



MRC

Medical
Research
Council

Clinical research:
It's everyone's business

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Clinical research benefits us all

The aim of clinical research is to discover the causes of human diseases and how they can be treated. And, equally importantly, how disease can be prevented in the first place.

When clinical researchers set out to answer questions about different diseases, they need to use information gathered by examining patients. They may also compare blood and other tissue samples from patients with samples from healthy people. Sometimes the research will involve patients' records, or information that people give during health and lifestyle surveys.

A key branch of clinical research is clinical trials to test new treatments for safety and effectiveness. Sometimes these treatments will stem from laboratory-based science that scientists have translated into potential innovations in healthcare.



Clinical trials

Clinical trials aim to show the benefits and risks of new drugs or treatments, usually by comparing them with the standard treatments in use. During a clinical trial, the treatments being compared are given to patients or healthy members of the public. The researchers then carefully observe and record any differences in their effects on the trial participants over time.

The vital role of clinical trials

No matter how promising a new treatment may seem in the laboratory, it must be carefully tested through clinical trials so that its effects on patients can be more fully understood. The fact that treatments are new does not always mean that they are more effective than existing therapies, and they might even be harmful. Clinical trials are the best way to assess whether new treatments are safe, what their side effects are, and whether they work better than the existing standard treatments.

Vital treatments now commonly in use in the NHS were all developed and tested through clinical trials - for example, radiotherapy and chemotherapy. Clinical trials have also shown doctors the best way to use these treatments, to help people suffering from life-threatening illnesses to live longer and to experience a better quality of life.



Randomised controlled trials

Most clinical trials are randomised controlled trials, which means that they are designed to compare two or more treatments as fairly as possible by reducing the likelihood of bias. A treatment is allocated to patients at random, usually by computer, instead of the decision being made by their doctor.

Randomisation helps to ensure that the groups of people receiving the different treatments are broadly similar in terms of health, age, etc. Researchers can then be confident that the results of the trial will reveal the differences between the treatments, rather than the differences between the people receiving them.



Who's involved in the trial?

Well-run clinical trials rely on the expertise and commitment of a range of healthcare professionals: the researchers, who will pose the research question and plan the trial; the nurses and therapists who administer the treatments being tested; and the trial manager and administrators who are responsible for efficient day-to-day running of the trial, including data management and recruitment of participants.

But most important of all are the people who volunteer to take part. They play an essential part in helping scientists to develop and test treatments for the benefit of everyone in the community.



Health benefits through the decades

The MRC has been funding clinical research for more than 70 years. Here are some of the key achievements during that time:

- 1920s** Clinical research to identify ways of combating rickets and other childhood diseases by improving children's nutrition.
- 1930s** Clinical trials of new drugs to treat life-threatening infections including septicaemia, meningitis, erysipelas and pneumonia.
- 1940s** Clinical trials of whooping cough vaccines and of treatments for tuberculosis, other serious bacterial infections, and hepatitis.
- 1950s** Epidemiological research shows that cigarette smoking causes lung cancer; clinical research shows that home-based TB treatment as effective as sanatorium treatment; clinical trials of steroid treatments for rheumatism and skin disorders.
- 1960s** Clinical trials of vaccines for influenza, polio, leprosy, diphtheria, measles and rubella, and radiotherapy for cancers.
- 1970s** Clinical trials of chemotherapy and immunology for leukaemia. Development and testing of first short-duration TB treatments
- 1980s** Clinical trials show aspirin and warfarin effective for treating cardiovascular disease, treatments for childhood leukaemia dramatically improve chance of recovery, and folic acid given to high-risk women reduces numbers of babies born with spina bifida.
- 1990s** Clinical trials show that combining retroviral drugs delays progress of AIDS, although AZT provides no benefits before symptoms are present; also that chemotherapy is beneficial for many types of cancer. Trials of breast-cancer screening and AIDS treatments for children.
- 2000s** Clinical trials show cholesterol-lowering statin drugs reduce heart attacks and strokes, and that magnesium-sulphate cuts risk of eclampsia in pregnant women with pre-eclampsia. Trials of treatment for diseases of the elderly and hormone replacement therapy.

Thinking about taking part in a clinical trial?

To help you decide, here are answers to some questions that people frequently ask before taking part:

Safety: A great deal of care is taken to make clinical trials as safe as possible. Firstly, the design of the trial must be approved by independent experts before the researchers receive funding. Secondly, it must be approved by an independent research ethics committee which is responsible for protecting participants' wellbeing. This committee includes members of the public, researchers and healthcare professionals.

Once the trial is under way, the researchers must tell the research ethics committee if any participants experience unexpected side effects. Most studies also have an independent trial steering committee that has the authority to stop a trial at any point if they have concerns. In addition, you can withdraw from a trial at any stage without this affecting the quality of care that you receive.

Privacy: The researcher will not tell anyone that you have agreed to take part in the trial without your permission; this includes your hospital doctor and your GP.

All your medical records are confidential and your name will not be used in any reports about the trial.

What happens to the information? At the end of the trial all the research results are gathered together and analysed. The researchers will be looking to see how safe and effective a new treatment is compared with the standard treatment, whether it has any side effects, and how much or how often it should be used. The researchers have a professional responsibility to publish their findings, which they may do in a medical journal, at a conference, or in the press. Some also inform the people who took part, while others work with charities and self-help groups so that the results reach those patients who are likely to find them useful. Anyone who takes part may ask to see the results of the trial.

How you can get involved

If you would like to help clinical research by taking part in an MRC-funded trial, the easiest way to find a suitable one is to ask your hospital doctor or GP. Alternatively, visit the MRC Clinical Trials Unit website www.ctu.mrc.ac.uk. It shows which of the Unit's trials currently need recruits and has a list of links to websites with information about other clinical trials, including non-MRC trials.

Guidance for clinician-researchers

If you are a clinician who is interested in applying for MRC funding for clinical research, visit www.mrc.ac.uk for details and to download our leaflet *Clinicians' guide to MRC funding*.

Medical Research Council
20 Park Crescent
London W1B 1AL
Tel: 020 7636 5422 Fax: 020 7436 6179
www.mrc.ac.uk