

Background and Frequently Asked Questions

SB 277(Pan/Allen) Public Health – School Vaccinations

What will this bill [SB 277 Pan / Allen] do?

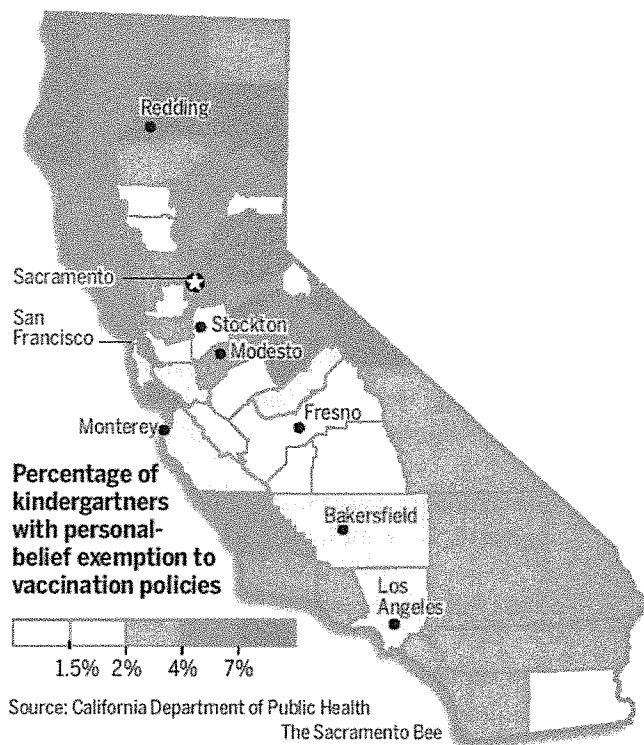
SB 277 will eliminate the personal beliefs exemption option from school immunization law and also require the governing board of a school district to notify parents or guardians of a school's immunization rates.

Why do we need this law?

Children who have not been vaccinated pose a risk to both the individual child and to others in their school and community.

Rising rates of personal beliefs exemptions (PBE) leave California children at risk for disease and communities at risk for outbreaks. In 2000, the PBE rate was less than 1%. In 2014 the number rose to 3.15%. In certain pockets of California, exemption rates are as high as 21% which places our communities at risk for a resurgence of preventable diseases. Given the highly contagious nature of diseases such as measles, vaccination rates of up to 95% are necessary to preserve herd immunity and prevent future outbreaks.

Individuals who exempt their children from vaccinations due to their personal beliefs place other children at risk of catching and spreading preventable diseases and put our community immunity at risk. When the threshold of immunity gets too low, all of us become more vulnerable to diseases.



What is Community Immunity?

Vaccination doesn't just protect one child. When parents vaccinate, their children become a key part of their community's defense against vaccine-preventable diseases (known as *herd* or *community immunity*). Put simply, the more children that undergo on-time vaccination in a community, the less chance an infectious disease has to "jump" from person to person.

Vaccinating your child protects your child and those at significant risk of infection, including:

- Babies too young to be vaccinated;
- Children left intentionally unvaccinated by their parents;
- Individuals with medical conditions that preclude vaccination; and
- Individuals for whom the vaccine did not "take," or whose immunity has worn off.

Community immunity is the best – and perhaps, the *only* – protection they have against vaccine-preventable disease.

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What about children who cannot be vaccinated because of a medical condition?

The bill leaves the current medical exemption untouched. Children who have already had the diseases of measles, mumps, rubella or chickenpox may also receive exemptions from the associated vaccines if authorized by their physicians.

What are California's immunization rates for children?

According to the 2013 National Immunization Survey, California is at 69%, slightly below the national average for completion of the full series of recommended vaccines for children 19-35 months. However, once children have started Kindergarten, the numbers of vaccinated children increase thanks to school vaccination laws. In 2013, 90% of Kindergarten students were up to date on required vaccinations.

If most children are vaccinated already, why should we worry about a small number of unvaccinated children?

Vaccine coverage in the United States is at an all time high, but there are pockets of communities where vaccination rates have fallen. The recent measles outbreak that began at Disneyland theme parks in California during December 2014 highlights the contagious nature of diseases such as measles and the impact on the community.

High vaccine coverage, particularly at the community level, is extremely important for people who cannot be vaccinated, including infants who are too young to be vaccinated; individuals who have medical contraindications to vaccination; individuals who have weakened immune systems and the elderly.

Protecting the individual and the community from communicable diseases such as measles, mumps, and pertussis, is a core function of public health.

Does this law force parents to vaccinate?

This bill does not take away a parent's rights to make decisions about their children's healthcare. It only requires that children be vaccinated in order to attend school to protect the health of other students, teachers, staff and our community.

Does this law affect both private and public childcare and K-12 schools?

Yes.

Isn't a religious exemption necessary?

No. The Supreme Court has determined that religious exemptions are not constitutionally required. Only nineteen other states have a personal beliefs exemption, and in enacting this law, California would join two other states that provide only a medical exemption to required vaccines.

Background and Frequently Asked Questions SB 277(Pan/Allen) Public Health – School Vaccinations

Why do we still vaccinate against diseases we rarely see?

These diseases are still with us.

Vaccines have literally transformed the landscape of medicine over the course of the 20th century. Before vaccines, parents in the United States could expect that every year:

- Polio would paralyze 10,000 children.
- Rubella (German measles) would cause birth defects and mental retardation in as many as 20,000 newborns.
- Measles would infect about 4 million children, killing about 500.
- Diphtheria would be one of the most common causes of death in school-aged children.
- A bacterium called *Haemophilus influenzae* type b (Hib) would cause meningitis in 15,000 children, leaving many with permanent brain damage.
- Pertussis (whooping cough) would kill thousands of infants.
- Vaccines have reduced and, in some cases, eliminated many diseases that killed or severely disabled people just a few generations before. For most Americans today, vaccines are a routine part of healthcare.

Measles

Measles is a highly contagious virus. When one person has measles, 90% of the people they come into close contact with will become infected if they are not immune. According to the CDC, for every 1,000 children who get the measles, one or two will die even with the best care. Measles has reached epidemic proportions in many developed countries such as Germany, where an unvaccinated toddler recently died.

Polio

Polio has not been eliminated yet. California is an international tourist destination.

In the absence of effective control programs with polio vaccine, 1 out of every 200 children would develop paralytic disease and 5-10% of patients with paralytic disease die.

Measles Cases and Outbreaks During 2014*

644

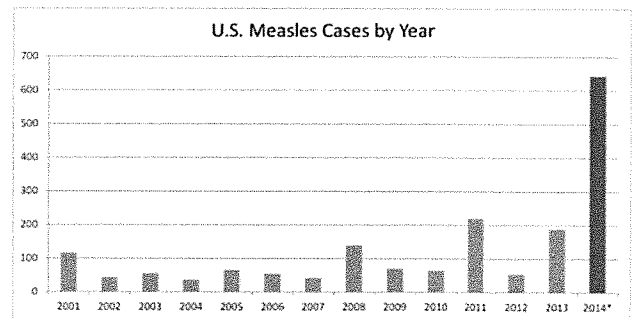
Cases

23

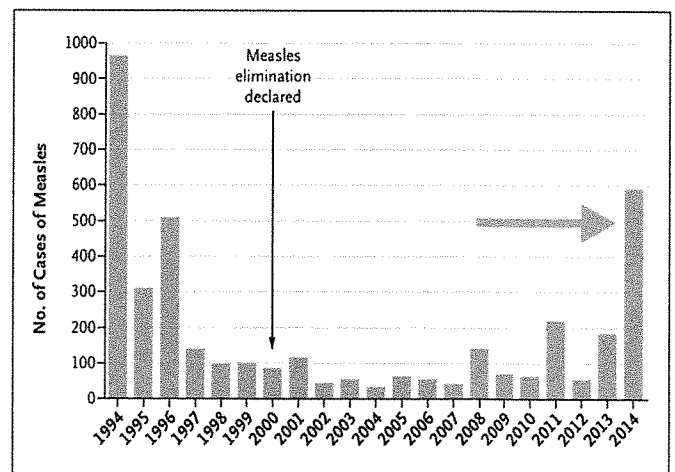
Outbreaks

reported in 27 states: Alabama, California, Colorado, Connecticut, Hawaii, Illinois, Indiana, Kansas, Massachusetts, Michigan, Minnesota, Missouri, Nebraska, New Jersey, New Mexico, New York, North Carolina, Ohio, Oregon, Pennsylvania, South Dakota, Tennessee, Texas, Utah, Virginia, Washington, Wisconsin

representing 89% of reported cases this year



*Provisional data reported to CDC's National Center for Immunization and Respiratory Diseases



N Engl J Med 2014; 371:1661-1663

Background and Frequently Asked Questions

SB 277(Pan/Allen) Public Health – School Vaccinations

Pertussis

Pertussis, or whooping cough, is highly contagious. It is particularly dangerous for babies. In 2010, California broke a record held since the pre-DTP vaccine era in the 1940's of over 9,100 cases of pertussis with 10 infant deaths. In 2014, California exceeded that number with nearly 10,000 cases of confirmed pertussis.

One death in 1,000 may not sound like much to some people, but it was a profound loss to those ten families who went home from the hospital without their child, due to a preventable illness.

Fast Facts

- **Serious diseases that were previously thought to be eradicated in the US, such as measles and pertussis, are returning.**
- **In the United States, the recommended childhood immunization schedule now includes vaccines to protect against 16 diseases, including seasonal influenza.**
- **Thanks to widespread vaccination programs, many of these diseases have been brought under control in the United States and throughout the world.**
- **Vaccines save lives. Vaccines offer the best known protection against a number of devastating illnesses.**
- **No credible scientific study has ever found a link between autism and vaccines.**

Contacts

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25 March 2015

Honorable Richard Pan
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first5association.org

Re: Support for SB 277

Dear Dr. Pan:

The First 5 Association of California is writing to support your bill, SB 277, which will address the personal exemption for childhood vaccinations. As champions for the health and safety of California's youngest children, we support this effort to educate parents about the need to fully vaccinate children against dangerous diseases and to ensure that all families enrolling in public school have the information they need about vaccination rates.

Your earlier effort on the vaccination issue, which required parents to talk with their health care provider before obtaining a personal exemption waiver has led to a dramatic 20 percent decrease in parents opting out of vaccinating their kindergarteners, reversing a decade-long trend. However, in too many communities across the state, immunization rates are still below 90 percent – the critical “herd immunity” threshold. When a community has lost herd immunity protection, many people are at risk of becoming infected including people who cannot be immunized such as infants, chemotherapy patients and those with HIV or other conditions.

First 5s provide information about vaccination safety and schedules in the New Parent Kits provided to all new mothers and fathers, and we stand ready to assist with this effort. As we have learned this year, there is a need to consider new approaches to educating parents about the importance of childhood vaccinations, and support the effort to close the personal exemption loophole.

Thank you for your leadership on this important challenge.

Sincerely,

A handwritten signature in black ink that reads "Moira Kenney". The signature is written in a cursive, flowing style.

Moira Kenney, PhD
Executive Director



FACT SHEET

IMMUNIZATION BRANCH • CALIFORNIA DEPARTMENT OF PUBLIC HEALTH
850 Marina Bay Parkway, Building P • Richmond, CA 94804 • www.getimmunizedca.org

August 2014

How Is California Doing on the National Immunization Survey?

Vaccination coverage in California is at or near all-time high levels. California's goal for the year 2020 is 90% coverage for all individual vaccines and 80% coverage for all childhood vaccine series by 19-35 months of age. The Immunization Branch, local health departments, and physicians are working together to get more children vaccinated on time and to protect them from vaccine-preventable diseases.

ESTIMATED PERCENT OF CALIFORNIA CHILDREN AGE 19-35 MONTHS VACCINATED, BY VACCINE AND SERIES¹

Year of Survey	2009	2010	2011	2012	2013
Time of Birth	Jan 2006- July 2008	Jan 2007- July 2009	Jan 2008- July 2009	Jan 2009- July 2009	Jan 2009- July 2009
4+DTaP	83.4 (±4.7)	79.7 (±5.5)	87.7 (±3.9)	81.6 (±6.6)	83.1 (±6.4)
3+Polio	91.8 (±3.5)	91.0 (±3.6)	94.1 (±2.5)	92.0 (±3.7)	90.5 (±5.4)
1+MMR	89.8 (±3.7)	91.4 (±3.5)	91.0 (±3.7)	91.5 (±4.3)	90.7 (±5.3)
3+Hib²	-	64.4 (±6.5)	81.9 (±4.5)	81.6 (±5.8)	90.9 (±5.3)
3+HepB	90.3 (±3.7)	90.1 (±3.8)	90.3 (±3.2)	89.1 (±4.2)	91.1 (±5.2)
1+Var	90.4 (±3.7)	88.9 (±4.4)	91.8 (±2.8)	90.8 (±4.3)	90.4 (±5.3)
4+PCV³	79.8 (±5.1)	83.5 (±4.8)	86.1 (±4.0)	81.3 (±5.7)	79.1 (±7.1)
4:3:1:3:3:1⁴	74.9 (±5.2)	71.3 (±6.2)	80.4 (±4.7)	71.8 (±7.1)	81.9 (±6.4)
4:3:1:3:3:1:4⁵	68.7 (±5.7)	68.6 (±6.3)	77.4 (±5.0)	66.8 (±7.5)	72.6 (±7.6)

1. The National Immunization Survey (NIS) provides national and state estimates of vaccination coverage—including new vaccines as they are licensed and recommended for use (www.cdc.gov/vaccines/stats-surv/nis/default.htm#nis). Numbers preceding vaccine indicate the number of doses. Abbreviations are: DTaP for any diphtheria and tetanus toxoids and pertussis vaccines; Polio for any poliovirus vaccine; MMR for measles-mumps-rubella vaccine; Hib for *Haemophilus influenzae* type b vaccine; HepB for hepatitis B vaccine; Var for varicella vaccine; and PCV for pneumococcal conjugate vaccine.
2. Full series Hib: ≥3 or ≥4 doses of Hib vaccine depending on product type received (includes primary series plus the booster dose)
3. Four or more doses of PCV.
4. Four or more doses of DTaP, three or more doses of Polio, one or more doses of MMR, three or more doses of Hib, three or more doses of HepB, and one or more doses of Var.
5. Four or more doses of DTaP, three or more doses of Polio, one or more doses of MMR, three or more doses of Hib, three or more doses of HepB, one or more doses of Var., and 4 or more doses of pneumococcal conjugate vaccine (PCV).

The Unvaccinated are Not Causing Outbreaks or Disease

“Unvaccinated children tended to be white, to have a mother who was married and had a college degree, to live in a household with an annual income exceeding 75,000 dollars, and to have parents who expressed concerns regarding the safety of vaccines and indicated that medical doctors have little influence over vaccination decisions for their children.”

