

# Immunization Policy

Howard Heller, MD MPH

MIT Medical

# Vaccination vs. Immunization

- Vaccination: a vaccine is administered.
- Immunization: the response to the body from a vaccination.

# Vaccines

- Measles
- Mumps
- Rubella
- Tetanus
- Diphtheria
- Pertussis
- Polio
- Hepatitis A
- Hepatitis B
- Influenza
- Meningococcal conjugate
- *Haemophilus influenza* B
- Pneumococcal conjugate
- Human Papillomavirus
- Varicella
- Yellow Fever
- Typhoid
- Japanese encephalitis
- Cholera
- BCG
- Tickborne encephalitis
- Smallpox
- Anthrax
- Meningococcal B
- Pneumococcal 23-valent

# Who makes immunization policy?

- WHO
- Ministries/Departments of Health
- Federal
  - CDC
    - Advisory Committee on Immunization Practices (ACIP)
  - Armed forces
  - Immigration
- State Health Depts
- Schools
- Insurers – private, Medicare, Medicaid,
- Religious organizations

# Considerations in vaccine policy

- Disease prevention – morbidity and mortality.
- Cost effectiveness. May differ by population.
  - Effectiveness of the vaccine
  - Cost of the vaccine
  - Cost of the morbidity/mortality: QOL

# Recommended vs. Permissive vaccine

- HPV vaccine is **recommended**
  - for females aged 13-26 and males 13-21.
  - for males 13-26 if at high risk (MSM, immunosuppressed)
- “Males aged 22 through 26 years **may be vaccinated.**”

# Mandatory/Compulsory vaccines

## Terms used interchangeably

- **Compulsory:** linked to an activity such as when it is a requirement for school enrollment and the linkage is used to compel the person to receive the vaccine(s)
- **Mandatory:** is used when refusal to be vaccinated is punishable (e.g. fines)

# Individual good vs. Common good

- Individual Good
  - Is all individual good also common good?
- Common Good
  - Protection of vulnerable people, the “innocent bystander”
    - Infants, children, elderly, immunosuppressed.
  - Maintain “herd Immunity”



Jacobson

v.

