

## House Committee on Health and Human Services

### Testimony on HB 2094 Vaccinations; exemptions to required vaccinations based upon conscience or personal belief

January 18, 2012

Chair Landwehr and members of the committee, thank you for the opportunity to provide information related to exemptions for required vaccinations for attendance at licensed child care facilities and school. My name is Michelle Ponce and I am here today, with Claudia Blackburn, Lindsay Payer, and Deina Rockhill, to speak on behalf of the Kansas Association of Local Health Departments (KALHD). KALHD represents 99 of the 100 local public health departments in the state. Health education, disease prevention, and disease surveillance and investigation are primary responsibilities of public health agencies. As such, KALHD opposes HB 2094.

According to the Centers for Disease Control and Prevention (CDC), vaccinations are one of the ten great public health achievements of the twentieth century. Vaccines have reduced or eliminated many diseases that once killed or seriously harmed infants, children, and adults.

While many of us have not seen firsthand the effects of these illnesses, they do still exist. Infants are one group particularly at risk of infection and complications. When my oldest son was only five weeks old and too young to have received his immunizations, he contracted pertussis, or whooping cough, as it is sometimes referred to.

At first, he appeared to have a slight cold with no significant symptoms other than a cough. As young as he was, despite the lack of other symptoms, his doctor wanted to examine him. After a short observation, the doctor diagnosed him with pneumonia and admitted him to our local hospital for what we were told would likely be a short stay. Throughout the evening his cough worsened and he began refusing feedings. The nurses came by the room frequently to check on him. In the early morning hours his coughs turned into coughing fits from which he had a difficult time catching his breath. Then the coughing got so bad, he was not able to breathe. His tiny body turned purple and the nurse had to resuscitate him. Our local hospital does not have a pediatric intensive care unit so the nurse stayed in our room with us for the rest of the night to keep a close eye on him. Early in the morning, when the doctor made his rounds, he ordered my son to be sent by helicopter to Wesley Medical Center in Wichita.

When my family and I arrived at Wesley the doctors informed us he had pertussis. He spent the next week and a half in isolation in the pediatric intensive care unit. In order to enter his room, we had to wear masks, gloves, and gowns. Every family member, every nurse, doctor, and technician that came into contact with him had to take medication to prevent further spread of the disease. He repeatedly required suctioning of his nose and throat just to breathe. At one point, I was also

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diagnosed with pertussis. As an adult, the endless, hacking cough was painful and my ribs were bruised. I can't imagine the pain my son endured. Pertussis is marked by a debilitating cough that may last several weeks, severe enough to cause rib fractures. It can be fatal for infants.

Once he was well enough to leave the ICU, he spent several additional days in the regular children's unit recovering. The pertussis damaged his lungs and decreased his immunity. We were told to take extra precautions to prevent him from being exposed to other illnesses. Despite doing so, he required two additional hospitalizations within his first year for respiratory illness that he was particularly susceptible to due to the damage caused by the pertussis.

Having experienced firsthand the dangers of preventable illness, I feel strongly that vaccinations are vitally important to protect the health and well-being of our children.

## Why vaccinate?

Vaccines are recognized as one of the most beneficial and cost effective public health measures. They provide protection not only to the individual receiving the immunization but also to others in the community who are unable to be fully immunized due to age or medical reasons. When immunization rates decrease, the risk of outbreak of preventable illness increases.

State law dictates immunization requirements for school entry. These policies have contributed to the success of immunization programs throughout the country in preventing and in some cases, eliminating vaccine-preventable disease. All states require certain vaccines for school entry and all states allow medical exemptions to these requirements. Most states allow religious exemptions. Twenty-one states allow exemptions based upon personal belief.

A study conducted by the American Medical Association in 2006 found that permitting personal belief exemptions and easily granting exemptions are associated with higher and increasing nonmedical exemption rates (Omer, et al, 2006). According to another study published in the *American Journal of Epidemiology* in 2008, there is substantial evidence for an increased risk of vaccine-preventable disease among vaccine refusers (Omer, et al, 2008).

- A study conducted of all reported confirmed measles cases in the US from 2001 to 2008 found that the three largest outbreaks occurred primarily among personal belief exmptors. During the 2004 – 2008 period, 68% of the reported confirmed cases among age-eligible, unvaccinated US residents claimed a personal belief exemption to state immunization requirements (Parker Fiebelkorn, Redd, Gallagher, et al, 2010)
- A case-control study of 133 physician-diagnosed cases of varicella in Colorado between 1998 and 2008 concluded that children whose parents refused vaccines had a 9-fold higher risk of contracting varicella (Glanz, et al, 2010).
- A case-control study of 156 physician-diagnosed cases of pertussis in Colorado concluded that children whose parents refused vaccines had a 23-fold higher risk of contracting pertussis and 11% of pertussis cases in the study population were attributed to vaccine refusal (Glanz, et al, 2009).
- A study of geographic clustering of nonmedical exemptions in Michigan found significant overlap between clusters of exemptions and clusters of pertussis cases. Further, the researchers found that exemption rates in Michigan are increasing and nonmedical exemptions tend to be geographically clustered (Omer, et al, 2008).
- The State of Wisconsin allows for vaccine exemption based upon personal conviction. In Wisconsin, the number of students who declined vaccinations has

