Research ethics

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Abstract

Medical professionals have a responsibility to act in an ethical manner in everything they do as part of their professional life. However, in most cases, it is only when they are carrying out research that they have to obtain explicit ethical permission to do their work. This runs the risk that people see research ethics as an exercise in getting regulatory clearance, rather than as performing research to the highest ethical standards. In this paper I outline some of the ethical issues that should be considered when doing research, and also how research proposals are evaluated by a research ethics committee.

Keywords Equipoise; placebo; research ethics; research ethics committee; research governance; scientific design; vulnerable subjects

Key points

- It is vital that all involved in healthcare undertake research and evaluation of clinical practice
- Ethical oversight of research protects patients who participate in research
- Ethical oversight also protects others involved in research, including the researcher
- Ethical approval must be obtained from research ethics committees (RECs)
- Different types of research raise different ethical issues
- When writing a proposal for ethical review, researchers must be aware of the composition of the REC
- It is useful to be aware of the eight factors that the REC will look at when considering a study
- Different approaches are used for ethical decision-making
- When comparing treatments, researchers must be in equipoise, genuinely uncertain of which is most effective
- New treatments should always be compared with current best standard therapy
- Special care must be taken when carrying out research on vulnerable patients
- It is important to conduct the research ethically
- You should published the results, even if they are 'negative'
- The most important factor in whether research is carried out ethically is the researcher

Importance of carrying out ethical research

Research throughout the entire healthcare system is essential for the prevention and management of disease and the promotion of a healthier society. Research has enabled the advances in medical treatment from which patients currently benefit. We need more research to solve not only present problems, but also emerging challenges: new infectious diseases, antibiotic resistance and issues related to an ageing population. Research (as well as audit and evaluation) should be a duty of all healthcare professionals. Indeed, the Secretary of State for Health in England has a statutory duty to promote research and use the evidence obtained from research, as outlined in the Health and Social Care Act 2012.

Why research needs ethical oversight

An understanding of research ethics, and of the governance system that oversees research in the UK National Health Service (NHS), is therefore essential. Systems have developed over the years, often in response to adverse incidents where doctors and scientists have, or have been perceived to have, mistreated patients in the name of science. Sometimes an investigator has become so focused on the science that responsibility for the patient had been forgotten, or there has been unawareness of changing values in society.

Therefore research must take place with appropriate ethical oversight. This protects patients by ensuring an independent evaluation of the research. It also protects the researchers, as they can demonstrate that their research has external approval, and it can improve research. In addition, it protects the various organizations involved in the research (funders, care providers, universities) as they can have assurance that their money, facilities or reputation are being used appropriately. The whole research enterprise is protected as the public are reassured that projects have been scrutinized, it also ensures that the research process has remained aligned to changing public opinion. In addition, for some research, it is a legal requirement that ethical approval is in place. Publishers and funders usually require proof that approval has been obtained. Carrying out research without appropriate approval can have serious repercussions on a career in medicine, including removal from the medical register.

Health Research Authority

I will not describe here the *process* of obtaining ethical approval in detail. The details change and the exact processes depend on the nature of the research and, in some cases, which country in

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the UK the researcher is based in. Every Trust in England (and the equivalent bodies in the devolved administrations) has a research and development (R&D) office, and similar arrangements are in place for primary care. Talk to someone in R&D office, or its equivalent, at an early stage, and take advice from an experienced researcher in your department. There is detailed information on the Health Research Authority (HRA) website.[1]

Below, I discuss some of the major issues in ethical review, which will provide a framework for understanding what researchers should do when undertaking a research project. One important issue is whether your research really is research (Table 1), and the nature of your research project is also important (Table 2).

The research ethics service for England is run by the HRA, which is responsible for the 67 HRA research ethics committees (RECs) in England. The HRA works closely with the devolved administrations in Scotland, Wales and Northern Ireland to allow the provision of a single ethical opinion across the UK. The HRA also runs HRA Approval, a new process for England in which there is an assessment of the governance and legal compliance of research projects. The HRA web pages are a useful source of advice and information on research ethics and governance.

Application to the HRA is made through a single online form (the Integrated Research Application System, known as IRAS) that is also used by other groups who regulate research (e.g. the Medicines and Healthcare products Regulatory Agency, or MHRA, which approves drugs used in studies).[3]

Research ethics committees

Research proposals are reviewed by RECs of up to 18 members. At least one-third of these are 'lay' members (i.e. not healthcare professionals or scientists). Their role is to ensure that there is a common-sense approach from someone outside the academic/medical 'bubble', and also to bring their own experience and ability to reason and argue. The rest of the REC are 'experts'. Some are clinicians, scientists or nurses. Others have more specific expertise, such as pharmacy or statistics. When filling in the IRAS form, take into account who will be reading it. There may be no one from your particular medical discipline on the REC, so make it comprehensible to your audience, and do not assume that everyone understands your area of expertise as well as you do.

Is your research research?

The first question is whether your proposed project is research, clinical audit or service evaluation. All three activities are vital in improving healthcare, and the divide can at times seem artificial. However, in audit and service evaluation, there are no changes to the treatment or tests that a patient undergoes. This distinction is important because, while ethical approval must be obtained for research on patients, it is not needed for clinical audit or service evaluation. The HRA provides useful information and a decision making tool for determining whether or not the project is research.[2] Further advice is available from the local research and development office or the HRA.

Table 1

Different types of research

Different types of research can raise different ethical issues. For example, research can involve gene therapy or the administration of cells, or can involve testing a new pharmaceutical agent (a Clinical Trial of an Investigational Medicinal Product, or CTIMP); it can be a physiological study of healthy volunteers, a study involving tissue or DNA from individuals, a questionnaire study or an epidemiological study of data. The Integrated Research Application System application form contains preliminary questions on the sort of research being done, so that the remainder of the form is populated with the appropriate questions.

Some projects, not involving patients or human tissue, can be approved by a university rather than a Health Research Authority (HRA) research ethics committee (REC). Certain types of research (e.g. gene therapy, CTIMPs, research involving children or participants who may lack capacity) have to go to particular committees with the relevant expertise. These RECs are 'flagged' for this type of research. On the other hand, for research on human tissue, the local tissue bank may have permission to release tissue in defined circumstances. Talk to your local research and development office, the HRA or an experienced researcher in your department.

Table 2

What RECs consider when assessing a proposal

RECs usually consider eight specific factors (Table 3) when reviewing a study. In general terms, these can be grouped into three main areas: whether the research is valid (is it worth doing, and can it be done successfully?), the welfare of the research participants (the burden and risks of doing the research) and whether the dignity of the research participants is respected (e.g.

Eight factors a research ethics committee always looks at

(Although it naturally considers other ethical issues that are part of the study)

1. The social or scientific value; the scientific design and conduct of the study (including the involvement of patients, service users and the public, in the design, management and undertaking of the research)
2. Recruitment arrangements and access to health information, and fair selection of research participants
3. Whether there is a favourable risk:benefit ratio; anticipated benefits and/or risks for the research participants (present and future)
4. The care and protection of research participants; respect for the welfare and dignity of potential and enrolled research participants
5. The informed consent process and the adequacy and completeness of information for the research participants
6. Suitability of the applicant and supporting staff
7. Independent review
8. Suitability of supporting information

Table 3