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### **Fact or Fiction: myths about flu vaccination**

By Dr. Bill Letson, El Paso County Public Health Medical Director

El Paso County Public Health, following national immunization guidelines issued by Centers for Disease Control and Prevention (CDC), recommends anyone 6 months of age and older get a flu vaccination. Although the flu vaccine is safe and offers the best protection currently available against the flu, common myths about the vaccine may keep some people from seeking this preventative tool.

The flu can be a serious disease for many people, especially for the very young, the elderly, pregnant women, and people with weakened immune systems. During the 2011-2012 flu season, 46 people in El Paso County were hospitalized due to flu-related symptoms. Sorting through the facts and fiction about the flu vaccine can help you make the decision to protect yourself and your family this flu season.

**Myth: The flu shot can cause the flu.**

**Fact: The viruses contained in a flu shot are killed viruses and therefore cannot cause influenza.** Flu vaccines cause antibodies to develop in the body about two weeks after vaccination. These antibodies provide protection against infection with the viruses that are in the vaccine. It is true that the vaccine is not 100 percent effective, and protection is not immediate: it takes about two weeks for the body to build antibodies to protect against infection. If someone gets sick within days of getting the flu shot, it is the result of an infection, rather than the vaccine.

**Myth: Flu shots contain unsafe chemicals; I want to build immunity naturally.**

**Fact: Vaccine ingredients are tested together to be safe, and each ingredient is there to produce a stronger response in your body to create immunity for a specific disease.**

Vaccines induce a natural immune response in the body. The vaccines are safe because the viruses or bacteria used in vaccines are dead or have been severely weakened. Our bodies recognize these weakened invaders and create antibodies to protect us against future infection. In this way, we trick our bodies into thinking we've already had the flu.

Vaccination helps to reduce the overall spread of flu, and helps to protect those who cannot be vaccinated, have a weakened immune system or are pregnant. These people are at an increased risk of severe disease when exposed to vaccine-preventable diseases, and rely on the vaccinated members of their community to reduce the spread of infection.

**Myth: Vaccines can cause serious side effects, like autism.**

**Fact: Vaccines do not cause autism.** There are a lot of theories but no definitive causes of autism. Researchers continue to search for potential causes, genetic and other risks, and cures. Many parents may have heard that vaccines cause autism from a now-retracted study published in the British medical journal *Lancet* that was released in the late 1990s. British physician, Andrew Wakefield, performed the study and in 2009 the U.K.'s *Sunday Times* revealed evidence that Wakefield had manipulated his data. In 2010, the *Lancet* fully retracted the study, discounting it as false.

The concern over a possible link between MMR (measles, mumps and rubella) vaccine and autism prompted many scientists and researchers to produce more studies. The Center for Disease Control and Prevention (CDC), National Institutes of Health (NIH) and scientists around the world have conducted over 20 different studies the past twelve years. **None of these studies has been able to recreate Wakefield's findings or find any connections between the MMR vaccine and autism.**

Older MMR vaccines contained a preservative called thimersol, which is also used in trace amounts in some flu vaccines. Thimersol contains small amounts of mercury called ethylmercury. It was also alleged that ethylmercury caused autism, but multiple studies of multiple vaccines have proven this false. As a precaution, thimersol has been removed from most vaccines. The more dangerous form of mercury, methylmercury, is an environmental contaminant sometimes found in fish such as tuna, and is not a component of thimersol. The flu vaccine preparations used at El Paso County Public Health do not contain thimersol or other preservatives.