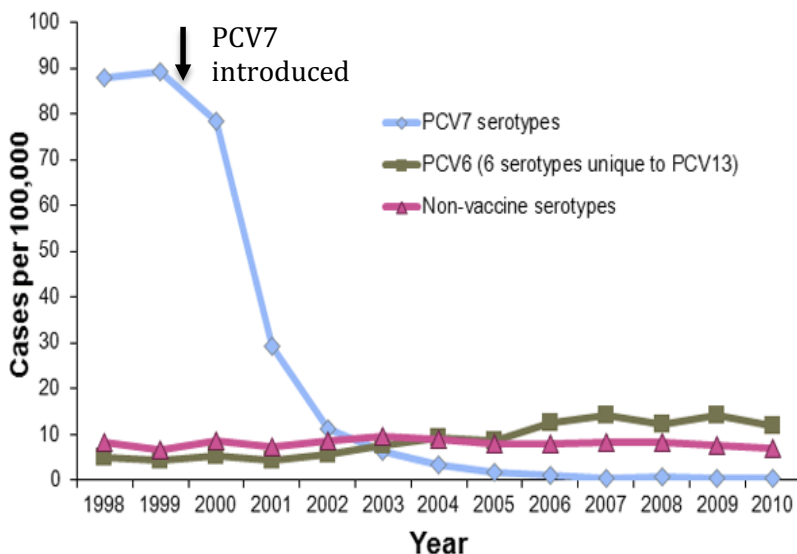


PCV Vaccine (*Pneumococcal Conjugate Vaccine*)

Cases of Invasive Pneumococcal Disease



PCV Vaccine Benefits

Protects against infections caused by *Strep pneumoniae* bacteria, including pneumonia and ear infections. *Invasive Pneumococcal Disease (IPD)* occurs when the infection spreads to other organs, causing bacteremia (bacteria in the bloodstream) and meningitis.

Prevents long term effects: Meningitis can cause hearing loss, seizures, blindness and paralysis.

Saves lives: Following the introduction of PCV7, IPD incidence in children dropped from 100 cases per 100,000 in 1998 to 21 cases per 100,000 in 2008.

Concerns

Is PCV13 safe?

Safety of PCV7 and PCV13 have been evaluated in more than 90,000 children with no major safety problems identified. PCV13 was approved by the FDA in 2010 for infants and young children. Ongoing surveillance is conducted with the Vaccine Adverse Event Reporting System.

Does PCV cause fever and seizures?

Mild reactions that can occur with PCV7 or PCV13 include soreness or redness at injection site, as well as one to two days of irritability, drowsiness and decreased appetite. One in five report low grade fever for one to two days. Seizures have been reported after vaccination with PCV7 in less than 1 in 10,000 within four days of vaccination. Most of these reports came from children with past history of seizure.

Can I wait to vaccinate my child? Won't antibodies from breast milk protect my baby?

Invasive pneumococcal disease risk is greatest for kids less than a year of age, so maximum protection and benefit is achieved when vaccination occurs before 6 months of age. Most adults have antibodies that protect them against pneumococcal disease and pass these to newborns. However, this protection lasts only a few months.

Can't I just treat this illness if it occurs?

Pneumococcal disease can be very severe. In 1990, almost all forms of IPD were susceptible to penicillin. Due to antibiotic resistance trends, it has become increasingly difficult to treat. Bacteremia and meningitis are life threatening even when effective treatments are available. One in ten people who contract invasive pneumococcal disease will die. IPD still causes 22,000 deaths per year.

What is the vaccine made from?

The PCV7 vaccine is made from pieces of the coating of seven types of pneumococcal bacteria in a lab without the infectious components, so it cannot cause infection. The bacteria coating is connected to a harmless protein that alerts the immune system and helps it recognize *Strep Pneumoniae*. A newer vaccine introduced in 2010 adds six more types of the bacteria. This vaccination is safe for people with compromised immune systems.

What chemicals does PCV13 contain?

The vaccine does not contain thimerosal preservative (ethyl-mercury).

It contains a small amount of aluminum, less than the amount that is found in 500 mL of infant formula. Children are regularly exposed to aluminum at much higher levels than in vaccines, since it exists in breast milk, formula, food, and natural environments. Like most chemicals, it is possible for aluminum to cause negative health effects if the levels are high enough. Fortunately, the levels in vaccines have been closely studied. By analyzing aluminum blood levels in children who receive vaccines, studies have shown that levels never go near a minimal risk level. They have not found any associated negative health outcomes with the amounts found in vaccines.

What about the other strains of *Streptococcus pneumoniae* bacteria?

While it's true that PCV13 only protects 13 of 90 different strains, it is very effective against the most serious disease-causing bacteria.

Do any of these sources have ties to pharmaceutical companies?

The sources used for this handout are the Center for Disease Control (CDC), the World Health Organization (WHO), Children's Hospital of Philadelphia (CHoP) and articles from the most well-regarded medical journals. While some employees at these organizations have ties to pharmaceutical companies, they are upfront about these connections. The WHO reviews studies conducted all around the world, which are less likely to be connected to pharmaceutical companies. The CDC took steps in 2006 to make its vaccine recommendation unit more independent and less subject to bias.

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Written by:

Mila Quinn, Tufts University School of Medicine Class of 2017

Wayne Altman, MD, Associate Professor of Family Medicine, Tufts University School of Medicine