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increased from less than 1 percent two decades ago to almost 4 percent in 2011. Last year, close to 3 percent of students opted out in Madison. Health officials are concerned about a decline in herd immunity as the number of vaccine waivers increase, leaving young infants and people with medical conditions that prevent them from being vaccinated especially vulnerable (Walhberg, 2012).

- The State of Arkansas implemented a nonmedical exemption process in 2003. Two years later, the nonmedical exemption rate was 2.58-fold higher than in the year prior to the implementation of the new exemption process (Thompson, et al, 2007)

Rising rates of intentional undervaccination undermine efforts to control or eliminate vaccine-preventable illness. While many of the diseases for which we currently vaccinate are becoming quite rare, it is vitally important that we continue to vaccinate against them. If we stop vaccinating or allow rates of vaccination to fall to below-effective levels, more people will be at risk of infection and for spreading the disease to others and we will lose much of the progress we have made in the fight to eliminate these diseases.

## Safety and effectiveness of vaccines

Vaccines are safe and effective for prevention of disease. Years of testing is required by the FDA prior to approval of any vaccine. Once in use, they are continually monitored for safety. According to the CDC, the United States currently has the safest and most effective vaccine supply in history.

“Most vaccine adverse events are minor and temporary, such as a sore arm or mild fever. These can often be controlled by taking acetaminophen before or after vaccination. More serious adverse events occur rarely (on the order of one per thousands to one per millions of doses), and some are so rare that risk cannot be accurately assessed.” (CDC, 2012)

Before vaccines, many children died from diseases that vaccines now prevent, such as diphtheria, whooping cough, measles, and polio. These illnesses still exist today, but thankfully, due to vaccination requirements we do not see them very often in the United States. However, they are still quite prevalent in some foreign countries, making those who are unvaccinated and travel abroad at risk for contracting vaccine-preventable disease and for infecting others when they return home.

A seven-year-old California boy whose parents signed a personal belief exemption form traveled to Switzerland, where only about 70% of children receive the required dose of measles vaccination. Upon returning home, the boy fell ill, but attended school. The boy, two of his siblings, five classmates, and four additional children (three infants) who were exposed while visiting the doctor’s office at the same time as the boy were diagnosed with measles (Ross, 2008). This case illustrates the inherent dangers of choosing not to vaccinate and how quickly disease can spread.

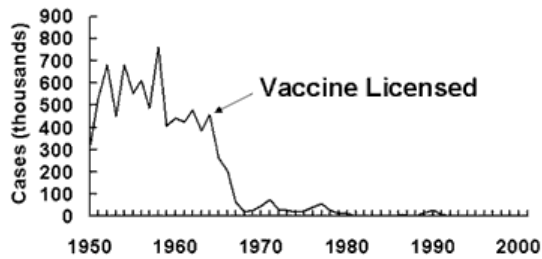
There is no doubt that vaccines are responsible for the dramatic decline in incidence of preventable illness in the US. While improvements in nutrition, sanitation, and socioeconomic conditions undoubtedly had an impact on the decline of incidence of vaccine-preventable illness, these factors by no means tell the whole story. For example, the significant and permanent drop in measles coincided with wide use of the vaccine beginning in 1963.

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## Measles—United States, 1950-2001



In addition, vaccines developed since improvements in nutrition and sanitation, also have caused a marked impact on disease incidence. Haemophilus influenzae disease in children has decreased substantially in recent years from an estimated 20,000 cases a year to 1,419 cases in 1993, and continues to drop. Active surveillance in a number of countries and cities demonstrate a 76-86% decrease in varicella cases from 1995-2001 (CDC, 2012).

Vaccines protect not only the individual, but also the community. Some individuals, due to age or medical condition, are unable to be vaccinated. However, high rates of vaccination within their communities help protect them from contracting the disease. This phenomenon is known as “herd immunity.” Statistics may vary based upon the disease type, but most experts believe that a vaccination rate of 75% - 95% is necessary to achieve herd immunity and realize the benefits thereof. When herd immunity is achieved a large portion of the population is protected from disease; conversely without herd immunity, it is easier for disease to spread.

If we stop vaccinating or if we allow vaccination rates to fall below effective levels, we will see the incidence of these preventable diseases increase. We have made great progress toward eliminating these diseases, but once we allow vaccination rates to fall, more people will be infected, and we will lose the progress we have achieved.

