

THIMEROSAL FACT SHEET

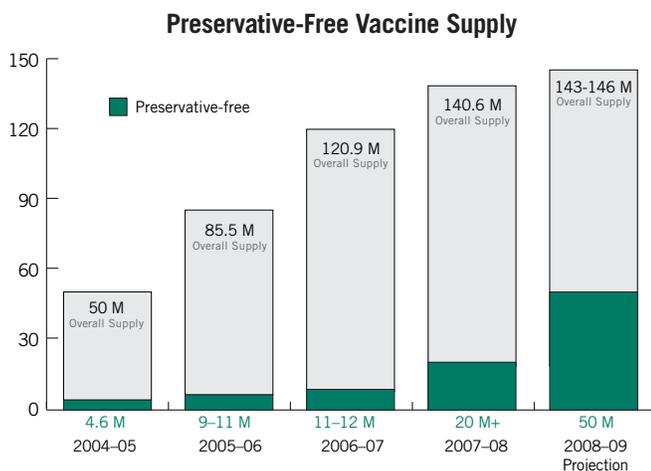


What is thimerosal and how is it used?

1. Thimerosal is a mercury-containing organic compound that prevents bacteria from spreading and ensures the preservation of vaccine in multiple-dose (opened more than once) containers.
 - Since its introduction in the 1930s, thimerosal has been the world standard for vaccine production. It is the most widely used preservative in vaccines.
2. The U.S. Code of Federal Regulations requires a preservative be added to multi-dose vials as a safeguard to prevent bacteria growth in influenza vaccines.
3. If a preservative is not used, vaccines must be bottled in single-dose containers.

How much preservative-free vaccine is available?

4. Of the flu vaccine doses projected for 2008-2009, about 50 million doses (or roughly 35%) are preservative free, according to an analysis of CDC data.
5. The amount of preservative-free vaccine in 2008-2009 is expected to more than double the amount available last season.

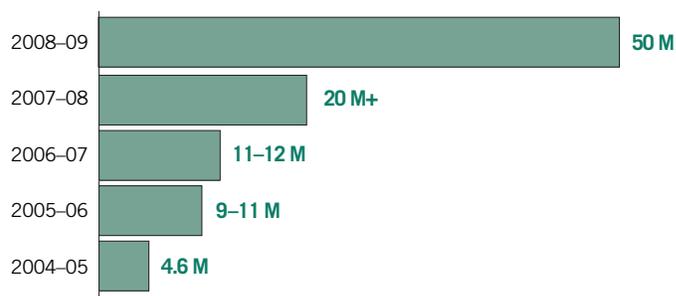


When will the supply be preservative-free?

6. The flu vaccine supply chain has been working to reduce and/or eliminate its use of the thimerosal preservative. From 2004 to 2009, production of preservative-free vaccines is estimated to increase by about 49% (CAGR).

– Analysis of CDC data, April 2007

Preservative-Free Vaccine Increasing



- All major flu vaccine manufacturers predict they will develop and/or shift most of their production to preservative-free vaccine in the next three years.

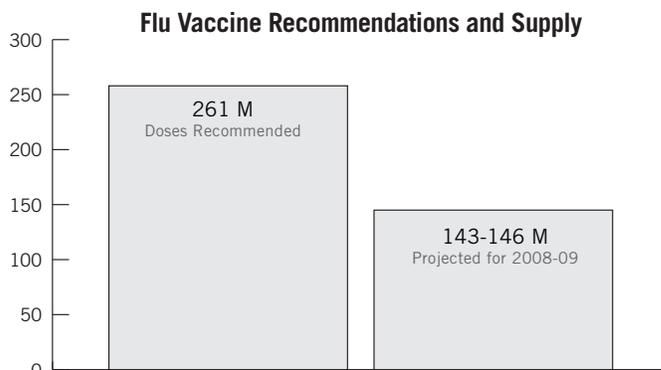
– National Flu Summit, April 2007

- An estimated 143-146 million doses of flu vaccine are projected to be produced for the 2008-2009 flu season. Of that amount, approximately 50 million doses will be preservative free.

– CDC, 2008

7. The Centers for Disease Control and Prevention (CDC) recommend up to 261 million people be vaccinated annually to avoid influenza. The overall flu vaccine supply projected for 2008-2009 is 143-146 million doses.

– CDC's MMWR, Early Release 2008: 57, July 17, 2008



FACT SHEET

THIMEROSAL FACT SHEET

THE FLU: About 36,000 people in the United States die from influenza and 200,000 are hospitalized as a result of influenza each year, reports the CDC.

8. As of February 2006, six states enacted legislation banning the administration of vaccines containing mercury; the provisions defining mercury content vary. These laws might present a barrier to vaccination until sufficient numbers of doses of influenza vaccines without thimerosal as a preservative or in trace amounts are available.

– CDC's MMWR, July 28, 2006

What people are saying about thimerosal

9. A person would have to use 1,000 times the recommended dosage of thimerosal for toxic affects to appear.

– Food and Drug Administration (FDA) Study: *Thimerosal in Vaccines*. Updated March 2007

- Thimerosal is made up of ethyl mercury. Studies show it does not enter the nervous system and is rapidly eliminated from the body, unlike methyl mercury – a neurotoxin primarily found in fish.

– Dr. Sydney Spiesel, associate clinical professor of pediatrics, Yale University School of Medicine

10. “We do know that vaccines have significantly reduced life-threatening diseases in children around the globe. What we don't know is if there is an issue regarding the amount, the timing, or the medium used to deliver vaccines that would result in a child developing autism or other developmental disorders.”

– Autism Society of America, March 2001
(<http://www.autism-society.org/site/PageServer?pagename=mmrvaccine>)

11. The recommended dosage of thimerosal in vaccines contains a “safety cushion” to take into account all the variables that people face in their exposures to mercury.

– Illinois Department of Public Health

12. Many well-done, large-scale studies fail to show a link between thimerosal and autism.

– Institute of Medicine, “Immunization Safety Review: Vaccines and Autism,” May 2004
– “Autism Spectrum Disorders,” National Institute of Mental Health, January 2007

- The CDC has examined the incidence of autism as a function of the amount of thimerosal a child received from vaccines. Preliminary results indicated no change in autism rates relative to the amount of thimerosal a child received during the first six months of life...Additional studies are planned.

– FDA Study: *Thimerosal in Vaccines*. Updated March 2007

13. “There is no evidence of toxicity in infants, children or adults exposed to thimerosal in vaccines.”

– World Health Organization, “Statement on Thimerosal in Vaccines,” July 2006

Cost and Logistics Analysis: Single-dose versus Multi-dose Vials

Packaging (2.5 times greater)	Storage (Roughly 6 times greater)	Fill Costs (About 3 times higher)
 <p>multi-dose single-dose</p>	 <p>multi-dose single-dose</p>	 <p>multi-dose single-dose</p>
<p>2.5 times greater with single-dose format than multi-dose (10 doses per vial)</p>	<p>Roughly 6 times greater with single-dose format than with multi-dose. Multi-dose enables smaller, lighter transport</p>	<p>About 3 times higher with single-dose format than multi-dosen some instances</p>

Source: Bulletin of the World Health Organization 2003;81:726-73