

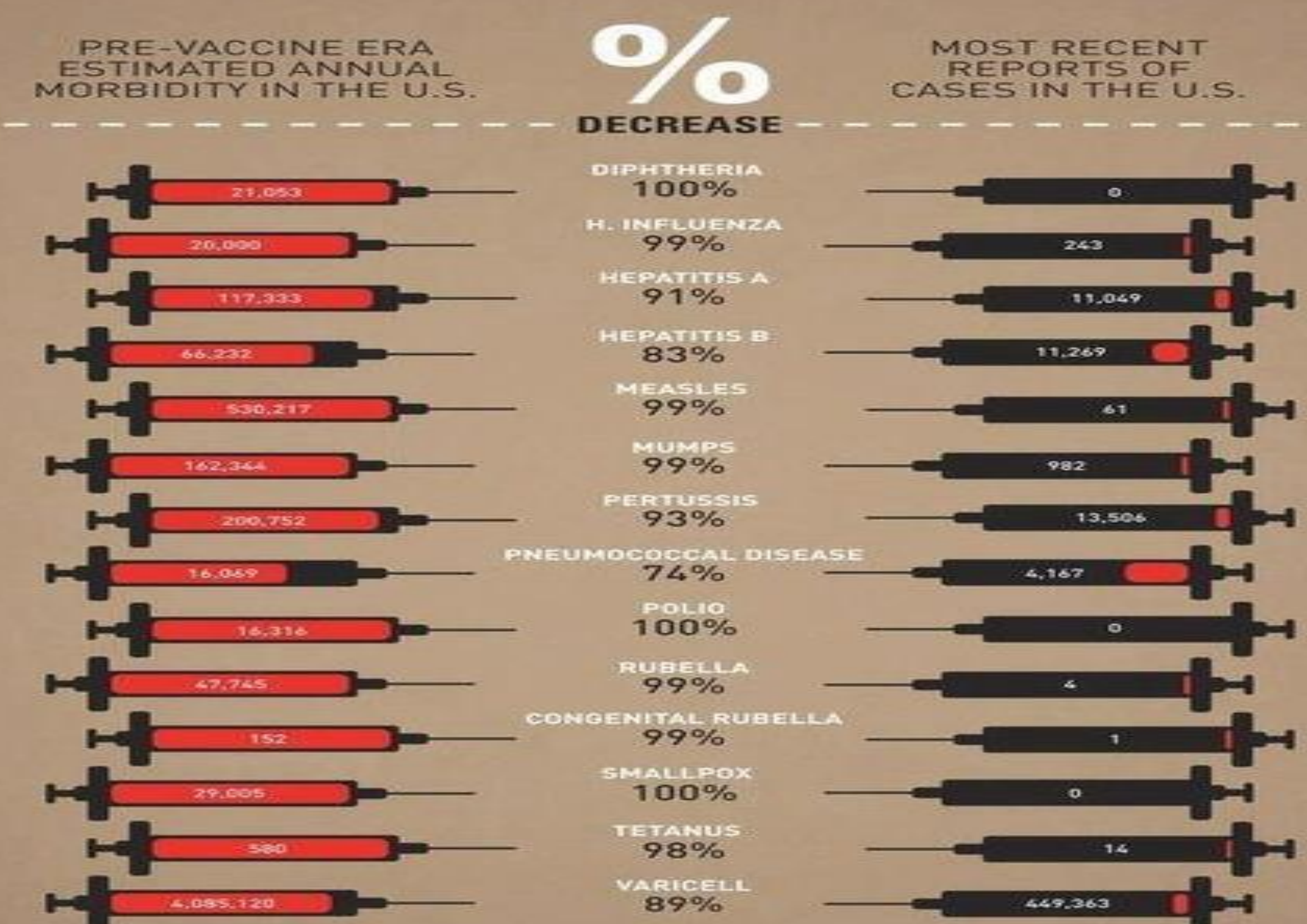
Vaccines: Fact vs. Fiction

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VACCINES

So what is a vaccine? A vaccine is defined as substance used to stimulate the production of antibodies and provide immunity against one or several diseases, prepared from the causative agent of a disease, its products, or a synthetic substitute, treated to act as an antigen without inducing the disease.

By the time a child turns 18 it is recommended that they receive 21 doses of vaccine. While this may seem like a lot, the possible consequences of these diseases can be deadly.