## The cost of undervaccination

When an outbreak of a preventable illness occurs there is a very real cost to the community including severe illness or death of the affected individuals, loss of productivity when children and parents must miss work or school, and the cost of medical care, hospitalization, and treatment for exposed individuals to help prevent the spread of the disease.

When an outbreak of a preventable illness occurs, much time and energy is devoted to investigating how the disease is spread through the community, who may have been exposed, and trying to contain the spread. The following examples describe real-life scenarios from the 2010 pertussis outbreak in Greenwood County and how quickly the disease can spread throughout the community:

- Jenny was a paraprofessional at the local school district and worked directly with students. She started coughing on April 19th but didn't seek treatment until going to the emergency room a month later “because she just wasn't getting over the cough.” She attended the local prom (with 250 – 300 people) on April 16th with her friend who worked at a long term care facility. She also provided care to a disabled person in his home. She regularly attended social gatherings with friends. Jenny helped out another friend by substituting as a caregiver at her friend's daycare where 10 children attend. Jenny tested positive for pertussis. During her infectious period, she potentially exposed hundreds of people, including some who due to age or medical condition were most at-risk for developing complications.
- Suzie gave birth to a baby girl on May 6th. She tested positive for pertussis on May 25, and so was infectious between May 5th and May 29th. During her infectious period, she attended a high school graduation in a town about 45 miles away and also attended a Relay for Life meeting. Overall, she exposed the nursing staff in the labor and delivery unit, the operating room staff, several people at the graduation, and several people at the Relay for Life meeting. Her newborn, who wasn't old enough to get vaccinated, contracted pertussis. Another infant who was

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vaccinated as much as he could be for his age also contracted pertussis. He attended daycare, but not the same daycare that Jenny substituted at.

As you can see, disease tracing can be very complicated and can involve hundreds or even thousands of individuals. Due to confidentiality, staff are unable to ask individuals if they have been in contact with others with confirmed diagnoses, thus compounding the complexity.

Local health departments are responsible for investigation, surveillance, and containment of communicable disease outbreak. There are significant costs borne by local health departments to carry out these responsibilities:

- In the summer of 2010 there was a pertussis outbreak in Greenwood County. The local health department investigated 73 cases. Staff time alone cost the health department \$4747.66 with an average cost of \$65.04 per case. In 2011, Greenwood County experienced another pertussis outbreak. The health department investigated 38 cases for a total of \$3134.43 with an average cost of \$82.49 per case. The dollar amounts do not include the time or expense incurred by the health department for time spent in schools vaccinating 170 students and 156 adults.
- In the spring of 2011, the Johnson County Health Department confirmed six cases of measles. The initial identified cases involved three unvaccinated siblings. As the investigation progressed, three infants under the age of one year were also diagnosed with measles. These infants were too young to be vaccinated and had been exposed to an unknown source that could not be identified. Staff members spent 2,000 person-hours responding to the outbreak and the total cost of outbreak response, including overhead, labor, travel, and other costs was \$90,000. The majority of the costs occurred in the first 14-day period when intense contact tracing of approximately 2,000 individuals was completed to include schools, daycares, physician's offices, and hospitals.
- In 2008, the health department in Omaha, Nebraska responded to a school-based outbreak of pertussis. They had 26 lab-confirmed cases, including 24 students and 2 teachers. Staff devoted 1,032 person-hours responding to the outbreak and the total cost of outbreak response, including overhead, labor, travel, and other costs was \$52, 131.

If expanded exemptions to required vaccinations are allowed, additional resources will be necessary to fund the work of local health departments in responding to outbreaks of preventable illness.

In addition to the staff time and direct monetary costs associated with outbreaks of vaccine preventable illnesses, there is an additional loss of productivity from parents who must miss work to care for sick children and time missed from school by unvaccinated children when an outbreak occurs. By law, when an outbreak of a vaccine-preventable illness occurs in a school or daycare setting, parents of unvaccinated children must choose to either have their children vaccinated or voluntarily exclude them from school or daycare. The exact amount of time for exclusion varies based upon the specific illness. Requirements for a common illness, varicella, mandate that the parents must have their children vaccinated within 24 hours of notification of the illness or exclude them from attendance at childcare or school for 21 days after the onset of the last reported case of illness in the facility.

The requirement for self-exclusion is important for protecting the health of the unvaccinated individual and for controlling the spread of the disease. However, extended exclusion can create a hardship for parents who may miss work to care for excluded children and can create a disruption in learning for students who miss several weeks of classroom time.

The current statute provides exemptions to required vaccinations based upon the child's health or family's religious convictions. Exempted and unvaccinated children are at greater

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risk of contracting preventable illness and may transmit disease to others who may be high risk (due to age or medical condition). We believe the current statutory exemptions are sufficient, and furthermore, that efforts to increase the allowable exemptions leading to decreased vaccination rates pose a significant risk to the health and well-being of Kansans.

Thank you for providing the opportunity to address the committee.

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