

Ethical questions

Vaccination: who decides?

Personal choice and public safety may clash – read through the evidence and decide what you think

For certain diseases, there are established thresholds or targets for vaccine coverage, above which herd immunity protects the whole population from epidemics. With measles, for example, 95 per cent of a population must be immune to maintain herd immunity.

Some parents decide not to get their children vaccinated. This could be because they are worried about potential side-effects or because vaccinating conflicts with their religious beliefs. These children remain protected as long as coverage doesn't fall below the critical threshold for herd immunity. However, if there is an outbreak, unvaccinated children will be susceptible and will help the disease to spread. And some children cannot be vaccinated, either because they are too young or because they have an illness that makes vaccination unsafe. These children are also put at risk if herd immunity is compromised.

In the UK, parents decide whether their child is vaccinated or not. In New York State, children must have the required vaccinations before starting school. There are limited exemptions for parents with religious objections. A recent legal case focused on a school that would not allow unvaccinated children to attend during a measles outbreak, in order to prevent the disease from spreading.

Pros of making childhood vaccination compulsory

- Greater coverage makes outbreaks less likely.
- Children are protected from outcomes of decisions that they were not able to make themselves.

Cons of making vaccination compulsory

- Very rare allergic reactions and other side-effects due to immunisations.
- Conflicts with religious beliefs and parents' rights to make health decisions about their own children.

QUESTIONS FOR DISCUSSION

1. Is there a moral and social obligation to vaccinate in order to protect the wider community?
2. Should parents be legally obliged to have their children vaccinated against MMR (measles, mumps and rubella)?
3. What should be done if parents disagree over the vaccination of their child(ren)?

Organ donation: whose consent?

A potential donor's wishes may not be known – read through the background information and decide whether you agree with presumed consent

In the UK, around 1,000 people die each year while waiting for an organ transplant. Those who eventually receive an organ donation wait an average of over three years. Some 11 per cent of people on the waiting list for organ donations are from black, Asian and minority ethnic groups and ideally need transplants from people of the same ethnic backgrounds, as they are more likely to be a good match. However, under 4 per cent of those on the organ donation register are from these groups.

Kidneys can be given by living donors, as can parts of the pancreas, lung and liver, but other organs must come from deceased donors – usually people who have suffered brain death or for whom a decision has been taken to remove life support.

In England and Scotland, if a person consents to organ donation, then their wishes should be respected. If someone's wishes are not known or cannot be determined, then the decision passes to a relative. The law has recently been changed in Wales, with 'presumed consent' being adopted from December 2015. This means that people must opt out if they do not want to donate their organs – anyone who does not opt out will be considered a potential organ donor.

Pros of presumed consent

- Waiting times for transplants and the number of deaths on the waiting list may decrease.
- Law is clarified in the event of the death of a relative.

Cons of presumed consent

- People who have not opted out may become donors even if they were against donation.
- Forces people to make decisions about death, potentially confronting cultural taboos or conflicting with religious beliefs.
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QUESTIONS FOR DISCUSSION

1. Why do you think many people do not add their name to the organ donation register?
2. Should family members be able to override donation decisions on behalf of deceased relatives?
3. How might a change in UK law affect the waiting list for different groups of people?

Infectious disease research: what's allowed?

Keeping deadly viruses secure in the lab – should they be destroyed? Read through the background information and decide what you think

In 1918, 'Spanish flu' emerged, killing millions of people. In 2014, scientists aiming to understand the public health risk of modern bird flu viruses introduced mutations into one to make it more similar to the 1918 strain. They published the results of their research in the journal 'Cell Host & Microbe', showing that the modified strain was more deadly to mice and ferrets than currently circulating wild strains. According to their study, however, the new strain was not that dissimilar to the circulating strains. Some scientists criticised the work as being irresponsible.

Smallpox was declared eradicated in 1980, but there are still stocks held at two sites across the world. In 2014, the World Health Organization was debating whether to destroy these last remaining stocks of the virus. Some scientists believe further samples of the virus remain undeclared and that the potential for misuse by rogue organisations exists. There are, however, unapproved anti-smallpox drugs, which could be used in the case of a bioterrorist attack.

Pros of destroying smallpox stocks

- No chance of an accidental release of the smallpox virus.
- No chance of the live virus falling into the hands of terrorists or criminals.

Cons of destroying smallpox stocks

- Excludes the possibility of learning from historical pathogens in the future, using techniques that haven't been developed yet.
- Some scientists argue that we would be less prepared for bioterrorist attacks.
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QUESTIONS FOR DISCUSSION

1. Should scientists be allowed to manipulate dangerous pathogens in the lab?
2. If research is allowed to continue, should the results be made public?
3. Should the known smallpox stocks be destroyed?