Study: Who Doesn't Vaccinate, Pediatrics, July 2004

Facts About the Unvaccinated Population:

- Unvaccinated kids have no more germs or disease than their vaccinated peers. In fact studies have shown unvaccinated children tend to be healthier than their vaccinated counterparts.
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3057555/>
- The CDC itself has stated “Our unvaccinated and under-vaccinated population did not appear to contribute significantly to the increased rate of clinical pertussis. Surprisingly, the highest incidence of disease was among previously vaccinated children.”
<http://cid.oxfordjournals.org/content/54/12/1730.full.pdf>
- The majority of cases of diseases are occurring in people who are fully vaccinated. In California 80% of pertussis patients were vaccinated. In Washington 75.8% were fully vaccinated for pertussis. In Ohio 113 of 116 who got mumps were vaccinated.
<http://www.kpbs.org/news/2014/jun/12/immunized-people-getting-whooping-cough/>
<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6128a1.htm>
<http://www.reuters.com/article/2014/04/01/us-usa-health-ohio-mumps-idUSBREA301YO20140401>
- New evidence is showing that the vaccine itself is actually spreading certain viruses as many vaccines shed for up to 28 days. This means that a newly vaccinated person, although showing no symptoms themselves, can spread the disease to others. It has been noted that the overuse of the pertussis vaccine has caused the disease to mutate from B. pertussis, which the vaccine protects against, to B. parapertussis, which it does not cover.
<http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm376937.htm>

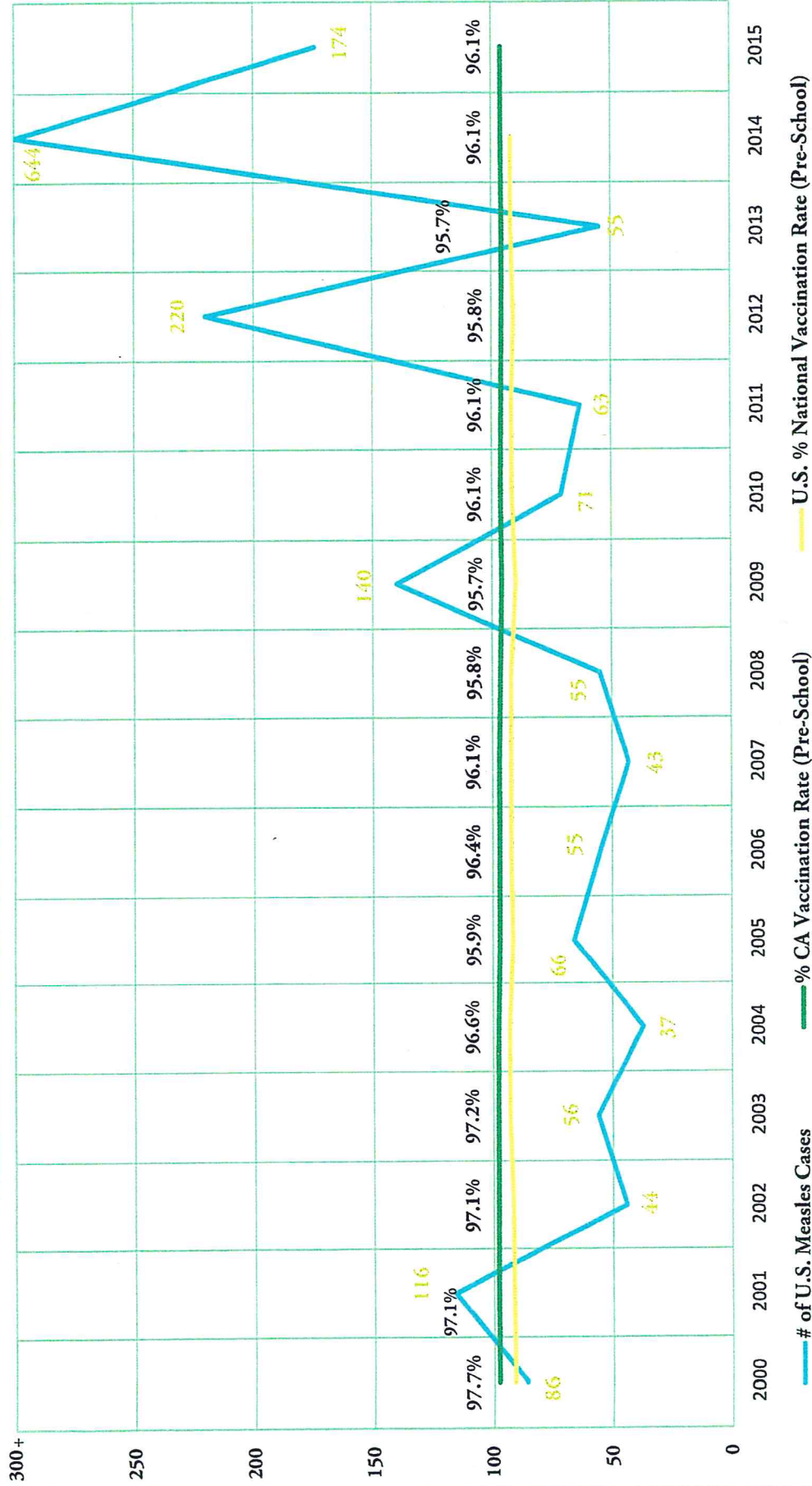
Facts About Herd Immunity

Herd immunity theory states that we need 95% of our population to be fully vaccinated to keep diseases from developing and spreading. This theory only applies to naturally acquired immunity not vaccine induced immunity. When vaccines were first implemented we lived for 30-40 years believing that people had lifelong immunity from vaccines. The fact is that immunity from most vaccines wears off in 2-10 years, which is why they developed booster shots. During these 30-40 years we had less than 50% of the population with vaccine immunity and yet disease rates continued to remain low. Even now the majority of adults, even those who were fully vaccinated as children, are no longer immune meaning we are far from the 95% vaccine rate needed to protect us with “herd immunity” and still maintain low disease rates.

Forced Vaccinations, Government, and the Public Interest, Dr. Russell Blaylock, December 2009.

There has NEVER been a study comparing the health of vaccinated to unvaccinated.
It is vaccine failure and vaccine shedding that are the true causes of disease spreading, not unvaccinated children.

of Measles Cases and U.S./CA MMR Vaccination Rates (2000-2015)



The graph clearly shows **NO CORRELATION** between vaccination rate (shown as a percent) and number of measles cases in the U.S. over a 15 year period. CA has also remained **HIGHER** in MMR coverage than the U.S. national average for ALL 15 years.

<http://www.cdph.ca.gov/programs/immunize/pages/immunizationlevels.aspx>
<http://www.cdc.gov/vaccines/imz-managers/coverage/nis/child/>
<http://www.cdc.gov/measles/cases-outbreaks.html>



for more information:
OUR KIDS OUR CHOICE

Pertussis Report

January 7, 2015

California is currently experiencing a pertussis epidemic. Pertussis is cyclical and peaks every 3-5 years as the numbers of susceptible persons in the population increases due to waning of immunity following both vaccination and disease. The last epidemic in California occurred in 2010, however, the overall incidence of pertussis has increased since the 1990s. One reason for the increase is the use of acellular pertussis vaccines, which cause fewer reactions than the whole-cell vaccines that preceded them, but do not protect as long. Young infants are at greatest risk of hospitalization and death from pertussis, therefore pregnant women are encouraged to receive pertussis vaccine (Tdap) during the 3rd trimester of every pregnancy. Pertussis antibodies are transferred from vaccinated mothers to their infants and will help protect them until they are old enough to be vaccinated. The primary DTaP vaccine series is essential for reducing severe disease in young infants and should not be delayed. DTaP can be given to infants at an accelerated schedule with the first dose given as early as 6 weeks of age. Even one dose of DTaP may offer some protection against severe pertussis disease in infants.

10,831 cases with onset in 2014 have been reported to CDPH for a state rate of 28.35 cases per 100,000 population (Table 1). Data for 2014 are still preliminary.

- Pertussis activity is widespread throughout California (Figure 1).
- Pertussis incidence is higher than was reported in 2010 (Figures 2-3)
- 376 cases have been hospitalized; 85 (23%) of these required intensive care.
 - 227 (60%) of hospitalized patients were infants <4 months of age.
- Two deaths have been reported with disease onset in 2014; both were infants who were ≤ 5 weeks old at time of disease onset.
 - Two additional deaths occurring in 2014 but with disease onset in 2013 have been reported. These cases will be attributed to 2013. Both infants were ≤ 2 months of age at disease onset.
- Of the 243 (53%) cases <4 months of age whose mothers vaccination history was available, 38 (16%) reported receiving Tdap during the third trimester of pregnancy between 27-36 weeks gestation, as is recommended by ACIP and ACOG.
- The majority of cases with known age have occurred in infants and children <18 years of age (8,223; 89%) and the peak ages are <1 year and 15 years old (Figure 4).
 - 659 (8%) of pediatric cases were infants <6 months of age.
 - 5,285 (64%) of pediatric cases were children/adolescents 7-16 years of age.
 - Among 7,081 (85%) of pediatric cases with vaccination history information, 720 *only* (10%) had never received any doses of pertussis-containing vaccine. *90% vaccinated*
- Elementary, middle and high school outbreaks have been reported from counties all over California.
- Overall pertussis rates are highest for infants <1 year of age and older children and adolescents and teens 10-17 years of age. Rates by race/ethnicity are highest for Hispanic infants <1 year of age and White, non-Hispanic adolescents and teens aged 10-17 years of age (Figure 5).

Pertussis Report

February 12, 2015

California is currently experiencing a pertussis epidemic. Pertussis is cyclical and peaks every 3-5 years as the numbers of susceptible persons in the population increases due to waning of immunity following both vaccination and disease. The last epidemic in California occurred in 2010, however, the overall incidence of pertussis has increased since the 1990s. One reason for the increase is the use of acellular pertussis vaccines, which cause fewer reactions than the whole-cell vaccines that preceded them, but do not protect as long. Young infants are at greatest risk of hospitalization and death from pertussis, therefore pregnant women are encouraged to receive pertussis vaccine (Tdap) during the 3rd trimester of every pregnancy. Pertussis antibodies are transferred from vaccinated mothers to their infants and will help protect them until they are old enough to be vaccinated. The primary DTaP vaccine series is essential for reducing severe disease in young infants and should not be delayed. DTaP can be given to infants at an accelerated schedule with the first dose given as early as 6 weeks of age. Even one dose of DTaP may offer some protection against severe pertussis disease in infants.

- **441 cases with onset in 2015** have been reported to CDPH.
 - More than 300 cases were reported occurring in January. While this is lower than the peak in May 2014, it remains above the interepidemic levels seen in 2013.
 - One death has been reported in an infant that was <3 weeks of age at the time of disease onset.
- **11,114 cases with onset in 2014** have been reported to CDPH for a state rate of 29.1 cases per 100,000 population (Table 1, Figure 1-3). Data for 2014 are still preliminary.
 - 383 cases have been hospitalized; 88 (23%) of these required intensive care.
 - 232 (61%) of hospitalized patients were infants <4 months of age.
 - Three deaths have been reported with disease onset in 2014; all were infants who were ≤ 5 weeks old at time of disease onset.
 - Two additional deaths occurring in 2014 but with disease onset in 2013 have been reported. These cases will be attributed to 2013. Both infants were ≤2 months of age at disease onset.
 - Of the 252 (53%) cases <4 months of age whose mothers vaccination history was available, 42 (17%) reported receiving Tdap during the third trimester of pregnancy between 27-36 weeks gestation, as is recommended by ACIP and ACOG.
 - The majority of cases with known age have occurred in infants and children <18 years of age (8,441; 89%) and the peak ages are <1 year and 15 years old (Figure 4).
 - 679 (8%) of pediatric cases were infants <6 months of age.
 - 5,419 (64%) of pediatric cases were children/adolescents 7-16 years of age.
 - Among 7,298 (86%) of pediatric cases with vaccination history information, 744 (10%) had never received any doses of pertussis-containing vaccine.
 - Overall pertussis rates are highest for infants <1 year of age and older children and adolescents and teens 10-17 years of age. Rates by race/ethnicity are highest for Hispanic and African American infants <1 year of age and White, non-Hispanic adolescents and teens aged 10-17 years of age (Figure 5).

Pertussis Report

March 18, 2015

California experienced a pertussis epidemic in 2014. Pertussis is cyclical and peaks every 3-5 years as the numbers of susceptible persons in the population increases due to waning of immunity following both vaccination and disease. The last epidemic in California occurred in 2010, however, the overall incidence of pertussis has increased since the 1990s. One reason for the increase is the use of acellular pertussis vaccines, which cause fewer reactions than the whole-cell vaccines that preceded them, but do not protect as long. Young infants are at greatest risk of hospitalization and death from pertussis, therefore pregnant women are encouraged to receive pertussis vaccine (Tdap) during the 3rd trimester of every pregnancy. Pertussis antibodies are transferred from vaccinated mothers to their infants and will help protect them until they are old enough to be vaccinated. The primary DTaP vaccine series is essential for reducing severe disease in young infants and should not be delayed. DTaP can be given to infants at an accelerated schedule with the first dose given as early as 6 weeks of age. Even one dose of DTaP may offer some protection against severe pertussis disease in infants.

- **1,210 cases with onset in 2015** have been reported to CDPH.
 - More than 300 cases were reported occurring in each of the months of January and February. While this is lower than the peak in May 2014, it remains above the interepidemic levels seen in 2013.
 - 31 cases have been hospitalized; 9 (29%) of these required intensive care
 - 24 (77%) of hospitalized patients were infants <4 months of age.
 - One death has been reported in an infant that was <3 weeks of age at the time of disease onset.
- **11,164 cases with onset in 2014** have been reported to CDPH for a state rate of 29.2 cases per 100,000 population (Table 1, Figure 1-3). Data for 2014 are still preliminary.
 - 391 cases have been hospitalized; 91 (23%) of these required intensive care.
 - 234 (60%) of hospitalized patients were infants <4 months of age.
 - Three deaths with disease onset in 2014 have been reported; all were infants who were ≤ 5 weeks old at time of disease onset.
 - Two additional deaths occurring in 2014 but with disease onset in 2013 have been reported. These cases will be attributed to 2013. Both infants were ≤ 2 months of age at disease onset.
 - Of the 253 (54%) cases <4 months of age whose mothers vaccination history was available, 41 (16%) reported receiving Tdap during the third trimester of pregnancy between 27-36 weeks gestation, as is recommended by ACIP and ACOG.
 - The majority of cases with known age have occurred in infants and children <18 years of age (8,753; 89%) and the peak ages are <1 year and 15 years old (Figure 4).
 - 679 (8%) of pediatric cases were infants <6 months of age.
 - 5,642 (64%) of pediatric cases were children/adolescents 7-16 years of age.
 - Among 7,627 (87%) of pediatric cases with vaccination history information, 759 (10%) had never received any doses of pertussis-containing vaccine.
 - Overall pertussis rates are highest for infants <1 year of age and older children and adolescents and teens 10-17 years of age. Rates by race/ethnicity are highest for Hispanic and African American infants <1 year of age and White, non-Hispanic adolescents and teens aged 10-17 years of age (Figure 5).