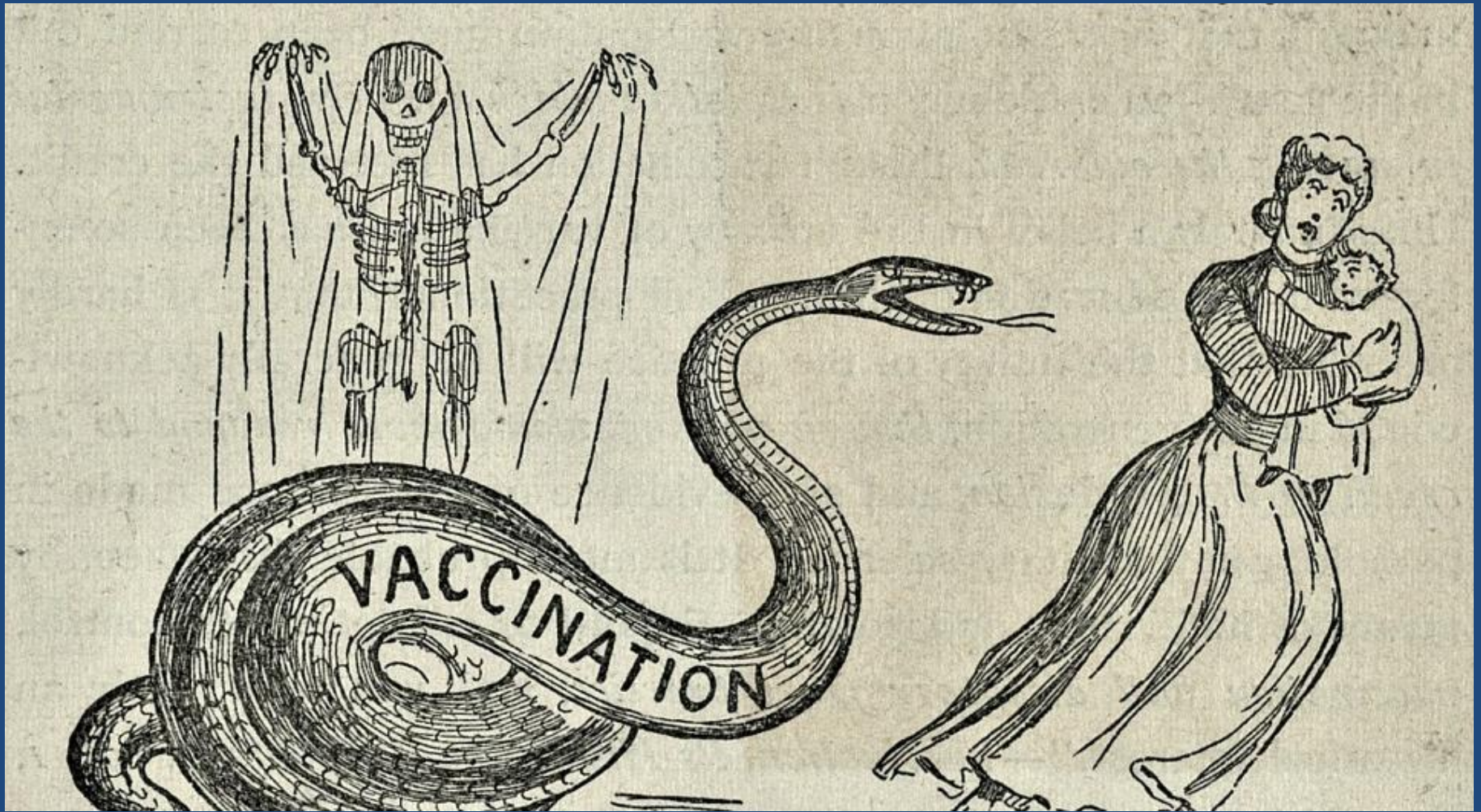
Commonwealth of Massachusetts

197 U.S. 11 (1905)

- Mandatory immunization against dangerous diseases does not violate the
  - 14<sup>th</sup> Amendment right to liberty (Jacobson v Massachusetts)
  - 1st Amendment right to free exercise of religion.
- States do not have a constitutional obligation to enact religious exemptions.
- Nonmedical exemptions: balance individual freedoms with public good by considering the sincerity of beliefs.
- Forms of punishment:
  - Fines
  - Exclusion from school
  - Denial of welfare benefits (Australia)

# Waivers

- Medical exemption
- Religious exemption
  - Dutch Reformed Church: formal belief that vaccines interfere with the relationship with their god
  - [www.immunize.org/concerns/vaticandocument.htm](http://www.immunize.org/concerns/vaticandocument.htm) (fetal tissue)
  - [www.vaccinesafety.edu/Porcine-vaccineapproval.htm](http://www.vaccinesafety.edu/Porcine-vaccineapproval.htm) (porcine derived gelatin)
- Conscientious objection
- Philosophical objection



A cartoon from a December 1894 anti-vaccination publication. (This image is in the public domain.)



*Mr Joseph Abel  
The unbending anti-Vaccinator  
Faringdon  
Berks*

An anti-vaccination envelope from 1899 depicting the “Vaccination Act for the Jennerization of Disease.” (This image is in the public domain.)



# The Anti-Vaccination Society of America

OTHERWISE

An Association of "half-mad", "misguided" people, who write, and toil, and dream, of a time to come, when it shall be lawful to retain intact, the pure body Mother Nature gave, sends GREETING to a "suspect". "Liberty cannot be given, it must be taken."

You are Invited to Join Us

Frank D Blue, Sec'y,  
Terre Haute, Ind.

**1902**

Hon L H Piehn,  
President

✉ Enclose 25c for certificate of membership.

An Anti-Vaccination Society of America invitation from 1902. (This image is in the public domain.)

# The anti-vaccine movement

## Andrew Wakefield

- 1998:
  - Associated measles vaccine with autism and bowel disease.
- 2004-2010:
  - Fraud uncovered.
  - Falsified data.
  - Financial conflict of interest.
  - Barred from practicing medicine.

