

Pentavalent Vaccines – When Did Vaccines Adopt the Bulk Model?

Vaccines designed to provide immunity to three diseases in one shot, like the MMR and DTP, have become the industry standard. It's incredibly difficult to find single doses of these vaccines. The development and availability of five-in-one vaccines are more likely to make single dose vaccines even more of a rarity. Welcome to the age of pentavalent vaccines.

What's the Skinny?

The Global Alliance for Vaccines and Immunisations (GAVI) introduced pentavalent vaccines in 2001 (although pharmaceutical giant Sanofi Pasteur first licensed a pentavalent vaccine in 1993). The most commonly used pentavalent vaccines combine the DTP (diphtheria, tetanus, and pertussis) with vaccines designed to provide immunity for Hepatitis B and Haemophilus Influenza type-B (Hib), the bacteria that causes meningitis, pneumonia, and otitis. A typical vaccine schedule for pentavalent vaccines calls for the child to receive shots at 6, 10, and 14 weeks.

GAVI has been a big supporter of pentavalent vaccines and currently supplies 73 of the world's poorest countries with these vaccines. These countries are primarily in Africa and across Asia, with Albania, Moldova, and Guyana also included in the list. In the 15 years since the introduction of pentavalent vaccines, their coverage has grown from 1% to 68% of people vaccinated in supported countries.

The Belle of the Ball

Why wouldn't these vaccines be a priority? From the medical and pharmaceutical community's viewpoint, a 5 in 1 vaccine provides many benefits. It's easier to administer, creates less syringe waste, can be produced more quickly, and is cheaper to ship.

Pentavalent vaccines also increase coverage. Prior to the GAVI in 2000, fewer than 10% of low-income countries were giving the hepatitis B vaccine and even fewer were immunizing for Haemophilus Influenza type-B. The numbers vaccinated were minuscule in comparison to the 68% of people covered in these countries 15 years after the introduction of the pentavalent program.

Not Without Issues

The GAVI pentavalent vaccine program has been a success, although there have been bumps along the road. Quinvaxem, the most commonly used pentavalent vaccine, was suspended in Vietnam after nine children died post-vaccination in 2013. While Quinvaxem was reinstated within the same year in Vietnam, other countries in the region like Sri Lanka, India, and Bhutan also expressed safety concerns.

Breaking Out of the Bubble

Will pentavalent vaccines become the standard in all vaccine schedules the way the MMR and DTP replaced single vaccines? If you don't think so, consider how difficult it is to find a mumps, measles, or rubella vaccine in any developed nation except Japan. Outside of Japan, they are no longer offered as separate vaccines. Since 2012, GAVI only supports Hep B and HiB as part of the pentavalent vaccine, making a similar restrictive availability more likely to become the standard

for the rest of the world.

Further Reading:

- *The MMR Vaccine – A Comprehensive Overview Of the Potential Dangers and Effectiveness*
- *How To Detoxify and Heal From Vaccinations – For Adults and Children*
- *Influenza Vaccine – A Comprehensive Overview of the Potential Dangers and Effectiveness of the Flu Shot*
- *How Plumbing (Not Vaccines) Eradicated Disease*
- *Doctors Against Vaccines – Hear From Those Who Have Done the Research*

Sources:

- *Pentavalent Vaccine Support – GAVI*
- *Pentavalent Vaccine (DTwP-HepB-Hib) – Update and Market Supply Report – UNICEF*
- *Frequently Asked Questions Quinvaxem Vaccine – World Health Organization*
- *After 54 Infant Deaths, Govt Finally Admits Pentavalent Involved – Office of Medical and Scientific Justice*