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 influenzae* 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
  – 14th 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 (fetal tissue)
  – 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.)
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.
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.
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.
Principles and considerations for adding a vaccine to a national immunization programme: from decision to implementation and monitoring (PDF – 3.4MB)
Developing a policy

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