## Measles - annual number of notified cases 1940-2008

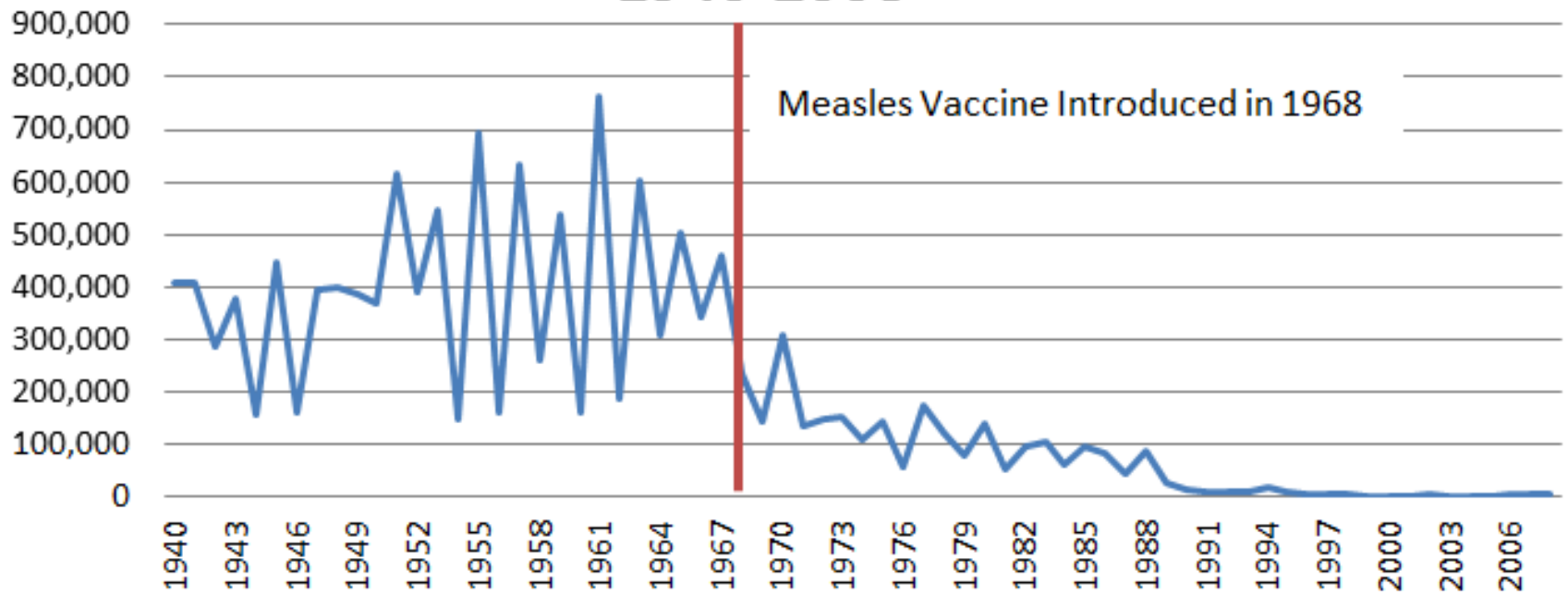


Image courtesy of the Vaccine Knowledge Project under the Open Government License v3.0.