April 1, 2015

Dear Ms. DeLaney,

I have already contacted my local representatives regarding Senate Bill 277 ("SB 277"), but as this is legislation that would profoundly affect all of California, I now reach out to you. SB 277 would require mandatory vaccinations for every child in public school, private school, home school and daycare. As an "all or nothing" mandate, there would be no exemption for religious or philosophical belief, no ability to follow a selective or delayed schedule, and no informed consent about a serious and permanent medical procedure.

If SB 277 becomes law, childhood vaccination will become a "one size fits all" program. California would become one of the most restrictive jurisdictions regarding vaccines in the United States. Currently, 48 of 50 states offer non-medical vaccine exemption to their citizens.

This is ultimately not an issue of pro-vaccine or anti-vaccine. It is an issue of basic human rights: bodily integrity, civil liberty, parental choice, religious freedom, informed consent, and right to education.

SB 277 is detrimental to all of the above because it forces a parent to choose between three extreme options:

- (1) Fully vaccinate a child against personal or religious belief.
- (2) Refuse to fully vaccinate. Be denied all school access. Face truancy charges, CPS intrusion, and forced vaccination.
- (3) Move out of California, uprooting one's life and family.

What is the imminent threat to human life requiring this drastic measure? The impetus for SB 277 is a small measles outbreak consisting of 174 total reported cases (only 51 of which are actually lab confirmed), with no injuries, complications, or deaths.[1] 51 lab confirmed cases in a country of 320 million people cannot be construed as a public health emergency justifying invasive and permanent medical intervention on every child in California and the abrogation of civil liberties.

Even if California were faced with a true public health crisis, SB 277 is a disproportionate remedy. SB 277 mandates that all children be vaccinated against measles. It further mandates that all children be vaccinated against the mumps, rubella, chicken pox, polio, tetanus, pertussis, diphtheria, and hepatitis B. Many of these diseases are exceedingly rare (no cases of polio in the US since 1979, hepatitis B almost exclusively spread through needles and intercourse, diphtheria is basically unheard of), some are typically very mild (chicken pox, mumps, rubella), and one isn't even contagious (tetanus). SB 277 doesn't require just one shot against each of these diseases – it requires multiple. Many of the vaccines are a multiple dose series. SB 277 would require parents to subject their children to all doses of each vaccine - omitting even one dose of one vaccine would be unacceptable.

[1] <http://emergency.cdc.gov/han/han00376.asp>

<http://www.cdc.gov/measles/cases-outbreaks.html>

http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6406a5.htm?s_cid=mm6406a5_w (CDC states that out of 110 California cases, 45 people were unvaccinated. The remainder of people were vaccinated, or had "unknown or undocumented vaccination status...")

[2] http://www.phrma.org/sites/default/files/pdf/Vaccines_2013.pdf

[3] http://www.huffingtonpost.ca/lawrence-solomon/merck-whistleblowers_b_5881914.html

[4] <http://www.forbes.com/sites/erikakelton/2013/07/29/is-big-pharma-addicted-to-fraud/>

[5] <http://www.supremecourt.gov/opinions/10pdf/09-152.pdf>

DOSES of VACCINES for U.S. CHILDREN from BIRTH- 6 YEARS

1983

DTP (2 months)
 OPV (2 months)
 DTP (4 months)
 OPV (4 months)
 DTP (6 months)
 MMR (15 months)
 DTP (18 months)
 OPV (18 months)
 DTP (48 months)
 OPV (48 months)

2015

Influenza (Pregnancy)
DTaP (Pregnancy)
 Hep B (birth)
 Hep B (2 months)
 Rotavirus (2 months)
 DTaP (2 months)
 HIB (2 months)
 PCV (2 months)
 IPV (2 months)
 Rotavirus (4 months)
 DTaP (4 months)
 HIB (4 months)
 PCV (4 months)
 IPV (4 months)
 Hep B (6 months)
 Rotavirus (6 months)
 DTaP (6 months)
 HIB (6 months)
 PCV (6 months)
 IPV (6 months)
 Influenza (6 months)
 HIB (12 months)
 PCV (12 months)
 MMR (12 months)
 Varicella (12 months)
 Hep A (12 months)
 DTaP (18 months)
 Influenza (18 months)
 Hep A (18 months)
 Influenza (30 months)
 Influenza (42 months)
 DTaP (48 months)
 IPV (48 months)
 MMR (48 months)
 Varicella (48 months)
 Influenza (60 months)
 Influenza (72 months)



A Family Rights Advocacy Group representing over 5,000 California families

DTP- Diphtheria, Tetanus, Pertussis (whole cell)
 OPV- Oral Polio
 MMR- Measles, Mumps, Rubella
 Hep B- Hepatitis B
 DTaP- Diphtheria, Tetanus, Pertussis (acellular)
 HIB- Haemophilus influenzae Type B
 PCV- Pneumococcal
 IPV- Inactivated Polio
 Varicella- Chicken Pox

**NUMBER OF CHILDREN IN CALIFORNIA (Kindergarten and Child Care)
& NUMBER OF EXEMPTIONS (Medical and Personal Belief)
2003-2015**

<http://www.cdph.ca.gov/programs/immunize/Pages/ImmunizationLevels.aspx>

2014-2015

K: 535,234 students
0.19% ME, 2.54% PBE
CC: 486,634 students
0.56% ME, 2.67% PBE



2008-2009

K: 501,046 students
0.19% ME, 1.90% PBE
CC: 515,675 students
0.17% ME, 1.67% PBE

2013-2014

K: 533,680 students
0.19% ME, 3.15% PBE
CC: 486,526 students
0.29% ME, 2.94% PBE

2007-2008

K: 499,301 students
0.18% ME, 1.56% PBE
CC: 512,490 students
0.17% ME, 1.44% PBE

2012-2013

K: 530,418 students
0.17% ME, 2.79% PBE
CC: 484,413 students
0.27% ME, 2.91% PBE

2006-2007

K: 503,160 students
0.16% ME, 1.40% PBE
CC: 511,103 students
0.17% ME, 1.38% PBE

2011-2012

K: 529,400 students
0.16% ME, 2.39% PBE
CC: 517,745 students
0.22% ME, 2.60% PBE

2005-2006

K: 512,733 students
0.15% ME, 1.33% PBE
CC: 498,860 students
0.18% ME, 1.38% PBE

2010-2011

K: 509,849 students
0.19% ME, 2.33% PBE
CC: 489,082 students
0.17% ME, 2.44% PBE

2004-2005

K: 510,074 students
0.15% ME, 1.24% PBE
CC: 487,738 students
0.21% ME, 1.26% PBE

2009-2010

K: 507,199 students
0.20% ME, 2.03% PBE
CC: 488,488 students
0.23% ME, 2.00% PBE

2003-2004

K: 513,519 students
0.13% ME, 1.16% PBE
CC: 456,675 students
0.25% ME, 1.35% PBE

2014- 2015 KINDERGARTEN IMMUNIZATION ASSESSMENT RESULTS
CALIFORNIA DEPARTMENT OF PUBLIC HEALTH, IMMUNIZATION BRANCH

Introduction

The annual kindergarten assessment is conducted each fall to monitor compliance with the California School Immunization Law. Results from this assessment are used to measure immunization coverage among students entering kindergarten. Under Assembly Bill 2109 (2012), California Health and Safety Code Section 120335 modified the process of obtaining a personal beliefs exemption (PBE) to immunization and requires documentation that health care practitioners have informed parents about vaccines and diseases. A religious exemption option was added when the bill was signed. This report summarizes the assessment of kindergarten immunization requirements based on reporting from California schools. The attached tables present immunization rates by county.

Methods

Staff from 7,738 of California's 8,170 schools with kindergartners (95%, Table 2) submitted immunization assessment reports to local health departments and CDPH Immunization Branch. Changes to this year's report include several new PBE measures. Pursuant to the new PBE law, in addition to the standard PBE totals measure, students with PBEs were placed into one of three new PBE subcategories (see Tables 3, 4, and 5): 1) students who enrolled in kindergarten prior to January 2014 ('pre-Jan PBE') who were not subject to the new requirements (i.e., 2nd year students in a two year kindergarten program), 2) students whose parents received documented vaccine counseling from a qualified health care practitioner with the last 6 months ('Health Care Practitioner Counseled' PBE), or 3) students whose parents declared an objection to seeking medical advice or treatment from authorized health care practitioners ('Religious' PBE).

Results and Discussion

Table 1 shows the results from this fall's kindergarten assessment for the state as a whole and by school type. This year 90.4% of the 535,332 students enrolled in reporting kindergartens received all required immunizations (4+ DTP, 3+ Polio, 2+ MMR, 3+ Hep B, and 1+ Var or physician-documented varicella disease), a 0.2% increase from last year. In addition, the percentage of conditional entrants increased by 0.4% from last year. The percentage of students with permanent medical exemptions (PMEs) stayed the same at 0.19%. There was also a 0.61% decrease in students with PBEs compared with last year. Immunization coverage remained above 92% for each vaccine for all schools since last year.

Table 1: Kindergarten Immunization Assessment, 2013-2014 and 2014-2015 School Years*

	2013-14			2014-15		
	All	Public	Private	All	Public	Private
Number of Schools	7,684	5,852	1,832	7,738	5,895	1,843
Number of Students	533,680	491,905	41,775	535,234	494,636	40,598
All Required Immunizations	90.2%	90.6%	85.4%	90.4%	90.7%	86.6%
Conditional Entrants	6.5%	6.3%	8.5%	6.9%	6.8%	7.8%
Permanent Medical Exemptions	0.19%	0.18%	0.29%	0.19%	0.19%	0.29%
Personal Belief Exemptions	3.15%	2.92%	5.88%	2.54%	2.31%	5.33%
Pre-January 2014	-	-	-	0.38%	0.27%	1.67%
Health Care Practitioner Counseled	-	-	-	1.64%	1.54%	2.85%
Religious	-	-	-	0.52%	0.49%	0.80%
4+ DTP	92.2%	92.5%	88.6%	92.4%	92.6%	89.2%
3+ Polio	92.6%	93.0%	88.5%	93.0%	93.3%	89.5%
2+ MMR	92.3%	92.7%	87.6%	92.6%	92.9%	88.8%
3+ Hep B	94.8%	95.0%	91.8%	94.9%	95.1%	92.0%
1+ Vari (or physician-documented disease)	95.3%	95.5%	92.1%	95.4%	95.7%	92.5%

*Individual antigen status is unavailable for students with PBEs. Therefore, individual antigen immunization coverage may be underestimated; anecdotal evidence suggests a small percentage of students may have some but not all required immunizations.

Compared with private schools, public schools had a higher percentage of students with all required immunizations (Table 1 and Figure 1) as well as students immunized with each vaccine series (Figure 2). The highest percentages of students were up-to-date for the 1-dose varicella requirement, followed by the 3-dose Hepatitis B series.

Figure 1: Percentage of California Kindergarten Students with All Required Immunizations By School Type, 2014-15 School Year

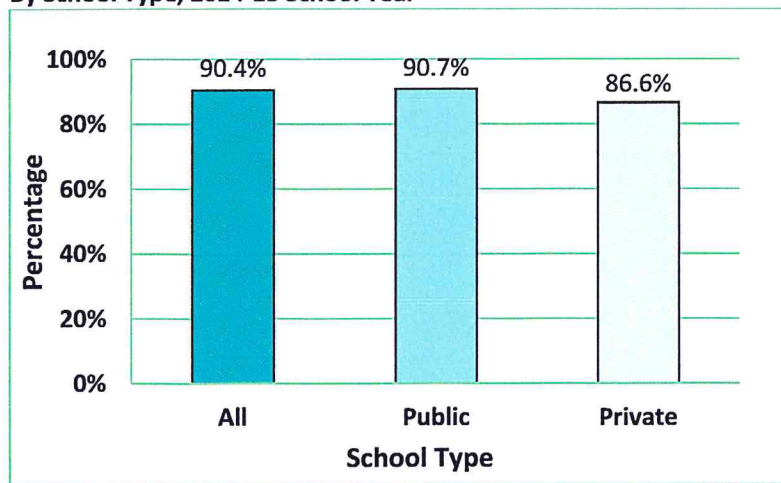
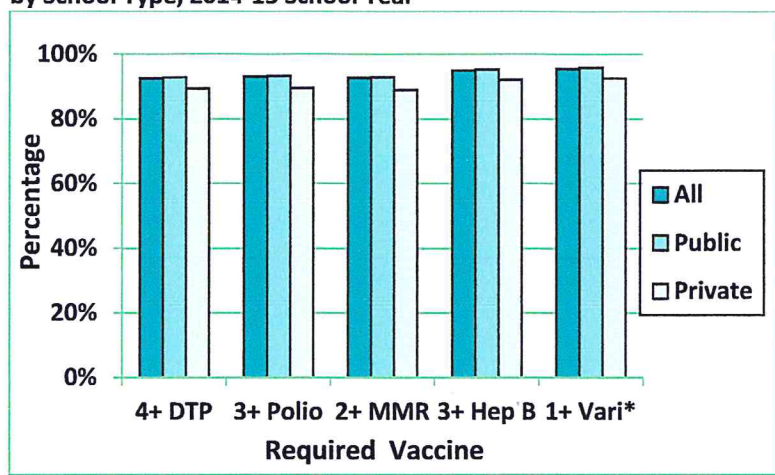


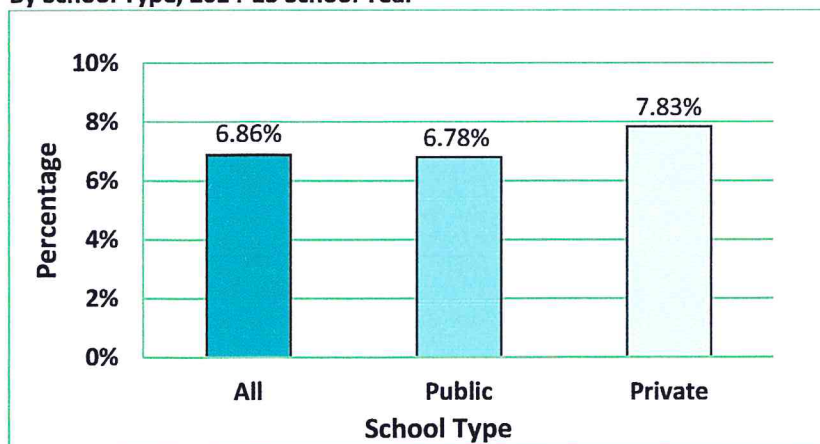
Figure 2: Percentage of California Kindergarten Students Completing Required Vaccine Series by School Type, 2014-15 School Year



