



Children's Hospital Colorado



Colorado Children's
Immunization Coalition

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Is Colorado Ready for the Next Vaccine-Preventable Disease Outbreak?
*New Report Shows Significant Gaps in Childhood Vaccination, Need for Stronger
Vaccine Policy and Practices*

AURORA, Colo.— In 2013, Colorado ranked 45th among U.S. states for childhood immunizations, with over 27.9 percent of children under-immunized at 36 months of age and 538 Colorado children hospitalized with vaccine-preventable diseases, resulting in \$29.2 million in hospital charges. That's according to an independent report released today by the Colorado Children's Immunization Coalition (CCIC) and Children's Hospital Colorado (Children's Colorado). The report, *Vaccine-Preventable Diseases in Colorado's Children*, also finds that vaccines have proven to be safe and effective in Colorado. In 2013, vaccination prevented nearly 31,000 cases of vaccine-preventable disease in Colorado children and over \$440 million in hospitalization charges.

Prepared annually by James Gaensbauer, MD, Carl Armon, PhD, and James Todd, MD, from the Department of Epidemiology at Children's Hospital Colorado, the report provides an analysis of the state of health of Colorado's children based on the most recent National Immunization Survey (NIS), Colorado Hospital Association (CHA) inpatient data and Colorado Department of Public Health and Environment (CDPHE) data. The report examines vaccination rates, hospitalizations, costs and savings associated with vaccine-preventable disease in children. Findings show that there are significant gaps in vaccinating Colorado's children, despite overwhelming evidence that vaccines are safe and effective.

Key findings include:

- In 2013, there were \$29.2 million in charges for treating children in Colorado for vaccine-preventable diseases (Table 1), compared to \$26.6 million in 2012. Actual costs, taking into account costs of those not hospitalized but with office and/or emergency department visits and pharmacy costs, are much higher.
- In 2013, 538 Colorado children were hospitalized with vaccine-preventable diseases including influenza, compared to 414 in 2012.
- In 2013, 70.1 percent of children hospitalized with vaccine-preventable disease in Colorado were four years of age or younger.

- In 2013, pertussis (whooping cough) cases in Colorado remained at epidemic levels for the second year with 1,432 reported cases, 81 percent of which were in children ages 0-19.
- In 2013, there were three hospitalizations in children associated with vaccine administration, while at the same time thousands of hospitalizations due to vaccine-preventable diseases were avoided with an overall benefit-to-risk ratio of greater than 1,000:1.
- In 2013, vaccination prevented nearly 31,000 cases of hospitalized vaccine-preventable disease and prevented over \$440 million in hospitalization charges among children in Colorado.
- Vaccines dramatically have reduced the incidence of many childhood infectious diseases in Colorado while proving to be very safe.
- Current data shows that Colorado ranks 45th among U.S. states in the composite 431331 NIS vaccination rate for its children in 2013 with over 27 percent under-immunized at 36 months of age.
- Measles Mumps Rubella (MMR) vaccine coverage among 19-35 month-old children was only 86 percent in Colorado, well below the 92-95 percent levels required to achieve herd immunity.
- More than 25 percent of all 7-month-old infants in Colorado are behind in DTaP (Diphtheria, Tetanus, and acellular Pertussis) and PCV (pneumococcal) vaccinations. Pertussis and Pneumococcal disease were the second and third most common reasons for hospitalization for vaccine-preventable diseases in young children in Colorado in 2013.
- Individual on-time vaccination completion rates vary dramatically in young Colorado children, ranging from 10 percent 30 percent non-compliance in children 36 months of age or less for common vaccines, implying that barriers – whether voluntary or involuntary – exist.

