



Fact Sheet

What is Biomedical Research?

Biomedical research is the broad area of science that looks for ways to prevent and treat diseases that cause illness and death in people and in animals. This general field of research includes many areas of both the life and physical sciences.

Utilizing biotechnology techniques, biomedical researchers study biological processes and diseases with the ultimate goal of developing effective treatments and cures. Biomedical research is an evolutionary process requiring careful experimentation by many scientists, including biologists and chemists. Discovery of new medicines and therapies requires careful scientific experimentation, development, and evaluation.

Why are Animals Used in Biomedical Research?

The use of animals in some types of research is essential to the development of new and more effective methods for diagnosing and treating diseases that affect both humans and animals. Scientists use animals to learn more about health problems, and to assure the safety of new medical treatments. Medical researchers need to understand health problems before they can develop ways to treat them. Some diseases and health problems involve processes that can only be studied in living organisms. Animals are necessary to medical research because it is impractical or unethical to use humans.

Animals make good research subjects for a variety of reasons. Animals are biologically similar to humans. They are susceptible to many of the same health problems, and they have short life-cycles so they can easily be studied throughout their whole life-span or across several generations. In addition, scientists can easily control the environment around animals (diet, temperature, lighting), which would be difficult to do with people. Finally, a primary reason why animals are used is that most people feel it would be wrong to deliberately expose human beings to health risks in order to observe the course of a disease.

Animals are used in research to develop drugs and medical procedures to treat diseases. Scientists may discover such drugs and procedures using alternative research methods that do not involve animals. If the new therapy seems promising, it is tested in animals to see whether it seems to be safe and effective. If the results of the animal studies are good, then human volunteers are asked to participate in a clinical trial. The animal studies are conducted first to give medical researchers a better idea of what benefits and complications they are likely to see in humans.

A variety of animals provide very useful models for the study of diseases afflicting both animals and humans. However, approximately 95 percent of research animals in the United States are rats, mice, and other rodents bred specifically for laboratory research. Dogs, cats, and primates account for less than one percent of all the animals used in research.

Those working in the field of biomedical research have a duty to conduct research in a manner that is humane, appropriate, and judicious. CBRA supports adherence to standards of care developed by scientific and professional organizations, and compliance with governmental regulations for the use of animals in research.

Scientists continue to look for ways to reduce the numbers of animals needed to obtain valid results, refine experimental techniques, and replace animals with other research methods whenever feasible.