

2016 Vaccine Preventable Diseases in Colorado's Children Report

Key Findings

Hospitalizations and emergency department visits due to vaccine-preventable disease result in high costs to parents, businesses and taxpayers.

- Hospital and emergency department (ED) charges to treat vaccine-preventable disease in Colorado children totaled more than \$35 million in 2015. Actual costs, taking into account costs of office visits, medication, lost wages and decreased productivity, are much higher.
- Adams (\$6.1 million), Arapahoe (\$5.1 million), Denver (\$4.7 million) and El Paso (\$4.4 million) counties account for about 58 percent of the statewide hospital and ED charges for treating children with vaccine-preventable disease in 2015.
- In 2015, 472 Colorado children were hospitalized with vaccine-preventable diseases.
- Influenza (flu) alone accounted for 369 hospitalizations and 4,045 ED visits among Colorado children in 2015, resulting in more than \$25 million in charges.
- The second most common vaccine-preventable disease to lead to hospitalization or ED visits was pneumococcal disease, with a total of \$8 million in charges.

The highest burden of preventable illness occurs in infants and young children.

- Among children in Colorado who were hospitalized for vaccine-preventable disease, 66.5 percent were four years of age or younger.
- In contrast, ED visits for vaccine-preventable diseases were higher in children and teens 5-17 years of age.

Vaccination coverage has improved, but a significant percentage of Colorado children are inadequately protected against vaccine-preventable diseases.

- Colorado ranks 14th among US states for childhood vaccination. In the previous year, Colorado ranked 25th. While Colorado's overall vaccination rate has improved after five consecutive years of low rates, Colorado is at the same vaccination coverage level as ten years ago (Figure 1).
- Statewide, vaccination rates hover under 80 percent. Some Colorado counties exceed that rate, but most – including both urban and rural counties – have estimated vaccination rates that are much lower.
- In 2015, 24.6 percent of children were missing one or more routine vaccines.
- As many as 49 counties (77 percent) in Colorado are below the national average for immunization coverage (Figure 4).
- In 17 of 64 Colorado counties, less than 50 percent of children were up-to-date on routine immunizations in 2015. Only five Colorado counties – Hinsdale, Kit Carson, Kiowa, Prowers and Baca – meet the *Healthy People 2020* vaccination goal of 90 percent coverage.

- MMR (Measles-Mumps-Rubella) vaccination coverage improved among Colorado two-year-olds, but still remains well below the 93-95 percent required to protect a population or community against outbreaks of measles at 91.5 percent.
- While vaccination coverage improved for some childhood immunizations from 2014 to 2015, more than 25 percent of all 7-month-old infants in Colorado are still behind in vaccinations to prevent tetanus, diphtheria, pertussis (DTaP) and pneumococcal disease (PCV). Pneumococcal disease and pertussis were the second and third most common reasons young children were hospitalized for vaccine-preventable disease in 2015.

Low levels of community protection due to unacceptable vaccination rates leave many vulnerable children at risk of serious infectious diseases.

- All Colorado counties have children who are vulnerable to vaccine-preventable disease due to medical conditions that suppress their immune systems, including children with cancer, heart conditions and pulmonary disease, as well as children who've received an organ transplant and infants who are too young to be vaccinated (Figure 5). These children are at increased risk of vaccine-preventable diseases introduced by unvaccinated children and adults.
- Data provided by Chalkbeat Colorado shows that, in the 30 largest school districts, the percentage of children exempted from vaccines required for school or child care entry ranges from 1 to 17 percent.
- Colorado is in the midst of a measles investigation and a mumps outbreak that has infected 26 people this year. Even when a vaccine-preventable disease exposure does not result in transmission, the cost of investigation and prevention can amount to tens of thousands of dollars. A cost analysis conducted by Tri-County Health Department found that the cost to investigate a single measles case was just under \$50,000.

A vaccine against cancer could save millions of dollars and prevent suffering for Coloradans.