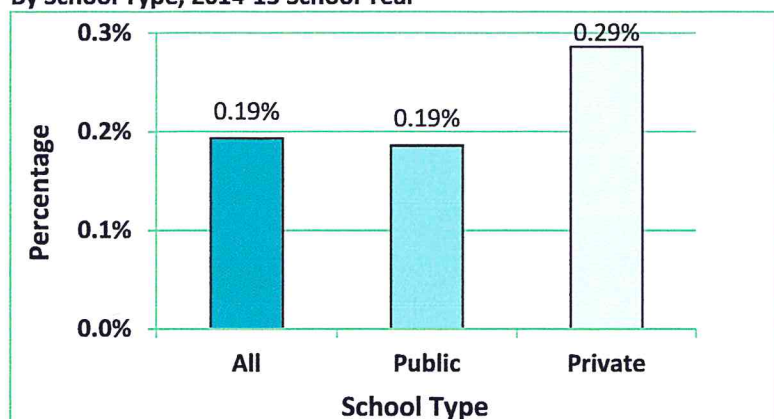
*1 or more doses of varicella or physician-documented disease

In addition, compared with kindergarten students in private schools, public school Kindergarten students had a lower percentage of 'Conditional' entrants (Figure 3), students with PMEs (Figure 4), and students with PBEs (Figure 5). The percentage of 'Conditional' entrants in public schools this year was 1% lower than the percentage in private schools. Also, the percentage of public school PBEs was 3% lower than the percentage of PBEs in private schools. Compared to last year, the reduction in the percentage of PBE students in public schools (-0.61%) was larger than the reduction in private schools (-0.55%). Of the new PBEs taken in 2014-15, the majority of students took a Health Care Practitioner Counseled Exemption (77%) compared with a Religious Exemption (23%). This approximately 3 to 1 ratio of 'Counseled' to 'Religious' PBEs was similar in both public and private schools (Figure 6).

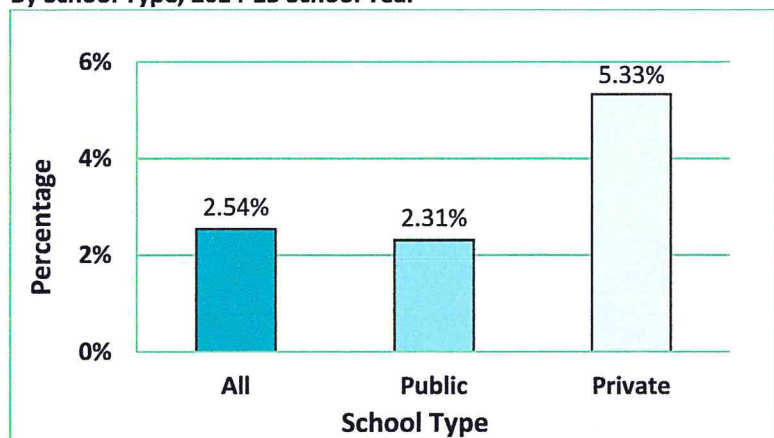
Figure 3: Percentage of Conditional Entrants Among California Kindergarten By School Type, 2014-15 School Year



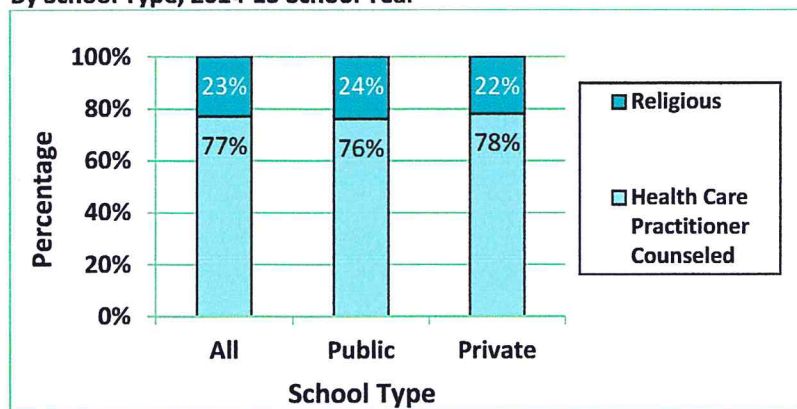
**Figure 4: Percentage of California Kindergarten Students with a Permanent Medical Exemption
By School Type, 2014-15 School Year**



**Figure 5: Percentage of California Kindergarten Students with a Personal Beliefs Exemption
By School Type, 2014-15 School Year**

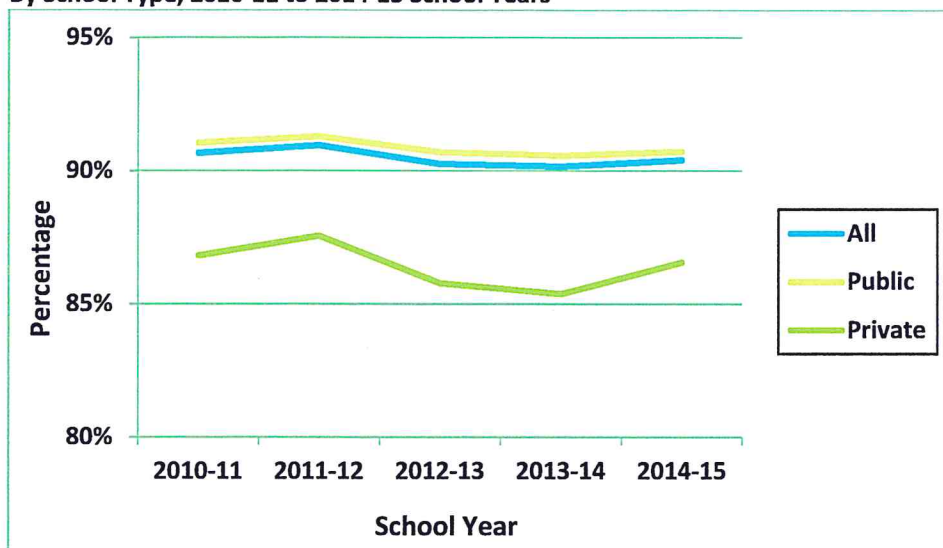


**Figure 6: Percentage of California Kindergarten Students with a Health Care Practitioner
Counseled or Religious Exemption
By School Type, 2014-15 School Year**



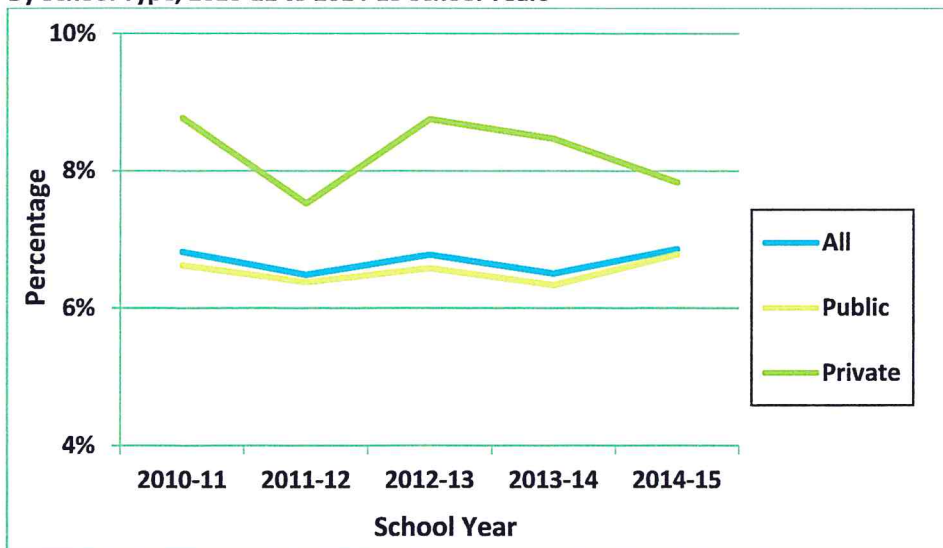
Over the past five years, students with all required immunizations in all reporting schools has decreased very slightly from 90.7% in the 2010-11 school year to 90.4% in the 2014-15 school year (Figure 7). Public school students have had on average a 4 percent higher percentage of all required immunizations compared with private school students.

Figure 7: Percentage of California Kindergartners with All Required Immunizations, By School Type, 2010-11 to 2014-15 School Years



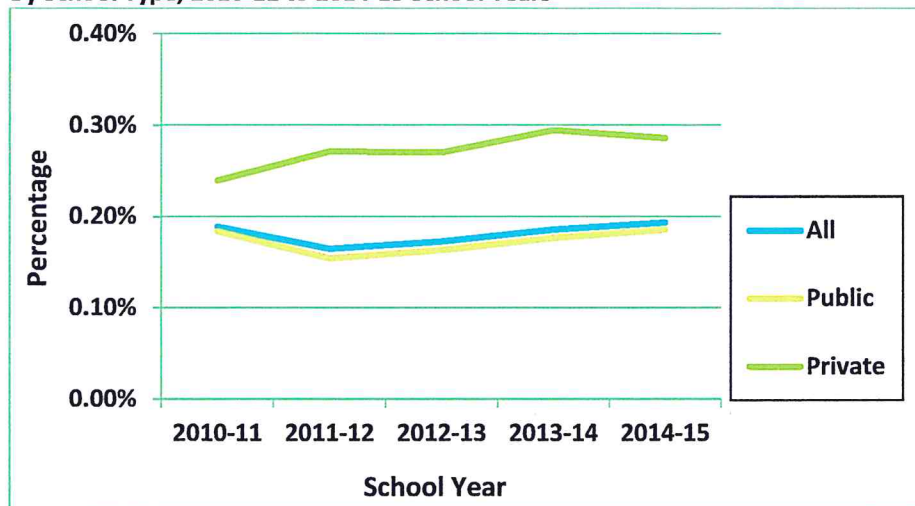
The percentage of 'Conditional' entrants in all schools has overall tended to remain stable over the past five years (Figure 7). Public schools have consistently had a lower percentage of 'Conditional' entrants than private schools, though the gap is lessening.

Figure 7: Percentage of Conditional Entrants Among California Kindergartners By School Type, 2010-11 to 2014-15 School Years



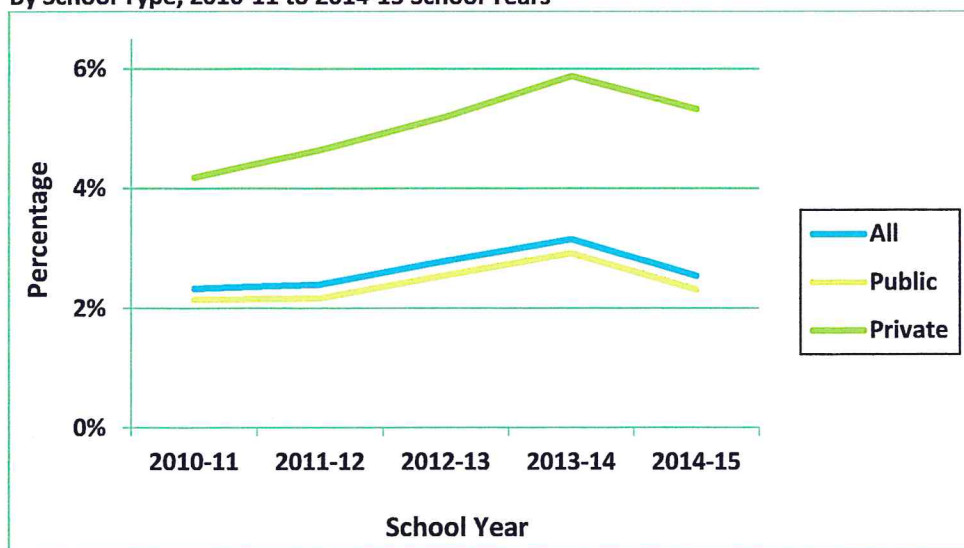
The percentage of students with a PME has increased slightly among all reporting schools including both public and private schools over the past five years (Figure 8).

Figure 8: Percentage of California Kindergartners with Permanent Medical Exemptions, By School Type, 2010-11 to 2014-15 School Years



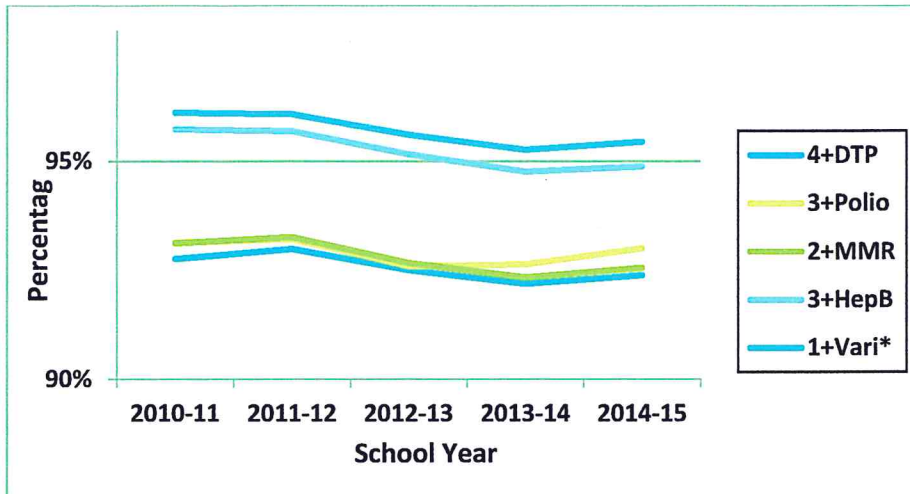
The percentage of PBE students had consistently increased annually among all reporting schools until this year (Figure 9), when there was a 19% decrease in the percentage of PBE students compared with last year. While public school PBE rates decreased by 21% (from 2.92% to 2.31%), private school PBE rates decreased only 9% (from 5.88% to 5.33%). Over the past five years, public schools consistently reported a lower percentage of PBE students than private schools. In addition, until this year, private school PBE rates were increasing at a faster rate than public school PBE rates.