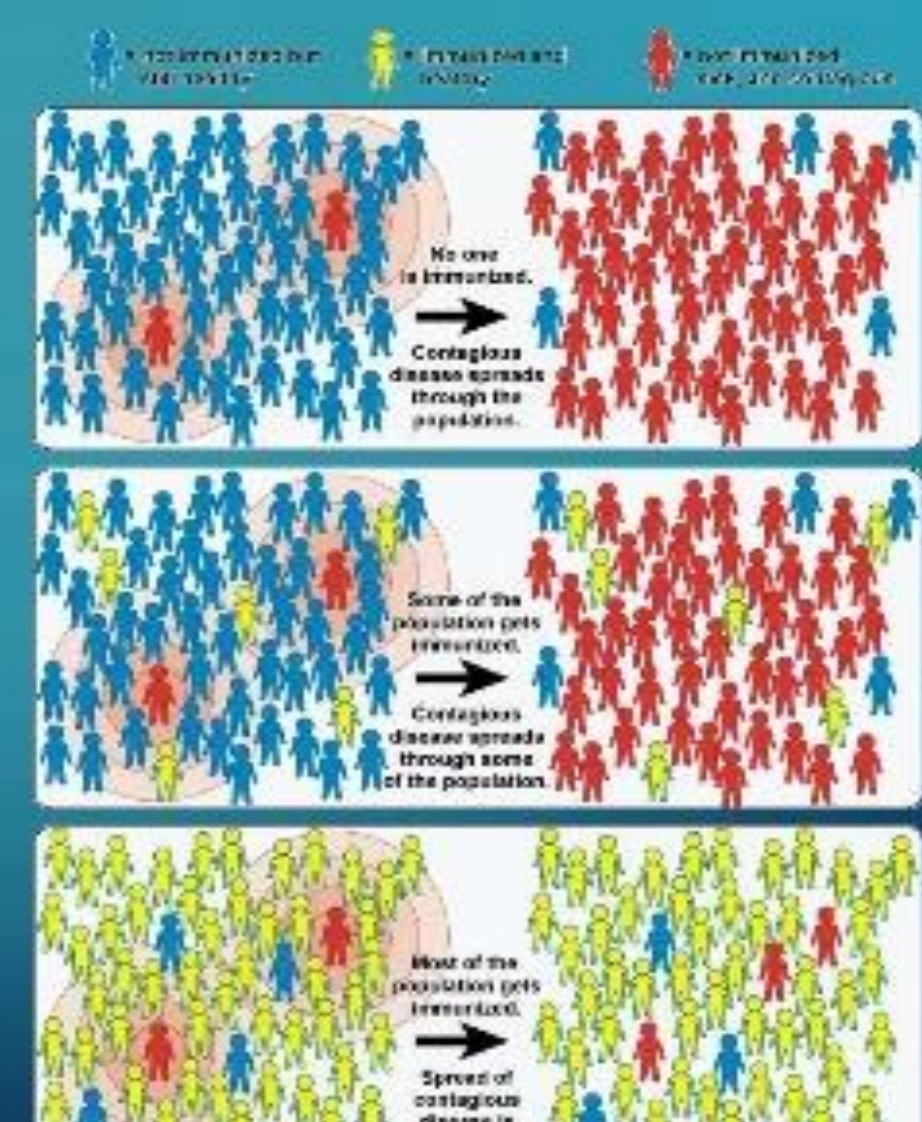


HERD IMMUNITY

Keeping populations safe from disease is somewhat reliant on herd immunity. Herd immunity works to protect those who are unable to be immunized such as the immunocompromised, infants too young to be vaccinated, and pregnant woman. If a majority of the population is immunized the disease is unable to spread protecting others