- The human papillomavirus (HPV) is the leading cause of cervical cancer and can cause oropharyngeal, vaginal, vulvar, penile and anal cancers.
- Only 65 percent of Colorado teens received the HPV vaccine in 2015.
- In 2013, there were 155 new cases of cervical cancer diagnosed in Colorado and 700 new cases of oropharyngeal, vaginal, vulvar, penile and anal cancer.
- New cases of HPV-attributable cancer in one year led to over \$23 million in medical costs (not including costs associated with screening and follow up testing) for Colorado (Table 2).
- In the US, it is estimated that taxpayers spend \$8 billion treating and preventing HPV (direct medical costs only).

Additional Talking Points

- Immunizations are a safe, easy, and effective way to keep Colorado kids healthy.
- Worldwide, **vaccines save an estimated 2.5 million children's lives every year.**
- **The vast majority of parents (around 90 percent) vaccinate their children on the schedule recommended by the American Academy of Pediatrics;** however, an active vocal minority continues to spread misinformation and fear.
- **Vaccines are held to the highest standards of safety.** They're studied extensively before they're recommended for kids and continually monitored after recommendation.
- **The benefits of vaccination far outweigh the risks.** The most common vaccine side effects are mild (e.g., a sore arm or mild fever). In many cases, the risk of a serious allergic reaction to a vaccine is 1 in a million.
- **Vaccination is not just a personal choice.** Choosing to delay or refuse immunization for your child can affect your family, friends and community.
 - **Not everyone in a community is able to be vaccinated, but everyone benefits from vaccination.** When the majority of people in a community are protected through vaccination, there is less opportunity for diseases to enter. This concept is known as herd immunity or community immunity.
 - Some people cannot receive some or all vaccines for medical reasons and are especially at-risk for vaccine-preventable diseases and their complications, such as newborns, pregnant women, children and adults who have chronic illness, children with certain allergies, and the elderly. These individuals rely on the vaccinated members of their communities to shield them from potentially serious illness.
 - When less than 90% of children are immunized in a particular community, these pockets of low vaccination create an environment where infectious disease can take hold and spread.
- **All states require immunizations for school entry.** At least 18 states, including Colorado, allow parents to exempt based on personal or philosophical beliefs.
- For the 2015-2016 school year, Colorado had the lowest MMR coverage rate for kindergarteners (87.1 percent) and the 7th highest non-medical exemption rate in the US at 4.3 percent.
- **Colorado is experiencing a mumps outbreak and an active flu season that has already claimed the lives of at least 20 children nationwide.** Colorado is also in the midst of a measles investigation due to one person with the disease, an unvaccinated adult, who visited 18 locations while infected.

- **High rates of immunization coverage are necessary to prevent the spread of vaccine-preventable diseases.** High immunization rates help to preserve herd immunity and protect individuals who cannot be vaccinated.
- **A new grassroots organization, Colorado Parents for Vaccinated Communities (CPVC), launched earlier this month.** CPVC is a group of Colorado parents who support pro-vaccine policy for the safety of our children and our communities. Parents who wish to learn more can visit www.coparents4vax.org.
- **The report backs the need for continued support for vaccine delivery systems,** such as the Colorado Immunization Information System (CIIS), improving access to primary pediatric care, and increasing efforts to provide accurate information regarding the safety and benefits of childhood vaccination to parents

New Report Illustrates Increased Risk for Colorado Children and Communities and High Cost of Vaccine Preventable Diseases in Colorado

While Colorado consistently appears in national news as one of the nation's top health performers in a variety of measures, childhood immunization rates across the state tell a different story.

An independent report released Feb. 24 by the Colorado Children's Immunization Coalition (CCIC) and Children's Hospital Colorado (Children's Colorado) shows that **24.6 percent of 36-month-old children are unimmunized against one or more vaccine-preventable disease**. The *2016 Vaccine-Preventable Diseases in Colorado's Children* report examines vaccination rates, hospitalizations, emergency department (ED) visits, and costs associated with vaccine-preventable disease in children. It also finds that **in 17 Colorado counties, less than 50 percent of children are up to date on routine immunizations and as many as 49 counties (77 percent) are below the national average for immunization coverage**. These rates fall well below the national *Healthy People 2020* goal of 90 percent, leaving these counties and the state of Colorado at high risk for outbreaks.

