

## Practical Case study in bioethics

- **Case Study 1:** Informed Consent in Clinical Research

Context: A researcher is developing a new vaccine against an emerging infectious disease. Before starting human clinical trials, he must ensure that all potential participants understand the risks, benefits and alternatives to the experimental vaccine.

Question: How should the researcher go about ensuring informed consent, especially in a population with varying levels of health education?

- **Case Study 2:** Confidentiality of genetic data

Context: A genomic study on a rare autoimmune disease requires detailed genetic data from participants. This data could reveal sensitive information about the risk of developing other genetic conditions.

Question: What measures need to be taken to protect the confidentiality of participants' genetic data, and who should have access to this information?

- **Case Study 3:** Use of Animals in Research

Background: A laboratory uses mice to test the efficacy of a new immunotherapeutic treatment for cancer. These experiments involve invasive and potentially painful procedures for the animals.

Question: What criteria should the ethics committee use to assess the justification for these animal experiments?

- **Case Study 4:** Access to experimental treatments

Background: A patient with advanced leukemia has exhausted all standard treatment options. He asks his doctor for access to an experimental treatment still in the testing phase.

Question: What ethical factors should the doctor consider before granting access to the experimental treatment?

- **Case Study 5:** Assisted reproduction: Sophie, aged 45, discovers that she is a carrier of a rare heritable genetic disease. She wishes to have a child, but fears transmitting the disease to her offspring. She consults a fertility specialist to explore her options. What choices does Sophie have, and what are the associated ethical dilemmas?

- **Case Study 6:** Risk Disclosure in Clinical Trials

Context: During a clinical trial for a new Alzheimer's drug, some serious side effects are observed in a small fraction of participants. Question: To what extent are researchers obliged to disclose these risks to new participants?

- **Case Study 7:** Genetic discrimination

Context: A company offers genetic testing to its employees to identify risks of chronic disease. The results could influence their career opportunities. Question: What are the ethical implications of employers using genetic information?

- **Case Study 8:** Consent for Organ Donation

Background: A brain-dead patient has not clearly expressed his consent to organ donation. His family is divided over the decision. Question: How should healthcare professionals deal with this situation?

- **Case Study 9:** Equity in Access to Healthcare

Context: A revolutionary treatment for diabetes is on the market, but its high cost makes it inaccessible to a large proportion of the population. Question: What measures can be taken to ensure a more equitable distribution of this treatment?

- **Case Study 10:** Human embryo research

Context: A laboratory proposes to use human embryos for stem cell research, with the potential to develop treatments for many diseases. Question: What ethical criteria should guide the decision whether or not to authorize this research?

- **Case Study 11:** Artificial Intelligence in Medical Diagnostics

Context: A new AI tool promises to significantly improve the accuracy of medical diagnoses, but is gradually replacing doctors' judgment. Question: What ethical considerations arise regarding trust in AI decisions in medicine?

- **Case Study 12:** Mandatory vaccination

Context: Faced with a measles epidemic, a government is considering making vaccination compulsory for all children attending public schools. Question: How can individual rights be balanced with public health in this situation?

- **Case Study 13:** Sharing health data for research purposes

Context: A hospital wishes to use its patients' health data to enhance cancer research, without explicit individual consent. Question: Under what conditions is the sharing of such data ethically justifiable?

- **Case Study 14:** Conflicts of Interest in Medical Research

Context: A researcher receives substantial funding from a pharmaceutical company to study the efficacy of its new drug. Question: What measures can be put in place to minimize conflicts of interest?

- **Case Study 15:** End-of-life care

Context: A terminally ill patient asks to stop all treatment, including artificial nutrition and hydration, against the wishes of his family. Question: What ethical principles should guide decision-making in this case?

Each of these cases presents a complex ethical dilemma with no easy answers, designed to encourage students to apply bioethical principles to realistic situations and develop their skills in critical reasoning and ethical argumentation.

- **Case Study 16:** Ahmed and the clinical trial: Ahmed, 60, has terminal cancer and wants to take part in a clinical trial for an experimental treatment. He hopes it will prolong his life. What are the main ethical issues involved in patient participation in clinical trials, particularly in the case of life-threatening diseases?
- **Case study 17:** Maxime and the end of life: Maxime, 35, has been in a vegetative state for two years following a car accident. His family is divided over the decision of whether or not to continue with aggressive treatment. What are the main ethical principles to consider when making end-of-life decisions and withdrawing medical support?
- **Case history 18:** Informed consent for a clinical trial Paul, a patient with advanced cancer, is approached to participate in a clinical trial testing a new experimental treatment. He's keen to try a treatment that could potentially prolong his life, but doesn't understand all the risks associated with the treatment. Analyze the principles of informed consent and discuss the responsibilities of researchers and healthcare professionals to ensure that Paul fully understands the implications of his participation in the clinical trial.
- **Case study 19:** Selective termination of pregnancy Claire and David, a couple, receive prenatal screening results indicating a high probability that their fetus has trisomy 21. They

are faced with the difficult decision to consider terminating the pregnancy. Discuss the ethical dilemmas surrounding selective abortions after prenatal screening and examine ethical considerations to support Claire and David in their decision-making.

- **Case history 20:** End of life and advance directives Marie, a 75-year-old woman, draws up advance directives detailing her wishes in the event of a terminal illness. She appoints her son as her medical proxy to make decisions on her behalf should she become incapacitated. Analyze the ethical principles concerning advance directives and discuss the responsibilities of Marie's son as medical proxy to ensure that his mother's wishes are respected at the end of life.