Figure 9: Percentage of California Kindergartners with Personal Beliefs Exemptions, By School Type, 2010-11 to 2014-15 School Years



Over the past 5 years, the percentage of students completing each of the required vaccines has declined steadily (Figure 10). Moreover, the percentage of students completing the required 4-dose DTP series, the 3-dose Polio series, and 2-dose MMR vaccines have been consistently two to three percent lower than students completing the 1-dose Varicella or the 3-dose Hepatitis B series.

Figure 10: Percentage of California Kindergartners Completing Required Vaccines 2010-11 to 2014-15 School Years



*1 or more doses of varicella or physician-documented disease

Description of Attached Tables

Enclosed is a full set of tables showing this year's results. Table 2 shows the number and percentage of schools reporting by county and type (public or private). Table 3 shows total enrollment and admission status by county. Table 4 shows the number and percentage of students taking a PBE by county compared with the previous school year. Table 5 shows total exemption status (i.e, PME and PBE status) by county compared with the previous school year. Table 6 shows students immunized for each vaccine by county.

For further information, please contact Teresa Lee at (510) 620-3746 or Teresa.Lee2@cdph.ca.gov at the California Department of Public Health, Immunization Branch.

Vaccination Coverage Among Children in Kindergarten — United States, 2013–14 School Year

Weekly

October 17, 2014 / 63(41);913–920

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State and local vaccination requirements for school entry are implemented to maintain high vaccination coverage and protect schoolchildren from vaccine-preventable diseases (1). Each year, to assess state and national vaccination coverage and exemption levels among kindergartners, CDC analyzes school vaccination data collected by federally funded state, local, and territorial immunization programs. This report describes vaccination coverage in 49 states and the District of Columbia (DC) and vaccination exemption rates in 46 states and DC for children enrolled in kindergarten during the 2013–14 school year. Median vaccination coverage was 94.7% for 2 doses of measles, mumps, and rubella (MMR) vaccine; 95.0% for varying local requirements for diphtheria, tetanus toxoid, and acellular pertussis (DTaP) vaccine; and 93.3% for 2 doses of varicella vaccine among those states with a 2-dose requirement. The median total exemption rate was 1.8%. High exemption levels and suboptimal vaccination coverage leave children vulnerable to vaccine-preventable diseases. Although vaccination coverage among kindergartners for the majority of reporting states was at or near the 95% national *Healthy People 2020* targets for 4 doses of DTaP, 2 doses of MMR, and 2 doses of varicella vaccine (2), low vaccination coverage and high exemption levels can cluster within communities.* Immunization programs might have access to school vaccination coverage and exemption rates at a local level for counties, school districts, or schools that can identify areas where children are more vulnerable to vaccine-preventable diseases. Health promotion efforts in these local areas can be used to help parents understand the risks for vaccine-preventable diseases and the protection that vaccinations provide to their children.

Federally funded immunization programs assess vaccination coverage among children entering kindergarten each school year. Health departments, school nurses, or school personnel assess the vaccination and exemption status, as defined by state and local school requirements, of a census or sample of kindergartners enrolled in public and private schools. Among the 49 states and DC reporting vaccination coverage data, 42 used their immunization information system (IIS) as at least one source of data for their school assessment. The type of school survey varied among the 49 states and DC reporting either vaccination coverage or exemption: 38 reported using a census of kindergartners; nine a sample of schools, kindergartners, or both; one a voluntary response of schools; and two a mix of methods. Two states used a sample to collect vaccination coverage data and a census to collect exemption data. Four states changed their type of survey from the previous school year.† Data from the public and private school vaccination assessments were aggregated by state and DC immunization programs and sent to CDC.§ Vaccination coverage data were provided for 4,252,368 kindergartners included in reports from 49 states and DC, and exemption data were provided for 3,902,571 kindergartners included in reports from 46 states and DC.

All estimates of coverage and exemption rates were adjusted based on the type of survey conducted and response rates, using data aggregated at school or county level as appropriate and available, unless otherwise noted.¶ Vaccination requirements for school entry, as reported to CDC by the federally funded immunization programs, varied.** Kindergartners were considered up-to-date for any single vaccine if they had received all of the doses of that vaccine required for school entry in their jurisdiction. Nine states considered kindergartners up-to-date only if they had received all of the doses for all vaccines required for school entry in their jurisdiction.†† Of the 49 states and DC reporting vaccination coverage, 13 met CDC standards for school assessment methods in 2013–14.§§

Among the 49 states and DC that reported 2013–14 school vaccination coverage, median 2-dose MMR vaccination coverage was 94.7% (range = 81.7% in Colorado to ≥99.7% in Mississippi); 23 reported coverage ≥95% (Table 1), and eight reported coverage <90% (Table 1, Figure). Median local requirement for DTaP vaccination coverage was 95.0% (range = 80.9% in Colorado to ≥99.7% in Mississippi); 25 reported coverage ≥95%. Median 2-dose varicella vaccination coverage among the 36 states and DC requiring and reporting 2 doses was 93.3% (range = 81.7% in Colorado to ≥99.7% in Mississippi); nine reported coverage ≥95%.

Among the 46 states plus DC reporting 2013–14 school vaccination exemption data, the percentage of kindergartners with an exemption was <1% for eight states and ≥4% for 11 states (range = <0.1% in Mississippi to 7.1% in Oregon), with a median of 1.8% (Figure; Table 2). Two states reported increases over the previous school year of ≥1.0 percentage point: Kansas (1.5 percentage points) and Maine (1.2 percentage points). One state reported a decrease of ≥1.0 percentage points: West Virginia (1.0 percentage point). Where reported separately, the median rate of medical exemptions was 0.2% (range = <0.1% in eight states [Alabama, Arkansas, Colorado, Delaware, Georgia, Hawaii, Mississippi, and Nevada] to 1.2% [Alaska and Washington]). Where allowed and reported separately, the median rate of nonmedical exemptions was 1.7% (range = 0.4% in Virginia and DC to 7.0% in Oregon).

Discussion

Most federally funded immunization programs continued to report high vaccination coverage and stable exemption rates among kindergartners during the 2013–14 school year compared with the 2012–13 school year, although 26 states and DC did not report meeting the *Healthy People 2020* target of 95% coverage for 2 doses of MMR vaccine. Although high levels of vaccination coverage by state are reassuring, vaccination exemptions have been shown to cluster geographically (3,4), so vaccine-preventable disease outbreaks can still occur where unvaccinated persons cluster in schools and communities (5).

School vaccination coverage assessment is used to assess state or local-level school vaccination requirements. Eighteen states provide local-level data online, helping to strengthen immunization programs, guide vaccination policies, and inform the public.¶¶ Local-level school vaccination and exemption data can be used by health departments and schools to focus vaccine-specific interventions and health communication efforts in a school or local area with documented low vaccination coverage or high exemption rates. Where expanded health communication strategies or other interventions are implemented, continued assessment and reporting can be used to facilitate program improvement.

To be most effective, accurate and reliable estimates of vaccination coverage and exemptions are needed. Use of appropriate sampling and survey methods can improve the usefulness of data for local use and comparability of estimates across school, local area, state, and national levels to accurately assess vaccination coverage and track progress toward *Healthy People 2020* targets.

School vaccination coverage reporting can be labor intensive, involving education systems at the start of the school year, when they are busiest. School vaccination assessment systems can be linked to an IIS, allowing schools to review the vaccination status of individual children. During the 2013–14 school year, 36 of the 50 states and DC reported that they allowed schools to obtain provider-reported vaccination data from their IIS, and 14 reported using an IIS algorithm to determine vaccination status for at least some of the students in their school vaccination assessment. An example of how an IIS can be used to simplify school vaccination assessment is Tennessee's Immunization Certificate Validation Tool, which compares a child's record in the state IIS against Tennessee vaccination requirements for pre-school or school attendance, allowing vaccination providers and school nurses to quickly assess a schoolchild's vaccination status. It produces an official Tennessee Immunization Certificate or a detailed failure report. Tools linking school vaccination assessment systems to IIS data provide access to provider-reported information, reduce the documentation burden on parents and vaccination providers, and lessen the workload required by the assessment process on schools and health departments.

The findings in this report are subject to at least six limitations. First, not every state reported vaccination and exemption data. Second, vaccination and exemption status reflected the child's status at the time of assessment. Reports might not be updated when parents submit amended school vaccination records after the required vaccines are received or an exemption is claimed. Third, a child with an exemption is not necessarily unvaccinated. More than 99% of the 2008–2009 birth cohorts who became kindergartners in 2013–14 received at least one vaccine in early childhood (6). An exemption might be provided for all vaccines even if a child missed a single vaccine dose or vaccine, or different exemptions might be provided for different vaccinations. A parent or guardian might choose to complete the required exemption paperwork if that is more convenient than having a child vaccinated or documenting a kindergartner's vaccination history at school enrollment, which might be the reason for up to 25% of nonmedical exemptions (7–9).*** Fourth, methodology varied by reporting program or between school years for the same program. Methods and times for data collection differed, as did requirements for vaccinations and exemptions. Fifth, some programs (Delaware, Houston, Virginia, and Puerto Rico) were unable to provide detailed information needed to weight and analyze their data in the most statistically appropriate way, limiting the validity of their reported estimates. Finally, in adjusting data collected using school or student census methods to account for nonresponse, it was assumed that nonresponders and responders of the same school type had similar vaccination coverage and exemption rates.

State and local school vaccination assessments might detect local areas of undervaccination where disease transmission is more likely to occur. These data are most useful when the assessment is accurate and reliable. Use of statistically

appropriate sampling methods and access to provider-reported vaccination data in an IIS can streamline the data collection process while providing accurate local-level data, allowing health departments to appropriately direct vaccination efforts during outbreaks of vaccine-preventable disease and identify schools and communities potentially at higher risk for vaccine-preventable disease transmission. Accurate local-level data can also be used by health departments and schools to focus health communication and other interventions that protect children and the community at large against vaccine-preventable diseases.

Acknowledgments

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* *Healthy People 2020* objective IID-10.1 is based on 4 doses of DTaP vaccine. This report describes compliance with state regulations of 3, 4, or 5 doses of DTaP vaccine. Of the 49 states and DC, only Nebraska, New York, and Pennsylvania report <4 doses of DTaP vaccine. IID-10.2 sets a target of 95% of kindergartners receiving ≥2 doses of MMR vaccine. IID-10.5 sets a target of 95% of kindergartners receiving ≥2 doses of varicella vaccine.

† Alaska, Georgia, Missouri, and North Dakota.

§ Data from one local area (Houston) were reported separately and included in the data for the state of Texas. Oregon estimates included vaccination coverage and exemption data for children enrolled in public online homeschools. Pennsylvania included homeschool students in their public school data.

¶ Most of the programs that used complex sample surveys provided CDC with data aggregated at the school or county level for weighted analysis. Coverage and exemption data based on a reported census were adjusted for nonresponse using the inverse of the response rate, stratified by school type. For data collected using a complex sample design and with sufficient data provided, weights were calculated to account for sample design and adjusted for nonresponse. Where sufficient data were not available to account for the use of a stratified two-stage cluster sample design, data were analyzed as a stratified simple random sample (Delaware, Houston, Virginia, and Puerto Rico).

** Among the 49 reporting states and DC, all programs required 2 doses of a measles-containing vaccine, of which MMR is the only one available in the United States. For local requirements for DTaP vaccine, two required 3 doses, 27 required 4 doses, 20 required 5 doses, and one state did not require pertussis. For varicella vaccine, 13 required 1 dose, 36 required 2 doses, and 1 did not require varicella vaccination.

†† States reporting estimates based on receiving all doses of all vaccines required for school entry might have actual antigen-specific coverage estimates at least as high as the coverage for all required vaccines.

§§ CDC standards include use of a census or random sample of public and private schools or students, assessment using number of doses recommended by the Advisory Committee on Immunization Practices, assessment of vaccination status before December 31, collection of data by health department personnel or school nurses, validation if data are collected by school administrative staff, and documentation of vaccination from a health-care provider.

¶¶ Information available, by state, at the following websites: Alabama, <http://www.adph.org/immunization/index.asp?id=761> ; Arizona, <http://www.azdhs.gov/phs/immunization/statistics-reports.htm> ; California, <http://www.cdph.ca.gov/programs/immunize/pages/immunizationlevels.aspx> ; Florida, <http://www.floridahealth.gov/reports-and-data/immunization-coverage-surveys-reports/state-surveys.html> ; Illinois, <http://www.isbe.state.il.us/research/htmls/immunization.htm#immu> ; Iowa, <http://www.idph.state.ia.us/immth/immunization.aspx?prog=imm&pg=audits> ; Kansas, http://www.kdheks.gov/immunize/kindergarten_coverage.htm ; Kentucky, <http://chfs.ky.gov/dph/epi/annual+immunization+school+and+childcare+survey.htm> ; Michigan, http://www.michigan.gov/mdch/0,4612,7-132-2942_4911_4914_68361-321114-,00.html ; Minnesota, <http://www.health.state.mn.us/divs/idepc/immunize/stats/school/index.html> ; New Jersey, <http://www.state.nj.us/health/cd/stats.shtml> ; North Dakota, www.ndhealth.gov/immunize/rates; Oregon, <http://public.health.oregon.gov/preventionwellness/vaccinesimmunization/gettingimmunized/pages/schresources.aspx> ; Texas, <https://www.dshs.state.tx.us/immunize/coverage/default.shtm> ; Utah, <http://www.immunize-utah.org/statistics/utah%20statistics/immunization%20coverage%20levels/index.html> ; Vermont, <http://www.healthvermont.gov/hc/imm/imm surv.aspx> ; Virginia, <http://www.vdh.state.va.us/epidemiology/immunization/datamanagement/sisreports.htm> ; Washington, <http://www.doh.wa.gov/dataandstatisticalreports/schoolimmunization/datareports.aspx> .

*** Tools are available to help parents manage vaccination records for their family; additional information available at <http://www.cdc.gov/vaccines/parents/record-reqs/immuniz-records-child.html>.

What is already known on this topic?

To protect school children from vaccine-preventable disease, annual school vaccination assessments indicate vaccination coverage and exemptions from state vaccination requirements. Although state vaccination coverage is high and exemptions are low, undervaccination and exemptions cluster at a local level, where vaccine-preventable diseases might be easily transmitted.

