in the nation at nearly 5%. Among exemptions across all ages, 89% are for personal belief reasons, 7% are for religious reasons, and 3 to 5% are for medical reasons. [Table 1]
- Private schools had higher exemption rates overall compared to public schools.
- Compliance (the percentage of students who submit either proof of immunization or an exemption for all required vaccines) is low for kindergarteners (88%) and older children (93%) as compared to preschool aged children (98%). Non-compliant children have an unknown immunization status and may not be protected against vaccine-preventable diseases. [Table 1]
- Kindergarten measles, mumps and rubella (MMR) vaccination coverage remains dangerously low at 87% (down from 89% in 2017-18).

Denver religious leaders generally exhibit low hesitancy toward vaccines, which indicates there may be opportunities for leaders' increased participation in immunization conversations.

- In a 2016 survey of 100 Denver religious leaders, 75% of leaders were not hesitant toward vaccines, but only 10% had formally spoken about vaccines to their congregants. Those who had reported talking about vaccines discussed the need for congregants to receive vaccines to protect those around them who cannot. [Figure 1]
- While the absolute number of children claiming religious exemptions in Colorado is low, clustering of exemptions increase risk in certain communities and exempt children are still at risk of contracting and spreading disease; religious leaders may provide an important perspective in calls to decrease religious exemptions and improve vaccination rates.

While the individual, societal and economic costs of influenza are high, flu vaccination rates in Colorado remain low; improving vaccination rates could mitigate these costs.

- During the 2017-18 flu season, 79,000 people, including 183 children, died from flu in the U.S. Despite the high burden of influenza, only 45% of Coloradans received a flu vaccine.
- Charges to treat flu in Colorado in 2017-18 totaled over \$367 million, with \$264 million in charges to treat the 4,753 people who were hospitalized with flu, and \$103 million to treat the

20,550 people who visited an emergency department (ED) due to flu. [Figure 2]

- In 2017-18, it's estimated that influenza hospitalizations and ED visits among adults 18-64 years cost Coloradans over \$11 million in lost wages and productivity and an additional \$3.6 million for adults missing work for children's influenza hospitalizations or ED visits. [Table 2]
- Flu vaccinations in Colorado already avert \$68 million in hospital and ED charges; if the rate increased to 70%, it's estimated that an additional \$22 million in hospital and ED charges and \$1.4 million in lost wages and productivity could be saved.

"The burden of vaccine-preventable diseases is high. And while vaccines are the best way to safely and effectively prevent many dangerous infectious diseases, we're seeing a high number of outbreaks across the nation and in our own state," said Dr. Jessica Cataldi, the report's main author and infectious diseases pediatrician at Children's Hospital Colorado.

"In Colorado, we must work toward improving vaccination rates for diseases like measles and influenza to help protect our communities from potentially devastating outbreaks and to prevent unnecessary personal and economic costs, hospitalizations and even death. With kids back in school and influenza season starting soon, everyone should talk to their doctors about which vaccines their family needs."

Access the full *Vaccine-Preventable Diseases in Colorado's Children Report* at www.childrensimmunization.org.

About the Colorado Children's Immunization Coalition:

The Colorado Children's Immunization Coalition (CCIC) is a statewide, independent 501(c)(3) nonprofit. Its mission is to strategically mobilize diverse partners and families to advance children's health through immunizations. CCIC does not accept funding from vaccine manufacturers or distributors. To learn more, visit www.childrensimmunization.org and connect with CCIC on [Facebook](#) and [Twitter](#).

About Children's Hospital Colorado

Children's Hospital Colorado is one of the nation's leading and most expansive pediatric healthcare systems with a mission to improve the health of children through patient care, education, research and advocacy. Founded in 1908 and recognized as a top ten children's hospital by U.S. News & World Report, Children's Colorado has established itself as a pioneer in the discovery of innovative and groundbreaking treatments that are shaping the future of pediatric healthcare worldwide. Children's Colorado offers a full spectrum of family-centered care at its urgent, emergency and specialty care locations throughout Colorado, including its location on the Anschutz Medical Campus, and across the region. In 2019, Children's Hospital Colorado, Colorado Springs, opened as the first pediatric-only hospital in southern Colorado. For more information, visit www.childrenscolorado.org, or connect with us on [Facebook](#) and [Twitter](#).

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