## Measles - annual laboratory confirmed cases in the UK 1996-2015

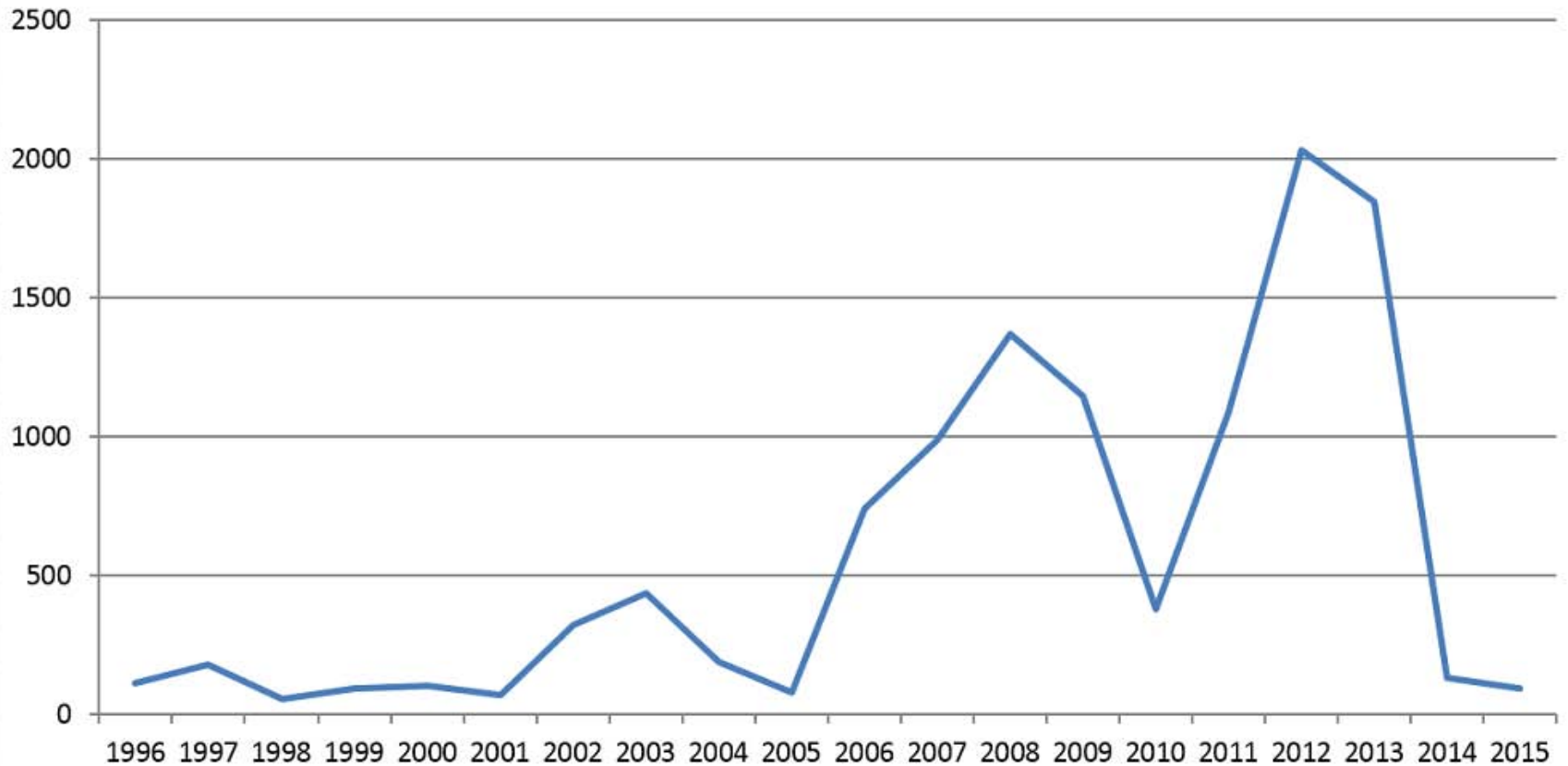


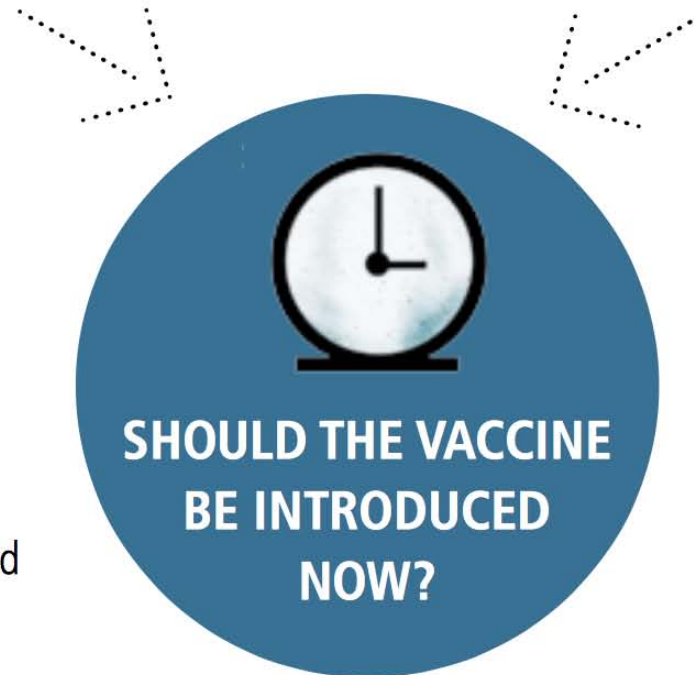
Image courtesy of the Vaccine Knowledge Project under the Open Government License v3.0.

# World Health Organization

Principles and considerations for adding a vaccine to a national immunization programme: from decision to implementation and monitoring (PDF – 3.4MB)

## THE DISEASE

- Public health and political priorities, alignment with global and regional recommendations
- Disease burden
- Status of other disease prevention and control measures



## THE VACCINES

- Performance and characteristics of available vaccines
- Economic and financial issues
- Availability of vaccine supply

## STRENGTH OF THE IMMUNIZATION PROGRAMME AND HEALTH SYSTEM

© World Health Organization (WHO), 2016. All rights reserved. This content is excluded from our Creative Commons license. For more information, see <https://ocw.mit.edu/help/faq-fair-use/>.

# Developing a policy

- Individual good vs common good
- Benefit to society (costs).
- Availability to resource poor populations.
- Morality issues. Religious issues.

- **National Vaccine Advisory Committee (NVAC)**
  - recommends ways to achieve optimal prevention of human infectious diseases through vaccine development, and provides direction to prevent adverse reactions to vaccines.
- **National Vaccine Program Office (NVPO)**
  - provides leadership and coordination among federal agencies as they work together to carry out the goals of the National Vaccine Plan
- **U.S. National Vaccine Plan (est. 2010)**
  - Goal 1: Develop new and improved vaccines
  - Goal 2: Enhance the vaccine safety system
  - Goal 3: Support communications to enhance informed vaccine decision-making
  - Goal 4: Ensure a stable supply of, access to, and better use of recommended vaccines in the United States
  - Goal 5: Increase global prevention of death and disease through safe and effective vaccination

MIT OpenCourseWare  
<https://ocw.mit.edu>

11.003J / 17.303J Methods of Policy Analysis  
Spring 2016

For information about citing these materials or our Terms of Use, visit: <https://ocw.mit.edu/terms>.