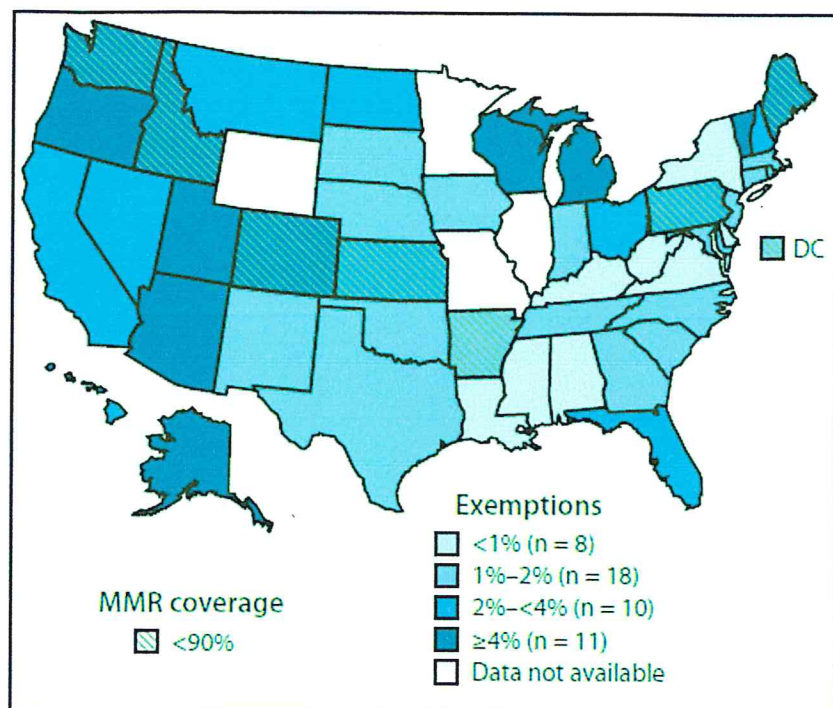
What is added by this report?

In 49 states and the District of Columbia (DC), median vaccination coverage for three vaccines was 94.7% for the measles, mumps, and rubella vaccine, 95.0% for varying local requirements for the diphtheria, tetanus toxoid, and acellular pertussis vaccine, and 93.3% for varicella vaccine among states with a 2-dose requirement. Of the 49 states and DC reporting vaccination coverage estimates, 27 did not report meeting the *Healthy People 2020* target of 95% coverage for 2 doses of measles, mumps, and rubella vaccine. Median exemption levels continue to be low overall (1.8%).

What are the implications for public health practice?

Local data are essential to controlling the spread of vaccine-preventable disease. Accurate and reliable school vaccination assessments can provide a unique opportunity for school and health departments to identify local areas of undervaccination, even at a school or classroom level, where the potential for disease transmission is higher. Health departments can use these data to identify schools and communities at higher risk for outbreaks and provide health communication interventions to protect school children and the community at large against vaccine-preventable diseases.

FIGURE. Estimated percentage of children enrolled in kindergarten who have been exempted from receiving one or more vaccines* and with <90% coverage with 2 doses of measles, mumps, and rubella (MMR) vaccine — United States, 2013–14 school year



* Exemptions might not reflect a child's vaccination status. Children with an exemption who did not receive any vaccines are indistinguishable from those who have an exemption but are up-to-date for one or more vaccines.

Alternate Text: The figure above is a map of the United States showing the estimated percentage of children enrolled in kindergarten who have been exempted from receiving one or more vaccines and with <90% coverage with 2 doses of measles, mumps, and rubella (MMR) vaccine in the United States during the 2013–14 school year. Among the 49 states and DC that reported 2013–14 school vaccination coverage, median 2-dose MMR vaccination coverage was 94.7% (range = 81.7% in Colorado to ≥99.7% in Mississippi); 23 reported coverage ≥95%, and eight reported coverage <90%. The percentage of kindergartners with an exemption was <1% for eight states and ≥4% for 11 states (range = <0.1% in Mississippi to 7.1% in Oregon), with a median of 1.8%.

TABLE 1. Estimated vaccination coverage,* by state/area and vaccination among children enrolled in kindergarten — United States, 2013–14 school year

State/Area	Kindergarten population†	Total surveyed	Proportion surveyed (%)	Type of survey conducted§	Varicella			
					MMR¶ (%)	DTaP** (%)	1 dose (%)	2 doses (%)
Alabama††	76,927	76,927	100.0	Census	≥92.0	≥92.0	≥92.0	NReq
Alaska§§	10,222	946	9.3	Stratified 2-stage cluster sample	94.4	96.0		92.5
Arizona	89,606	85,861	95.8	Census	93.9	94.3	96.4	NReq
Arkansas	42,649	41,068	96.3	Census	86.5	83.3		85.4
California¶¶	548,606	533,680	97.3	Census	92.3	92.2	95.3	NReq
Colorado	69,904	350	0.5	Random sample	81.7	80.9		81.7
Connecticut††	40,978	40,978	100.0	Census	96.9	97.0		96.7

Delaware	11,997	1458	12.2	Stratified 2-stage cluster sample	≥96.4	≥96.4	≥96.4
District of Columbia ^{††}	7,856	7,856	100.0	Census	89.0	88.7	88.8
Florida ^{††***}	233,797	233,797	100.0	Census	≥93.2	≥93.2	≥93.2
Georgia ^{††}	143,988	143,988	100.0	Census	≥94.0	≥94.0	≥94.0
Hawaii	20,056	1,074	5.4	Stratified 2-stage cluster sample	98.7	99.0	99.2 NReq
Idaho ^{††}	23,934	23,934	100.0	Census	88.2	88.0	86.5
Illinois ^{††}	163,316	163,316	100.0	Census	94.7	95.0	96.6 NReq
Indiana ^{††}	87,193	61,336	70.3	Census	92.9	81.8	90.2
Iowa	43,728	41,349	94.6	Census	≥91.0	≥91.0	≥91.0
Kansas ^{§§¶¶}	41,107	11,931	29.0	Stratified 1-stage sample (Public), Census (Private)	86.9	87.6	85.5
Kentucky ^{††}	57,857	57,857	100.0	Census	92.6	93.9	91.9
Louisiana ^{††}	63,976	63,976	100.0	Census	96.8	98.3	96.1
Maine	15,441	12,716	82.4	Census	89.9	94.4	93.8 NReq
Maryland ^{¶¶}	75,659	73,349	96.9	Census	97.6	99.0	99.0 NReq
Massachusetts	79,894	78,188	97.9	Census	95.1	93.0	93.9
Michigan ^{††}	120,297	120,297	100.0	Census	97.5	94.8	93.0
Minnesota ^{¶¶}	72,087	70,972	98.5	Census	93.4	96.6	92.6
Mississippi ^{††}	45,719	45,719	100.0	Census	≥99.7	≥99.7	≥99.7
Missouri ^{††}	78,140	78,140	100.0	Census	95.5	96.0	94.6
Montana	12,855	12,259	95.4	Census	93.7	94.8	NReq
Nebraska ^{¶¶}	27,000	26,282	97.3	Census	96.6	96.8	94.9
Nevada	35,782	1,114	3.1	Stratified 2-stage cluster sample	95.6	94.4	93.6
New Hampshire ^{††}	13,240	13,240	100.0	Census	≥94.7	≥94.7	≥94.7
New Jersey	123,085	117,477	95.4	Census	≥96.8	≥96.8	≥96.8 NReq
New Mexico ^{¶¶}	30,725	830	2.7	Stratified 2-stage cluster sample	95.9	97.4	93.4
New York ^{¶¶}	240,318	240,318	100.0	Census	96.8	98.1	98.2 NReq
North Carolina	126,084	123,192	97.7	Census	98.8	98.7	99.7 NReq

North Dakota	9,780	9,397	96.1	Census (public) Stratified 2-stage cluster sample (private)	90.0	90.2	89.4
Ohio	150,000	138,820	92.5	Census	96.2	96.1	95.7
Oklahoma	57,377	40,929	71.3	Voluntary response	96.4	96.1	98.0
Oregon ^{††}	47,649	47,649	100.0	Census	93.2	93.3	94.3 NReq
Pennsylvania ^{††¶¶}	151,253	151,253	100.0	Census	85.3	NReq ^{†††}	84.0
Rhode Island	11,521	11,421	99.1	Census	95.1	96.0	94.7
South Carolina	61,661	6,771	11.0	1-stage stratified sample	96.8	97.3	94.4 NReq
South Dakota ^{††}	12,566	12,566	100.0	Census	96.6	96.7	95.3
Tennessee	80,212	80,079	99.8	Census	≥94.9	≥94.9	≥94.9
Texas ^{§§} (including Houston)	409,255	397,262	97.1	Census	97.5	97.2	97.2
Houston, Texas	36,254	1,856	5.1	2-stage cluster sample, nonrandom schools selection	91.9	90.4	90.4

TABLE 1. (Continued) Estimated vaccination coverage,* by state/area and vaccination among children enrolled in kindergarten — United States, 2013–14 school year

State/Area	Kindergarten population [†]	Total surveyed	Proportion surveyed (%)	Type of survey conducted [§]	MMR [¶]	DTaP ^{**}	Varicella	
							1 dose	2 doses
					(%)	(%)	(%)	(%)
Utah ^{††}	54,779	54,779	100.0	Census	98.5	98.1	99.6	NReq
Vermont ^{††}	6,771	6,771	100.0	Census	91.2	92.0		89.4
Virginia	105,692	4,287	4.1	2-stage cluster sample	93.1	98.3		91.3
Washington	89,165	78,924	88.5	Census	89.7	90.3		88.4
West Virginia	22,814	19,313	84.7	Census	96.1	96.5		95.5
Wisconsin ^{¶¶}	71,363	1,990	2.8	Stratified 2-stage cluster sample	92.6	96.3		91.2
Wyoming	NA	NA	NA	Not conducted				
Median ^{§§§}					94.7	95.0	96.6	93.3
American Samoa	NA	NA	NA	Not conducted				
				Stratified 2-stage				

Guam	2,935	1,235	42.1	cluster sample	88.4	92.8	NReq
Marshall Islands	NA	NA	NA	Not conducted			
Micronesia	NA	NA	NA	Not conducted			
N. Mariana Islands	725	725	100.0	Census	96.0	94.3	92.3
Palau	402	NA	NA	Not conducted			NReq
Puerto Rico	39,170	6,789	17.3	Stratified 2-stage cluster sample	94.3	91.3	91.4
U.S. Virgin Islands	1,612	731	45.3	Stratified 2-stage cluster sample	90.5	91.0	87.9

Abbreviations: MMR = measles, mumps, and rubella vaccine; DTaP = diphtheria and tetanus toxoids and acellular pertussis vaccine; NA = not available; NReq = not required for school entry.

* Estimates are adjusted for nonresponse and weighted for sampling where appropriate, except where complete data were unavailable. Percentages for Delaware, Houston, Virginia, and Puerto Rico are approximations. Estimates based on a completed vaccine series (i.e., not antigen-specific) are designated by use of the \geq symbol.

† The kindergarten population is an approximation provided by each state/area.

§ Sample designs varied by state/area: census = all schools (public and private) and all children within schools were included in the assessment; simple random = a simple random sample design was used; mixed design = a census was conducted among public schools, and a random sample of children within the schools were selected; 1-stage or 2-stage cluster sample = schools were randomly selected, and all children in the selected schools were assessed (1-stage) or a random sample of children within the schools were selected (2-stage); voluntary response = a census among those schools that submitted assessment data.

¶ Most states require 2 doses; Alaska, California, New York, and Oregon require 2 doses of measles, 1 dose of mumps, and 1 dose of rubella vaccine.

** Pertussis vaccination coverage might include some DTP (diphtheria and tetanus toxoids and pertussis vaccine) vaccinations if administered in another country or if a vaccination provider continued to use DTP after 2000. Most states require 4 doses of DTaP vaccine; 5 doses are required for school entry in Colorado, District of Columbia, Hawaii, Idaho, Indiana, Iowa, Kansas, Massachusetts, Minnesota, New Jersey, New Mexico, North Carolina, North Dakota, Oregon, Rhode Island, Tennessee, Texas, Utah, Vermont, Washington, Northern Mariana Islands, Puerto Rico, and U.S. Virgin Islands; 3 doses are required by Nebraska and New York. Pertussis vaccine is not required in Pennsylvania.

†† The proportion surveyed is probably <100%, but is shown as 100% based on incomplete information about the actual current enrollment.

§§ Kindergarten coverage data were collected from a sample, and exemption data were collected from a census of kindergartners.

¶¶ Counts the vaccine doses received regardless of Advisory Committee on Immunization Practices recommended age and time interval; vaccination coverage rates shown might be higher than those for valid doses.

*** Does not include nondistrict-specific, virtual, and college laboratory schools, or private schools with fewer than 10 students.

††† Pertussis is not required in Pennsylvania; coverage for diphtheria and tetanus was 88.3%.

§§§ The median is the center of the estimates in the distribution. The median does not include Houston, Guam, the Commonwealth of the Northern Mariana Islands, Puerto Rico, and the U.S. Virgin Islands.

LEGISLATION COMMITTEE

Meeting Date: 04/02/2015

Subject: SB 277 (Pan):

Submitted For: LEGISLATION

Department: County Administration

Referral No.: 2015-05

Referral Name: SB 277 (Pan):

Presenter: L. DeLaney

SB277 is being promoted with the false assertions that vaccination rates are dropping, that Personal Belief Exemptions use is high and rising, and that parents are abusing a too easily exercised exemption.

Actually- vaccination rates are rising, PBE use is dropping, and a parent must schedule, attend and pay for a Vaccine Risk Benefit Consultation with a CA State Approved Health Care Provider.

No parent is recklessly using an exemption, to imply that is insulting to taxpaying citizens.

There is no reason for Contra Costa to attach themselves to this legislation.

Please see the attachments from CDPH

Information

Referral History:

This bill was referred to the Legislation Committee for consideration by Supervisor Mary N. Piepho.

Referral Update:

California is suffering from an outbreak of measles that, as of March 2, 2015, has sickened 131 people statewide, and sent 19 people to the hospital. Almost one quarter of those infected with measles are children younger than five. Last year, whooping cough (pertussis) struck over 11,000 Californians, killing three infants. As of February 12, 2013, California has recorded over 441 pertussis cases and one infant has died, who was less than three weeks old when sickened. Contra Costa has thus far seen one case of measles in 2015.

The Measles Outbreak is over, no connection to CA Schools or Exemptions

Pertussis Infections due to failing vaccine

Both measles and pertussis are highly infectious and can cause serious complications, including death. Those most at risk are babies too young to get immunized and adults and children who, due to medical reasons including chemotherapy and auto-immune disorders, cannot get vaccinated. Both are preventable by the use of vaccines.

Recently vaxxed are a threat to Immune Compromised.

Experts and health officials attribute the return of these diseases to the falling rates of vaccination. Too many parents have chosen not to vaccinate their children due to misunderstanding of both the risks of vaccination and the seriousness of these preventable diseases, and not all adults are fully vaccinated. Those who decline to vaccinate are risking the health and lives of their children, neighbors and classmates. Data collected by the California Department of Public Health shows that many elementary schools in the County have measles vaccination rates well below 94 percent (the rate needed to prevent the spread of the virus), with some schools, both public and private, with rates below 50 percent.

?

Rates are up!