HERD IMMUNITY

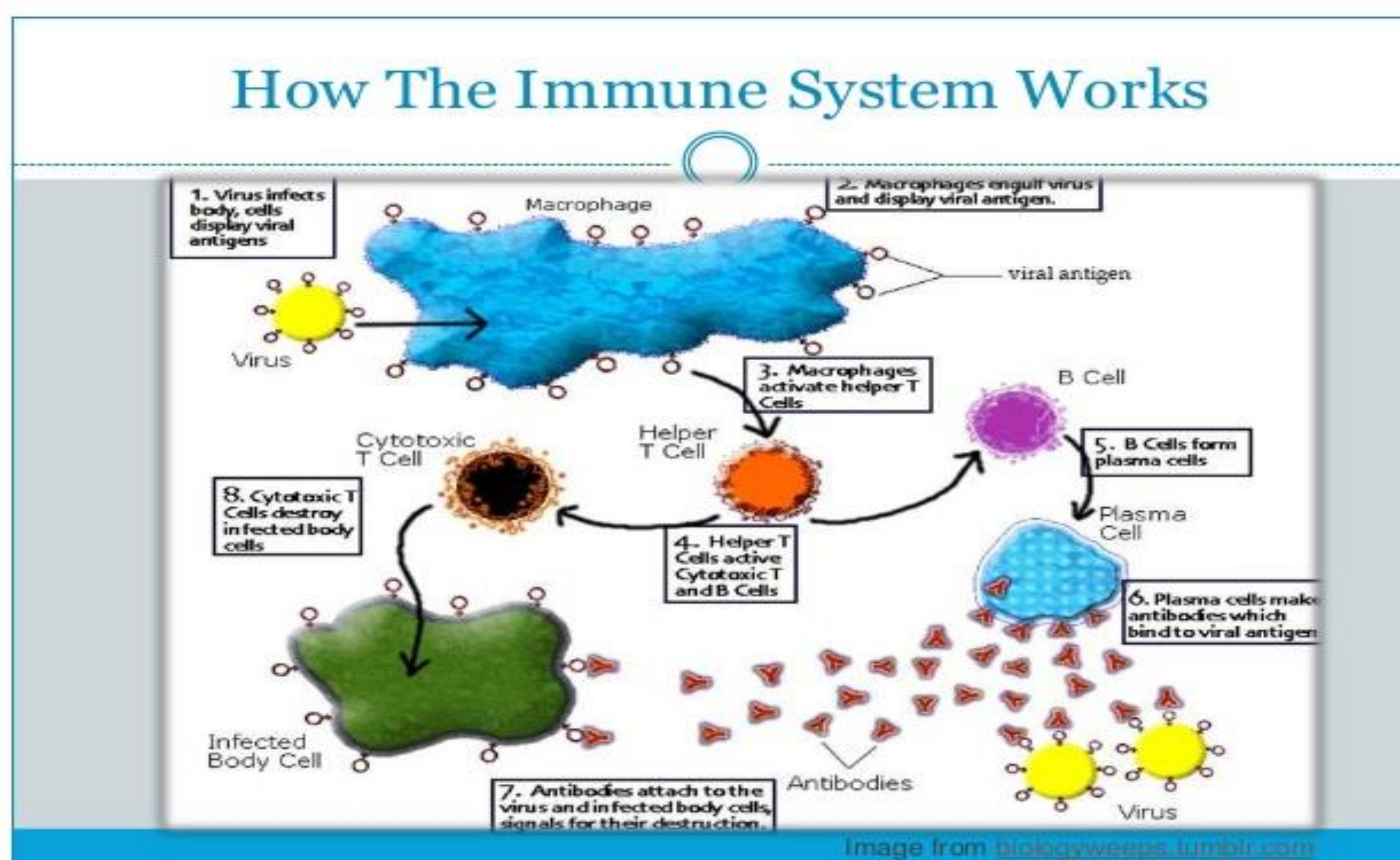
- If enough of the population is immunized, even those that aren't are protected
- Who relies on herd immunity?
 - Infants
 - Elderly
 - Those with weakened immune systems
 - Those who are allergic to the vaccine



<http://www.vaccines.gov/basics/protection/>

HOW OUR IMMUNE SYSTEM WORKS

So how do vaccines work? Vaccines help develop immunity by imitating an infection. When a body encounters an infection it produces B and T lymphocytes and macrophages to fight the illness. Once the body is exposed to an illness your body makes memory cells that are capable of killing the illness quickly if encountered again.



So why vaccinate? During vaccination either a toxoid, deactivated virus or diluted activated virus is introduced in to the body, the bodies immune system so that the body's immune system can build antibodies against the virus if a person is introduced to the illness again.

CONTROVERSIES

If vaccines help keep children safe from diseases that are potentially deadly, why would anyone not want to vaccinate their children? Over the years theories have been presented that vaccines cause complications such as Autism, and contain dangerous chemicals such as aluminum.

Questions about vaccine safety became a major concern in 1998 when Dr. Andrew Wakefield released a study stating that the MMR vaccine can be linked to Autism and bowel disorders. Dr. Wakefield's study was eventually proven to be false, and he lost his license, but the fear he created remains a major concern for parents today.



THE STUDIES

Since 2003, there have been nine CDC-funded or conducted studies that have found no link between thimerosal-containing vaccines and ASD, as well as no link between the measles, mumps, and rubella (MMR) vaccine and ASD in children. Published in the journal Vaccine, is a meta-analysis of five cohort studies involving 1,256,407 children, and five case-control studies involving 9920 children, these studies all concluded that in all cases vaccinations were not related to Autism and ASD.

Vaccinate with confidence

The rise in autism cases is not from vaccines

- PRE-1980** No separate classification for autism diagnosis. 'Autistic' only used as a term to describe childhood schizophrenia.
- 1983** Rigid definitions of autism. Diagnostic criteria not consistent. Actual rates not meaningful or reliable.
- 1994** Changes in the DSM-IV. Broader definitions. Aspergers syndrome is included. Explosion of "new" diagnoses.
- 2008** Better broader, earlier diagnosis. Rediagnosing old cases. Statistics catching up
- 2013** Better awareness, educational resources and inter-ventional funding. More changes to the DSM.

The Vaccine Meme Machine www.unstrange.com Refutations to anti-vaccine memes

REFERENCES

- <http://www.niaid.nih.gov/topics/vaccines/documents/undvacc.pdf>
- <http://www.vaccineinformation.org/adults.asp>
- <http://www.immunize.org/catg.d/p4030.pdf>
- MyAutism.org
- Center For Disease Control

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