While the report acknowledges some improvements, it highlights the impact of low vaccination rates – both on the community and the economy.

The highest burden of preventable illness falls on the shoulders of infants and young children, and the risks are greatest for children who are especially vulnerable to vaccine-preventable diseases and their complications. According to the report, all Colorado counties have children who are vulnerable to vaccine-preventable disease due to medical conditions that suppress their immune systems, as well as infants who are too young to be vaccinated. These children are at increased risk of vaccine-preventable diseases introduced by unvaccinated children and adults.

"Vaccination is not just a personal choice," Dr. James Todd of Children's Colorado explains. "Pockets of underimmunized children can lead to outbreaks, which affect the whole community and place others at risk, including vulnerable children with asthma, cancer or other high-risk health conditions."

Vaccine-preventable diseases also result in high costs to parents, businesses and taxpayers.

Hospital and ED charges to treat vaccine-preventable disease in Colorado children totaled more than \$35 million in 2015. Actual costs, taking into account costs of office visits, medication, lost wages and decreased productivity, are much higher.

Currently, Colorado is in the midst of a measles investigation and mumps outbreak that has already infected 26 people this year. Even when a vaccine-preventable disease exposure does not result in the spread of disease, the cost of investigation and prevention can amount to tens of thousands of dollars. To give a sense of this impact, a cost analysis conducted by Tri-County Health Department in 2016 found that the cost to investigate a *single* case of measles was just under \$50,000.

These findings demonstrate the need for continued strengthening of vaccine delivery systems such as the Colorado Immunization Information System (CIIS), improving access to primary pediatric care, and increasing efforts to provide accurate information regarding the safety and benefits of childhood vaccination to parents.

Our children and grandchildren deserve to learn, grow and play in healthy, protected environments, without increased risk of contracting diseases that could be prevented through higher vaccination rates. Here's what you can do to assure our communities are healthy and protected:

- **Join Colorado Parents for Vaccinated Communities (CPVC)** to become an advocate in your community and learn how you can build a safer environment for our children at the grassroots level. Visit www.coparents4vax.org for more information.
- **Contact your legislator** to express your support for stronger vaccination policies and support for the Colorado Immunization Information System (CIIS), which is an integral part of all pediatric and family practices and is currently at risk of defunding.
- **Make sure you and your family are up to date on recommended vaccinations** to keep protect yourself, your loved ones and your community.

Read the full report at childrensimmunization.org.

Social Media Posts

Facebook:

A new report released by @Colorado Children's Immunization Coalition and @Children's Hospital Colorado shows that 472 Colorado children were hospitalized with vaccine-preventable diseases in 2015, resulting in \$35 million in hospital and emergency department charges.

<http://bit.ly/2lRZGXd>

Vaccines are a safe, easy and effective way to keep Colorado kids healthy. But a new report finds that in 17 Colorado counties less than 50 percent of children are up to date on routine immunizations – well below the coverage level necessary to prevent the spread of vaccine-preventable diseases. <http://bit.ly/2lRZGXd>

How is Colorado doing when it comes to protecting young children from vaccine-preventable diseases? A new report shows that, despite improvement, 24.6% of children remain underimmunized. <http://bit.ly/2lRZGXd>

For kids like Samara, community-wide immunization coverage is critical. But a new report finds that in 17 Colorado counties less than 50 percent of children are up to date on routine immunizations – well below the coverage level necessary to prevent the spread of vaccine-preventable diseases.

<http://www.thedenverchannel.com/lifestyle/health/report-the-high-cost-of-vaccine-preventable-diseases-in-colorado>

Twitter:

New @ChildrensColo report: \$35 million went to treat CO kids with #vaccine preventable diseases in 2015 <http://ow.ly/imJx309kCmP>

17 CO counties are below a 50% vaccination rate. New study by @ChildrensColo & @ImmunizeCOKids: <http://ow.ly/imJx309kCmP>

New study shows #vaccines are a safe & effective way to prevent costly diseases @ChildrensColo @ImmunizeCOKids <http://ow.ly/imJx309kCmP>