Vaccination Rates up, PBE's are down, CDPH does not collect complete vaccination info

Evidence from other states shows that that the best way to increase vaccination rates is to require immunizations for school attendance.

Therefore, staff recommends that the Board:

1. encourage all residents to ensure their children are vaccinated;
2. support and urge passage of SB 277, which amends the Health & Safety Code section 120100, to require vaccination for those exempted for medical reasons.

CA already requires vaccination for school attendance and has excellent rates- SB277 addresses Personal Belief Exemption Rules (PBE).

The PBE rate in CA is 2.54%- 100% ideal rate minus 2.54% = 97.46%

Rates below 97.46% are unrelated to the Personal Exemption Rate.

Contra Costa PBE use is lower, only 1.9%.

100% ideal rate minus 1.9% PBE = 98.1%.

Personal Belief Exemptions are not a threat to Contra Costa vaccination

If enacted, California would join only two other states -- Mississippi and West Virginia -- that permit only medical exemptions as legitimate reasons to sidestep vaccinations. Currently, California is one of 19 states that allow exemptions based purely on parents' personal or religious beliefs.

The opposition to SB 277 has been increasingly vocal and has been showing up at County meetings to oppose resolutions about the bill. It has been a contentious issue where it has come up (Santa Cruz, Alameda, Berkeley City Council, a few school districts). Alameda County did vote to support the bill, however, as did Santa Cruz County. Santa Clara will also likely be sending a letter of support.

Introduced: 02/19/2015

Disposition: Pending

Committee: [Senate Health Committee](#)

Hearing: [04/08/2015 1:30 pm, John L. Burton Hearing Room \(4203\)](#)

Recommendation(s)/Next Step(s):

CONSIDER recommending to the Board of Supervisors a position of "Support" on SB 277 (Pan) Public Health: Vaccinations, as recommended by Dr. William Walker.

Attachments

[Attachment 1: Bill Text](#)

[Attachment 2: Mercury News Story](#)

CA has superior vaccination rates to Mississippi and West Virginia in all but one measure. California health outcomes are superior in all categories. See Attached UHF comparison.

This sentence is offensive to parents with vaccine concerns:

"...that permit only medical exemptions as legitimate reasons to sidestep vaccinations",

This is an inaccurate, derogatory, and prejudicial inference that all other exemptions are frivolous and without merit.

Does the CC Board really want to go on the record sending the message to Contra Costa Citizen Parents that the BOS considers their sincerely held Personal Belief Exemptions as "Illegitimate"?

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States take on pertussis as disease cases resurge around the nation: Cases are cyclical

Kim Krisberg

Reports of pertussis have reached startling numbers in communities around the nation in recent months, leading to renewed attention to the common infectious disease.

Several states are currently reporting pertussis outbreaks, from California to Michigan to South Carolina. California's caseload has caught the most attention, as the state is home to epidemic proportions of the disease. As of late August, California health officials reported more than 3,300 confirmed, probable and suspected pertussis cases — a seven-fold increase from the previous year — as well as at least eight deaths.

Despite the resurgence, public health workers caution that such outbreaks are not unexpected and should serve as important immunization reminders.

Reported cases of the highly communicable disease have been on the rise since the 1980s. Pertussis outbreaks usually occur in three- to five-year cycles, with the last pertussis peak occurring in 2005, with more than 25,600 cases, according to the Centers for Disease Control and Prevention. In 2009, about 16,900 cases were reported to CDC. For 2010, about 10,400 cases had been reported as of Aug. 28.

Controlling pertussis, commonly known as whooping cough, comes with a number of common public health challenges, such as gathering representative case data and encouraging people to keep their immunizations up to date. However, new and emerging tools, such as the 2005 arrival of a new vaccine that immunizes adolescents and adults against pertussis, could make a dent in the disease's natural cycle. **While pertussis and its prevention is complex, speculations that current outbreaks may be due to vaccine refusal do not hold up, said CDC spokesman Jeff Dimond.**

The numbers don't support that argument, Dimond said. "There's no cause and effect relationship there."

Instead, waning immunity may be part of the problem. To confront the disease, CDC and health departments nationwide are urging residents to get immunized, especially adults who come in contact with infants and young children. Infants are routinely vaccinated against pertussis, with children ideally receiving five doses of the diphtheria, tetanus and pertussis vaccine, or DTaP vaccine, by age 6. Another similar vaccine, known as Tdap, is recommended for people ages 11 through 64. Unlike some vaccines, the pertussis vaccine's protection eventually wears off, as does any immunity gained from contracting the disease.

In Michigan, where public health officials have been monitoring a general increase in pertussis over the past two decades, the majority of recent cases are among residents 10 years of age and older, according to Joel Blostein, MPH, a vaccine-preventable disease epidemiologist with the Michigan Department of Community Health.

"Part of the cycle is the number of susceptible people in the population that builds up over time," Blostein said. "Eventually, there's enough susceptible people that the bug will much more readily transmit and gain a foothold, and we'll get an explosive number of cases."

Pertussis cases in Michigan began an upward tick in late 2008, Blostein said, with 902 cases in 2009 and 610 cases as of mid-August. He cautioned that case numbers over the years may not be completely representative, as better diagnostics and efforts to look for the disease in nontraditional age groups are likely factors in changing case numbers. The current outbreak is being reported in "all corners of the state...across all strata of socioeconomic status," Blostein noted.

In response, Michigan health workers are working to raise awareness among clinicians that pertussis is more than a childhood disease and stressing the

"While pertussis and its prevention is complex, speculations that current outbreaks may be due to vaccine refusal do not hold up.

"The numbers don't support that argument," Dimond said. "There's no cause and effect relationship there."

**CDC Spokesman
Jeff Dimond.**

**Meeting of the Board of Scientific Counselors, Office of Infectious Diseases
Centers for Disease Control and Prevention
Tom Harkins Global Communication Center
Atlanta, Georgia**

December 11-12, 2013

A 1½ day, open public meeting of the Board of Scientific Counselors (BSC), Office of Infectious Diseases (OID), was held on December 11-12, 2013, at the Centers for Disease Control and Prevention (CDC) in Atlanta, Georgia. In addition to Board members and CDC staff, the meeting was attended by representatives of several public health partner organizations (Appendix).

The meeting included updates from OID, the Influenza Coordination Unit (ICU), the Center for Global Health (CGH), and CDC's three infectious disease national centers: the National Center for Emerging and Zoonotic Diseases (NCEZID); the National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention (NCHHSTP); and the National Center for Immunization and Respiratory Diseases (NCIRD). Each update was followed by discussion. Reports were also provided by the two BSC/OID working groups. The Food Safety Modernization Act (FSMA) Surveillance Working Group presented its annual report for Board approval, and the Antimicrobial Resistance Working Group provided information regarding their discussions on prevention and control of carbapenem-resistant Enterobacteriaceae (CRE) and on a subset of public health actions to improve antimicrobial use (Antimicrobial Stewardship).

Presentations were also made on five topical issues: 1) changes in immunization programs at the state level; 2) a new government-wide initiative on Global Health Security; 3) polio eradication efforts; 4) CDC's school-based surveillance systems and NCHHSTP's Division of Adolescent and School Health (DASH) prevention programs; and 5) the FY 2014 Advanced Molecular Detection (AMD) initiative. The AMD presentation included information about the new BSC Infectious Disease Laboratory Working Group, whose establishment was approved at the May 2013 BSC meeting.

DAY 1: DECEMBER 11

➤ **OPENING REMARKS**

BSC Chair Dr. Ruth Berkelman, Rollins Professor, Emory University, called the meeting to order and was joined in welcoming participants and facilitating introductions by Dr. Rima Khabbaz, CDC Deputy Director for Infectious Diseases, and Robin Moseley, the OID/BSC Designated Federal Official. Dr. Berkelman welcomed two new BSC members: Dr. Susan Sharp, Kaiser Permanente Northwest; and Dr. Jose Montero, New Hampshire Department of Health and Human Services. Dr. Berkelman also welcomed Dr. Judith Bossé, Assistant Deputy Minister, Health Promotion and Chronic Disease Prevention Branch, Public Health Agency of Canada (PHAC), who is replacing Dr. Rainer Engelhardt, as PHAC's liaison representative to the Board.

➤ **OID UPDATES**

Dr. Khabbaz provided updates on the following topics:

- **The Government Shutdown.** The U.S. government was closed for the first 16 days in October, due to the absence of Congressional appropriations. At CDC, operations were limited to addressing emergency situations, defined as "imminent threats to life or property." Two-thirds of CDC staff were furloughed, and most disease surveillance and laboratory activities were halted. However, members of the Commissioned Corp remained at work, and certain functions supported by mandatory

funding continued. For infectious diseases, these included the World Trade Center Health Program (<http://www.cdc.gov/wtc/index.html>), the President's Emergency Plan for AIDS Relief (PEPFAR; <http://www.pepfar.gov>), and the Vaccines for Children program (VFC; <http://www.cdc.gov/vaccines/programs/vfc/index.html>).

One week into the shutdown, CDC was allowed to recall 30 staff members to respond to a foodborne disease outbreak of *Salmonella* Heidelberg (see below), as well as to address specific issues related to influenza, TB, polio, and drug resistance.

- **The Budget.** The Continuing Resolution (CR) continues through February 15. If the FY2014 budget is passed before that date, the CR will expire. Under the CR, CDC grants to states and cities cover about 30% of FY2013 amounts, and CDC has limited abilities to hire and to host (or send attendees to) conferences. If sequestration continues in 2014, CDC will be subject to additional formula-based cuts. The deadline for a new agreement by Congress is December 13, with January 15 the deadline for enactment.
- **OID Staff News.**
 - Jan Nicholson, OID Senior Advisor for Laboratory Science, is retiring at the end of December. OID will hold a retirement celebration for her on December 16. Michael Shaw, Associate Director of Laboratory Science in NCIRD's Influenza Division, has agreed to fill in for Dr. Nicholson until a replacement is found.
 - Joanne Cono, OID Special Officer for Science Integration, is on detail to the Office of the Associate Director for Science as Acting Director of the Office of Science Quality.
 - Tonya Martin, OID Senior Advisor for Informatics, is on detail to the Center for Surveillance, Epidemiology, and Laboratory Services (CSELS) as Acting Director, Division of Health Informatics and Surveillance.
 - In conjunction with the Council of State and Territorial Epidemiologists (CSTE), Alexandra Levitt, OID Special Advisor for Strategic Information Assessment, has published *Deadly Outbreaks*, a book on outbreaks investigations (written as an "outside activity" with permission from the CDC Ethics Office). In addition, Polyxeni Potter, former managing editor, *Emerging Infectious Diseases*, has published *Art in Science, Selections from Emerging Infectious Diseases*—a compilation of *EID* cover art and accompanying essays. Proceeds from the *EID* cover book benefit the CDC Foundation.

DISCUSSION: OID UPDATES

A suggestion about issuing an official BSC statement regarding the public health and safety issues caused by the government shutdown generated the following responses:

- Dr. Khabbaz said that CDC was able to recall furloughed employees to respond to a multistate outbreak of *Salmonella* Heidelberg associated with chicken (see page 12). Although the recall caused some delays, state and local health departments kept CDC informed about the *Salmonella* outbreak and other emergencies.
- Dr. Beth Bell, NCEZID Director, said that in some cases state and local public health workers did not inform CDC about local health issues because they thought CDC was closed. It was also difficult to make plans without knowing how long the shutdown would last.
- Dr. Anne Schuchat, NCIRD Director, said that, like many academic and business institutions, CDC has a Continuity of Operations Plan (COOP) that is periodically updated and exercised. However, the shutdown presented special administrative difficulties, requiring the re-interpretation of laws and regulations to figure out what could be done under these unique circumstances.

- Dr. Jesse Goodman, Deputy Commissioner for Science and Public Health, Food and Drug Administration (FDA), said that a significant part of the year was “eaten up” by the shutdown. Many ongoing processes, including contracts and collaborative projects, were put on hold or otherwise disrupted.

Following this discussion, BSC members concluded that:

- The BSC should use its “political arrows” wisely, focusing on funding as the more pressing issue.
- CDC should be commended for continuing to support state and local partners during the shutdown.

➤ ICU UPDATE

Dr. Steve Redd, ICU Director, provided updates on human cases of avian influenza A(H7N9) in China and on avian influenza A(H5N1) around the world:

- **Avian Influenza A(H7N9).** At the time of the May BSC meeting, the spring outbreak of avian influenza A(H7N9) in China was nearly over, although that was not clear at the time. The first wave ended at the end of April, after health authorities closed live bird markets in affected locations. The outbreak affected 8 contiguous provinces in eastern China, two municipalities (Beijing and Shanghai), and Taiwan—an area that includes about 10% of the world’s population. At the time of the BSC meeting, 143 human cases were reported, of whom 47 (about one-third) died.

Only a few human cases of H7N9 occurred over the summer, but 7 cases were reported in the fall, also associated with live bird markets. Fortunately, sustained human-to-human transmission has not been detected. The spring outbreak included five possible instances of one generation of human-to-human transmission or common-source or simultaneous infection, but without ongoing transmission. Current efforts are directed towards disease surveillance and monitoring.

- **Avian Influenza A(H5N1).** Since its re-emergence in 2003, 648 human cases of avian influenza A(H5N1) have been reported in 15 countries (mostly in Asia and the Middle East); 384 (59%) were fatal. More cases occur during the winter months than during the summer, with exposure to poultry remaining the predominant risk. There is no evidence of sustained human-to-human transmission. In 2013, cases were reported in 5 countries: Cambodia, China, Egypt, Indonesia, and Vietnam.

Cambodia, which has reported a few H5N1 cases each year since 2005, experienced 26 cases in 2013, across 11 provinces; 23 people were hospitalized and 14 (54%) died. The increased number of cases might reflect a greater number of exposures to infected birds and/or improved disease surveillance. Previously, an H5N1 strain belonging to the 2.3.2.1 clade had been circulating in the Mekong Delta area; however, the strain detected in Cambodia in 2013 has HA and NA genes from clade 1.1 and internal genes from the 2.3.2.1 clade. It is possible that this reassortant virus is more transmissible in poultry, resulting in increased human exposure.

- **Pandemic Preparedness.** Three guidance documents are under revision to incorporate lessons learned during the H1N1 pandemic:
 - 1) *Stockpiling antiviral drugs.* The former guidance document recommended that businesses and other institutions consider stockpiling antiviral drugs for prophylaxis, post-exposure prophylaxis (PEP), and treatment. The new document will recommend stockpiling antivirals for PEP only, in situations where people are likely to be exposed.