Table 1: Cases, rates, and hospital charges for children in Colorado with vaccine-preventable diseases, 2013						
	0 - 4 Years of Age			5 - 19 Years of Age		
	CHA Hospitalizations			CHA Hospitalizations		
	Hospitalized Cases	Rate per 100,000	Hospital Charges	Hospitalized Cases	Rate per 100,000	Hospital Charges
Diphtheria	0	0.0	\$0	0	0.0	\$0
H. influenzae	3	1.0	\$354,488	3	0.3	\$327,234
Influenza, hospitalized	297	94.9	\$11,887,868	127	11.7	\$8,788,456
Measles	1	0.3	\$5,117	0	0.0	\$0
Mumps	0	0.0	\$0	0	0.0	\$0
Pertussis	39	12.5	\$1,285,359	1	0.1	\$13,141
Pneumococcal disease	35	11.2	\$3,156,573	24	2.2	\$3,290,158
Polio	0	0.0	\$0	0	0.0	\$0
Rubella	0	0.0	\$0	0	0.0	\$0
Tetanus	0	0.0	\$0	0	0.0	\$0
Varicella	5	1.6	\$46,375	3	0.3	\$54,116
Total	380	121.4	\$16,735,780	158	14.5	\$12,473,105

Colorado's current rate of children immunized with all of the recommended vaccines is well below the majority of U.S. states and the national goal of 90 percent, with under-vaccination resulting in preventable childhood illness, hospitalization and death.

"Vaccines remain one of the landmark achievements of public health in Colorado, reducing the incidence of many common and potentially fatal infectious diseases by up to 99 percent," said Dr. James Todd, report author and director of epidemiology at Children's Colorado. "Without vaccines, we would expect more than 30,000 vaccine-preventable disease cases in Colorado children each year."

The report supports the need for continued strengthening of vaccine delivery systems, improving access

to primary pediatric care, and increasing efforts to provide accurate information regarding the safety and benefits of childhood vaccination to parents who wish to protect their children from vaccine-preventable diseases.

“This is key evidence that Colorado needs to do more to ensure all children are up-to-date on all recommended vaccines,” CCIC Executive Director Stephanie Wasserman.

Under current law, Colorado parents may exempt their children from school-required vaccinations for personal beliefs by providing only their signature. Legislation passed in 2014, House Bill 14-1288, requires schools and licensed child care centers to make immunization and exemption data available upon request. Such transparency, “gives parents the information they need to choose a healthy and safe learning environment for their child,” Dr. Todd explained.

“Vaccination is not just a personal choice. Pockets of underimmunized children can lead to outbreaks which affect the whole community and place others at risk, including those who are too young to be vaccinated or cannot be because of preexisting, high risk health conditions,” Dr. Todd said.

“By investing in efforts to strengthen vaccine policy, maximize systems that enhance vaccine delivery, such as the Colorado Immunization Information System, and expand access to vaccines across the state, we can ensure our most vulnerable community members – our children – are protected,” said Dr. Todd.

Access the full *Vaccine-Preventable Diseases in Colorado’s Children Report* at www.childreimmunization.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.childreimmunization.org and connect with CCIC on [Facebook](#) and [Twitter](#).

About Children’s Hospital Colorado

Children’s Hospital Colorado (Children’s Colorado) has defined and delivered pediatric health care excellence for more than 100 years. Founded in 1908, Children’s Colorado is a leading pediatric network entirely devoted to the health and well-being of children. Continually acknowledged as one of the nation’s top ten Best Children’s Hospitals by U.S. News & World Report and Parents magazine, Children’s Colorado is known for both its nationally and internationally recognized medical, research, education and advocacy programs, as well as comprehensive everyday care for kids throughout Colorado and surrounding states. Children’s Colorado also is recognized for excellence in nursing from the American Nurses Credentialing Centers and has been designated a Magnet® hospital since 2005. The hospital’s family-centered, collaborative approach combines the nation’s top pediatric doctors, nurses and researchers to pioneer new approaches to pediatric medicine. With urgent, emergency and specialty care locations throughout Metro Denver and Southern Colorado, including its campus on the Anschutz Medical Campus, Children’s Colorado provides a full spectrum of pediatric specialties. For more information, visit www.childrenscolorado.org and connect with Children’s Colorado on [Facebook](#), [Twitter](#) and [Pinterest](#).