



### What are the benefits of childhood vaccines?

Vaccines protect and save lives. Before polio vaccine was developed in 1955, 13,000 to 20,000 cases of paralytic polio were reported each year in the United States. These epidemics left thousands of victims – mostly children – in braces, crutches, wheelchairs and iron lungs. *Haemophilus influenzae* type B (Hib) meningitis used to kill 600 children each year and left many others with deafness, seizures or mental retardation. Since the Hib vaccine became available in 1987, the incidence of Hib has fallen by 98 percent. From 1994 through 1998, fewer than 10 children died from Hib each year.

Vaccines have reduced or eliminated diseases that once routinely killed or harmed many infants, children and adults. However, the viruses and bacteria that cause vaccine-preventable diseases and deaths still exist and can be passed on to people who are not protected by vaccines.

### What would happen if we stopped vaccinating?

If we didn't vaccinate, people would be at risk of getting serious and often deadly diseases. If vaccinations were stopped, about 2.7 million people across the world could die. A recent study found that, in eight countries where fewer people were getting immunized against whooping cough, between 10 and 100 times more people were getting sick from the disease than in countries where the number of people getting the vaccine stayed the same.

### Do vaccines have any side effects?

Like any medicine, immunizations can cause side effects, and each person may react differently to them. Sometimes, people who get a vaccine do not respond to it and may still get the illness the vaccine was meant to protect them against. In most cases, vaccines are effective and cause no side effects other than mild reactions such as fever or soreness at the injection site. Very rarely, people experience more serious side effects, like allergic reactions. Be sure to tell your health-care provider if you or your child has health problems or known allergies to medications or food. Severe reactions to vaccines occur so rarely that the risk is difficult to measure.

Parents must remember that a decision not to immunize a child also involves risk. It puts the child and others who come into contact with him or her at risk of catching a disease that could be dangerous or deadly.

### Do vaccines cause autism?

At least 16 scientific studies have investigated a possible link between vaccines and autism and none have found a connection between vaccines and autism.

### Why do some people believe that vaccines cause autism?

Because signs of autism may appear about the same time that children receive vaccines, some parents believe that the vaccines caused their child's autism.

### What is thimerosal?

Thimerosal is a preservative used in some vaccines to prevent contamination. Thimerosal is no longer used in childhood vaccines except for some influenza vaccines. Since thimerosal was removed from most vaccines in 2001, many studies have been done to determine whether or not the preservative was linked to autism. No studies have found a link between thimerosal and autism. In fact, the number of children who have autism continues to rise, even after thimerosal was removed from the majority of vaccines.

## **Is it possible for a child to receive too many vaccines?**

Infants and young children commonly encounter and manage many challenges to their immune system at the same time. Twenty years ago, seven vaccines were recommended for children. They usually received five shots by age 2 and as many as two shots at one time. Now that 12 vaccines are recommended for children, they could receive as many as 20 shots by two years of age and five shots at a single visit.

Vaccines are just a small part of what babies encounter every day. For example, from the minute they are born, thousands of different bacteria start to live on a baby's skin, as well as the lining of the nose, throat and intestines. By quickly making an immune response to these germs, babies keep the germs from causing serious disease. In fact, babies are capable of fighting off millions of different germs because they have billions of immune system cells circulating in their bodies. Therefore, the vaccines given in the first two years of life are minor in comparison to what children are exposed to on a daily basis.

## **What measures are in place to ensure the safety of vaccines?**

Vaccines are tested carefully to see how well they work and if there are any possible problems. After the vaccines are licensed, they continue to be monitored through information shared by parents, doctors and public health officials.

For example, a rotavirus vaccine that is no longer given was tested in about 11,000 children before it was licensed by the U.S. Food and Drug Administration. After the vaccine was licensed and recommended for use, about 1 million children received it. A system called the Vaccines Adverse Events Reporting System found that about 15 children got a blockage in their intestines soon after they received the vaccine. This was worrisome enough to the U.S. Centers for Disease Control and Prevention (CDC) that they stopped the use of the rotavirus vaccine until they knew if the vaccine caused the blockage or not. A study by the CDC showed that the blockage happened to about one of every 10,000 children who received the vaccine. Because only 11,000 children were tested before the vaccine was licensed, it was really not possible to learn of such a rare side effect. As a result of the rotavirus vaccine experience, at least 60,000 children had to be tested before the next vaccine was licensed.



The North Dakota Department of Health (NDDoH) strongly encourages you to immunize your child, but ultimately, the decision is yours. Please discuss any concerns you have with a trusted health-care provider or call the NDDoH Immunization Program at 800.472.2180. Your final decision affects not only the health of your child, but also the health of the rest of your family, your child's friends and their families, classmates, neighbors and community.