- 2) *Allocating vaccine during a pandemic.* Changes include incorporating a new tool to measure pandemic severity (the Pandemic Severity Assessment Framework [PSAF]¹) and placing greater emphasis on the need to tailor response activities to the actual situation.
- 3) *Community mitigation.* The 2007 *Community Mitigation Strategy* (http://www.flu.gov/planning-preparedness/community/community_mitigation.pdf) is being revised to incorporate the PSAF, as well as research findings on the effectiveness of non-pharmaceutical interventions (NPIs) implemented during the H1N1 pandemic.

DISCUSSION: ICU UPDATES

H7N9 Exposure in Live Bird Markets. The avian H7N9 virus is difficult to track in birds. The virus has low pathogenicity in birds, so they do not become ill. Thus, human (rather than avian) disease implicates live bird markets in the spread of H7N9 influenza. One intervention might be to close the markets during the time of year when outbreaks are most likely to occur. Others might be to close the markets periodically; to designate one day every week when no new birds are accepted; or to ensure that birds are not moved from one market to another (the “one-way path” intervention). Better disinfection of bird stalls is also important. Because interventions need to be sustained over time and be economically viable, permanent closure of affected markets is not a viable option. The virus appears to be more transmissible among market birds (chickens, quail) than among wild birds. The route of transmission appears to be respiratory rather than fecal.

Dual-Use Research. In regard to research at CDC to identify biological determinants of influenza virus transmission to humans (“gain-of-function experiments”), Dr. Redd noted that CDC has protocols for intensive review of “dual use” experiments and for implementation of biosafety controls. Dr. Nancy Cox, Director, Influenza Division, said that CDC is no longer doing gain-of function work. However, the results obtained to date have provided a road map for molecular surveillance that is being used by a CDC Epi-AID team in Cambodia working to ascertain the reason for the recent increase in human H5N1 cases in that country (see page 3). Dr. Carole Heilman, Director, Division of Microbiology and Infectious Diseases, National Institute of Allergy and Infectious Diseases (NIAID), National Institutes of Health (NIH), said that work on influenza gain-of-function experiments has slowed in the United States (not only at CDC). However, it is ongoing in laboratories in other countries that may or may not employ optimal biosafety and biosecurity measures.

Stockpiling Influenza Vaccines. Dr. Redd reported that the National Strategic Stockpile currently includes about 20 million vaccines for use against different clades of H5N1. The current plan (still under discussion) is to use these vaccines if and when human-to-human H5N1 transmission is detected. In the future, other uses of stockpiled vaccine might be considered (e.g., to vaccinate persons with potential occupational risk for exposure to H5N1, such as laboratory workers or CDC staff working in Cambodia).

H7N9 Vaccines. Development and planning for the production of H7N9 vaccines is ongoing, with the expectation that H7N9 vaccines will be stockpiled along with H5N1 vaccines. The H7N9 vaccine currently under development might require administration in two doses, with adjuvant. Although much has been learned about rapid production of influenza vaccines, a two-dose regimen will be challenging, and it is not clear how long immunity will last.

¹ Reed C, Biggerstaff M, Finelli L, et al. Novel framework for assessing epidemiologic effects of influenza epidemics and pandemics. *Emerg Infect Dis* 2013;19(1):85-91.

➤ **NCIRD UPDATE**

Dr. Anne Schuchat, Director, NCIRD, reported on activities that address three health priorities identified by CDC Director Thomas Frieden (<http://www.cdc.gov/about/leadership/director.htm>):

1) **Improving health security at home and around the world**

Health security challenges addressed between May and December 2013 included:

- **Middle East Respiratory Syndrome (MERS).** The ongoing outbreak of MERS that began in April 2012 (caused by the coronavirus MERS-CoV) has affected 164 people, killing 71. Most cases were reported in Saudi Arabia between April and November 2013. Other affected countries include Qatar, the United Arab Emirates, Jordan, Oman, and Kuwait. In addition, travel-associated cases have been reported in France, Italy, Tunisia, and the United Kingdom.

CDC has developed a real-time reverse transcriptase polymerase chain reaction (rRT-PCR) assay for detection of MERS-CoV that has been deployed to public health facilities around the world. These include diagnostic laboratories in 19 countries in the WHO Eastern Mediterranean Region (WHO/EMRO); 3 countries in the WHO African Region (WHO/AFRO); and 5 countries in the Americas (through PAHO). The rRT-PCR assay has also been provided to 9 laboratories operated by the Department of Defense (DOD) Global Emerging Infections Surveillance group (GEIS) and to 6 CDC Global Disease Detection (GDD) Centers. The MERS-CoV assay was created and validated in collaboration with affected countries, and reagents were provided to public health laboratories through the Laboratory Response Network (www.bt.cdc.gov/lrn/). Dr. Schuchat thanked Dr. David Swerdlow, NCIRD Associate Director for Epidemiologic Science, for leading the CDC effort.

- **U.S. Outbreaks of Legionnaires Disease.** Over the past 6 months, NCIRD has confirmed 9 travel-associated clusters of Legionnaires disease (LD) and consulted with state and local partners on 11 additional clusters and outbreaks. As part of these efforts, NCIRD has conducted field investigations in Ohio (39 cases in a retirement community, associated with water in a contaminated cooling tower); Georgia (3 cases in a hotel, associated with a contaminated whirlpool spa); and Alabama (15 cases in a long-term care facility, with no source identified). The reasons for the increased LD burden are unknown, but might be related to weather, flooding, or improved local disease surveillance.
- **Meningococcal B Disease at Universities.** Between 2008 and 2012, CDC was consulted on five clusters and outbreaks of meningococcal serogroup B disease, including three that occurred at Ohio University (13 cases), the University of Pennsylvania (3 cases), and Lehigh University (2 cases). Between March and November 2013, an outbreak involving 8 confirmed, (non-fatal) cases (7 undergraduates and one visiting high school student) was reported at Princeton University. All of the undergraduates lived in dormitories. All 8 isolates exhibited the same subtype using pulsed-field gel electrophoresis (PFGE).

Vaccines against meningococcal B disease are not yet licensed in the United States but are currently approved for use in Australia, England, and Canada. Once evidence of sustained transmission was obtained (with additional cases detected after the summer break), CDC worked with FDA to provide meningococcal B vaccine under an Investigational New Drug (IND) protocol for expanded access.

Vaccination was offered to about 5750 persons at Princeton, including undergraduates, students living in dormitories, and persons with high-risk conditions such as asplenia and complement component deficiency. The first dose was given in December; the second one is scheduled for February. CDC (including the Immunization Safety Office) worked with Princeton, Novartis, and the FDA to develop a vaccine safety surveillance plan. The vaccination effort—which received considerable positive media attention—required major collaborative efforts by the state health department, the vaccine manufacturer, the university, and CDC.

A second university cluster of meningococcal B disease—involving 4 cases—occurred in November among undergraduates living in dormitories at the University of California, Santa Barbara. The causative strain was not the strain detected at Princeton. At the present time, CDC field investigators are reviewing the epidemiology of the outbreak and assessing the potential benefits a vaccination campaign might offer.

- **Resurgence of Pertussis.** As reported at the May 2013 BSC meeting, the recent resurgence in pertussis cases has been associated with waning immunity over time in persons who received the acellular pertussis vaccine (which is administered as the pertussis component of DTaP vaccine). However, a recent study suggests another explanation for decreased vaccine effectiveness: an increase in *Bordetella pertussis* isolates that lack pertactin (PRN)—a key antigen component of the acellular pertussis vaccine. A study that screened *B. pertussis* strains isolated between 1935 and 2012 for gene insertions that prevent production of PRN found significant increases in PRN-deficient isolates throughout the United States.² The earliest PRN-deficient strain was isolated in 1994; by 2012, the percentage of PRN-deficient isolates was more than 50%.

To assess the clinical significance of these findings, CDC used an IgG anti-PRN ELISA and other assays (PCR amplification, sequencing, and Western blots) to characterize 752 *B. pertussis* strains isolated in 2012 from six Enhanced Pertussis Surveillance Sites³ and from epidemics in Washington and Vermont. Findings indicated that 85% of the isolates were PRN-deficient and vaccinated patients had significantly higher odds than unvaccinated patients of being infected with PRN-deficient strains. Moreover, when patients with up-to-date DTaP vaccinations were compared to unvaccinated patients, the odds of being infected with PRN-deficient strains increased, suggesting that PRN-bacteria may have a selective advantage in infecting DTaP-vaccinated persons.

- **Severe Respiratory Disease in Puerto Rico.** CDC assisted the Puerto Rican Health Department in a mass influenza vaccination campaign conducted in response to an outbreak of severe respiratory disease that turned out to be influenza. Puerto Rico has low influenza vaccine coverage rates, due to financial and policy issues.

Updates on responses to global health security challenges related to avian influenza and polio were addressed by Dr. Steve Redd (pages 3-4) and Dr. Steven Wassilak (pages 36-38), respectively.

²Pawloski LC, Queenan AM, Cassidy PK, et al. Prevalence and molecular characterization of pertactin-deficient *Bordetella pertussis* in the United States. Clin Vaccine Immunol 2014;21(2):119-25.

³To investigate and monitor the increased number of pertussis cases, CDC is partnering with seven states in the Emerging Infections Program network (CO, CT, GA, MN, NM, NY, and OR) that have established Enhanced Pertussis Surveillance Sites (<http://www.cdc.gov/pertussis/surv-reporting.html>).

Johns Hopkins warns that the vaccinated are a threat to the immunocompromised

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The Johns Hopkins Hospital Patient Information

patient guide



Care at Home for the Immunocompromised Patient

What can I do to prevent infection?

- Hand washing is the **best way** to prevent infection.
- Carry hand sanitizer with you at all times.
- Wash with soap and water or hand sanitizer



Should an IC child really be in the uncontrolled environment of a public school or other public spaces?

- before and after you use the bathroom
- before and after preparing or eating food
- after touching pets or animals
- after contact with someone who has an infection such as a cold or the flu
- after touching surfaces in public areas (such as elevator buttons, handrails and gas pumps)

Do I need to wear a mask?

- Wear an N95 respirator mask when you travel to and from the hospital, when you are in the hospital, within two football fields of construction or digging, and in any public place.
- Close all car windows and turn on the re-circulate button of your ventilation system.
- Avoid crowds if possible. An area is crowded if you are within an arm's length of other people.
- Avoid closed spaces if possible.

Can I have visitors?

- Tell friends and family who are sick, or have recently had a live vaccine (such as chicken pox, measles, rubella, intranasal influenza, polio or smallpox) not to visit.
- It may be a good idea to have visitors call first.
- Avoid contact with children who were recently vaccinated.

Are there any precautions I

- Do not take aspirin or aspirin-like products (such as Advil™, Motrin™ or Excedrin™) unless told by your doctor.
- You should wear a medical alert bracelet that identifies you as a cancer patient or bone marrow transplant patient at risk for bleeding or infection.
- **Keep a current medication list with you at all times.**
- Do not take any herbal products.
- Avoid grapefruit juice, which interacts with many medications.

Are schools currently notifying IC families when fellow students have been recently vaccinated with live viruses?

100% Ideal Vaccination Rate
 - 2.54% PBE = 97.46%
 Any rates below 97.46% are
 unrelated to PBE- mostly due to
 "Conditional Entrants" who have
 incomplete vaccine series
 or lack records

2014- 2015 KINDERGARTEN IMMUNIZATION ASSESSMENT RESULTS CALIFORNIA DEPARTMENT OF PUBLIC HEALTH, IMMUNIZATION BRANCH

PBE Use is Falling!
Vaccination Rates
are Rising!
What is the Emergency?

Table 1: Kindergarten Immunization Assessment, 2013-2014 and 2014-2015 School Years*

	2013-14			2014-15		
	All	Public	Private	All	Public	Private
Number of Schools	7,684	5,852	1,832	7,738	5,895	1,843
Number of Students	533,680	491,905	41,775	535,234	494,636	40,598
All Required Immunizations	90.2%	90.6%	85.4%	90.4%	90.7%	86.6%
Conditional Entrants	6.5%	6.3%	8.5%	6.9%	6.8%	7.8%
Permanent Medical Exemptions	0.19%	0.18%	0.29%	0.19%	0.19%	0.29%
Personal Belief Exemptions	3.15%	2.92%	5.88%	2.54%	2.31%	5.33%
Pre-January 2014				0.38%	0.27%	1.67%
Health Care Practitioner Counseled				1.64%	1.54%	2.85%
Religious				0.52%	0.49%	0.80%
4+ DTP	92.2%	92.5%	88.6%	92.4%	92.6%	89.2%
3+ Polio	92.6%	93.0%	88.5%	93.0%	93.3%	89.5%
2+ MMR	92.3%	92.7%	87.6%	92.6%	92.9%	88.8%
3+ Hep B	94.8%	95.0%	91.8%	94.9%	95.1%	92.0%
1+ Vari (or physician-documented disease)	95.3%	95.5%	92.1%	95.4%	95.7%	92.5%

* Individual antigen status is unavailable for students with PBEs. Therefore, individual antigen immunization coverage may be underestimated; anecdotal evidence suggests a small percentage of students may have some but not all required immunizations.

<http://www.cdph.ca.gov/programs/immunize/pages/immunizationlevels.aspx>

Vaccination Rates are Rising!
2014/15 rates UP .1% to .4% for
All Vaccines over 2013/14

Exemptions are filed when a child is missing one or more doses of any mandated vaccine. Exemptions do not mean a person is completely unvaccinated.

CDC Statement, "...a child with an exemption is not necessarily Unvaccinated", <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6341a1.htm>



Immunization - Adolescents
California
Rank: 10

Immunization - Children
California
Rank: 28

CA is only 5.6 pts
out of Top Ten

Immunization Dtap
California
Rank: 8

Immunization MCV4
California
Rank: 16

<http://www.americashealthrankings.org/CA>

California has Excellent Vaccination Rates

The United Health Foundation ranks
the 50 states every year using CDC
NIS (National Immunization Survey) Data.
Note CA's High Rankings.

2 states offer ONLY Medical
Exemptions- Mississippi and West
Virginia. CA exceeds vaccination
rates for both MS and WV in all but
one category, even though CA's
population (37 Mil) is over 7 times
larger than MS (>3 mil) & WV (>2
mil) combined. More importantly
CA outcomes are drastically
superior, eclipsing both states.

Overall Health Ratings

California is 17th
West Virginia is 44th
Mississippi is 50th



CA vs. MS & CA vs. WV

Measures	CA Rank	MS Rank	CA Value	MS Value
Immunization - Adolescents	10	50	72.6	45.2
Immunization - Children	28	11	69.3	74.6
Infant Mortality	4	50	4.6	9.1

Measures	CA Rank	WV Rank	CA Value	WV Value
Immunization - Adolescents	10	29	72.6	64.1
Immunization - Children	28	43	69.3	65.5
Infant Mortality	4	38	4.6	7