

## Vaccine Refusal Endangers Lives by Harriet Hall, M.D.



The control of pertussis, a vaccine-preventable disease that is more popularly known as whooping cough, is public health enemy number 1 right now in Oregon. In Jackson County, the 2008 childhood immunization rate shows that 26 percent of young children are not fully immunized. Of the growing number of parents who are opting out, the high majority are influenced not by their child's health care providers, but by popular media and the Internet. These facts are concerning.

In June, a pertussis outbreak hit Oregon. Ashland and Jackson County authorities reported that the incidence of whooping cough is much higher than usual in Southern Oregon, with the number of pertussis cases in Jackson County soaring to four times the usual number so far this year. There is also an epidemic in California, where 5 babies have already died.

The defeat of smallpox also clearly illustrates the value of vaccination. This terrible, but vaccine-preventable, disease had a mortality rate of 30 percent and over the course of human history, killed 300,000,000 people. The last case occurred in 1977 after a prolonged vaccination campaign. No one will ever get smallpox again.

Vaccines are the greatest achievement of modern medicine, but some people have come to distrust them and are refusing vaccinations. What's going on?

In 1998, Andrew Wakefield published a study suggesting that the Measles-Mumps-Rubella (MMR) vaccine might cause autism. The study was later retracted, Wakefield was found guilty of misconduct, and follow-up studies showed there was no link between the vaccine and autism; but worried parents let the MMR vaccination rate drop in the U.K. to as low as 50 percent in some areas. Measles became endemic again. Children died.

In the U.S., the mercury-containing preservative thimerosal was accused of causing autism. Studies showed no link, and the rate of autism didn't drop when thimerosal was removed from vaccines. Some fear other ingredients in the vaccines. Activists such as Jenny McCarthy still blame vaccines for autism despite the lack of evidence.

Some fear that vaccines overwhelm an infant's immune system with too many antigens. Science doesn't support that idea. Babies already handle the thousands of antigens they encounter in their environment every day, and adding a few more antigens from vaccines is negligible.

Some accept vaccinations but only on a delayed schedule. There is no scientific rationale for delaying them, and babies remain susceptible to catching the disease until they get the vaccine.

Some say there is currently no polio in the U.S., so they don't need to be vaccinated. But all it would take is one person with polio on an airplane and we could have an epidemic.

Some depend on herd immunity. If enough people in a community are immune, the disease won't be able to spread. You can selfishly refuse to get your shots and let your neighbors take any possible risks from the vaccine and ride to safety on their coat-tails. If everyone did that, herd immunity would vanish.

If a disease is introduced into a community, the unvaccinated are far more likely to get sick, but the vaccinated are at risk, too, because vaccines are not 100 percent effective. By not getting vaccinated, you are endangering everyone's public health.

The frightening thought is that just a few months ago, Southern Oregon officials reported that area vaccinations rates were among the lowest in the state, with more parents requesting waivers to opt out. The Ashland School District in February reported that about 24 percent of the district's students exempted themselves from one or more vaccinations this year, an increase of 2 percentage points over last year. In many areas of the U.S., the vaccination rate is already far below the rate needed to ensure herd immunity, and Oregon has one of the highest vaccine opt-out rates in the country. Parts of Jackson County (especially Ashland), Lane County, and parts of Multnomah County are particularly at risk.

Small outbreaks of vaccine-preventable diseases already have occurred and we can expect more unless the vaccination rates rise. By one estimate, 500 people have died from vaccine-preventable deaths in the U.S. in the past two-and-a-half years.

They didn't need to die.

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