

Main article: History of medicine

The earliest type of medicine in most cultures was the use of empirical natural resources like plants (herbalism, animal parts and minerals. In all societies, even in Western ones, there were also religious, ritual and magical resources. In aboriginal societies, there is a large scope of medical systems related to religious thinking, cultural experience, and natural resources. The religious ones more known are : animism (the notion of inanimate objects having spirits); spiritualism (here meaning an appeal to gods or communion with ancestor spirits); shamanism (the vesting of an individual with mystic powers); and divination (the supposed obtaining of truth by magic means). The field of medical anthropology studies the various medical systems and their interaction with society.

The practice of medicine developed gradually in ancient Egypt, Babylonia, India, China, Greece, Persia, the Islamic world, medieval Europe, and elsewhere. Medicine as it is now practiced largely developed during the Middle Ages and early modern period in Persia (Rhazes and Avicenna), Spain (Abulcasis and Avenzoar), Syria/Egypt (Ibn al-Nafis, 13th century), England (William Harvey, 17th century), Germany (Rudolf Virchow, 19th century) and France (Jean-Martin Charcot, Claude Bernard and others). The new "scientific" or "experimental" medicine (where results are testable and repeatable) replaced early Western traditions of medicine, based on herbalism, the Greek "four humours" and other pre-modern theories.

The focal points of development of clinical medicine shifted to the United Kingdom and the USA by the early 1900s (Canadian-born) Sir William Osler, Harvey Cushing). Possibly the major shift in medical thinking was the gradual rejection, especially during the Black Death in the 14th and 15th centuries, of what may be called the 'traditional authority' approach to science and medicine. This was the notion that because some prominent person in the past said something must be so, then that was the way it was, and anything one observed to the contrary was an anomaly (which was paralleled by a similar shift in European society in general - see Copernicus's rejection of Ptolemy's theories on astronomy). Physicians like Ibn al-Nafis and Vesalius led the way in improving upon or indeed rejecting the theories of great authorities from the past (such as Hippocrates, Galen and Avicenna), many of whose theories were in time discredited. Such new attitudes were made possible in Europe by the weakening of the Roman Catholic church's power in society, especially in the Republic of Venice.

Evidence-based medicine is a recent movement to establish the most effective algorithms of practice (ways of doing things) through the use of the scientific method and modern global information science by collating all the evidence and developing standard protocols which are then disseminated to healthcare providers. One problem with this 'best practice' approach is that it could be seen to stifle novel approaches to treatment.

Drug ampoulesGenomics and knowledge of human genetics is already having some influence on medicine, as the causative genes of most monogenic genetic disorders have now been identified, and the development of techniques in molecular biology and genetics are influencing medical practice and decision-making.

Pharmacology has developed from herbalism and many drugs are still derived from plants (atropine, ephedrine, warfarin, aspirin, digoxin, vinca alkaloids, taxol, hyoscine, etc). The modern era began with Robert Koch's discoveries around 1880 of the transmission of disease by bacteria, and then the discovery of antibiotics shortly thereafter around 1900. The first of these was arsphenamine / Salvarsan discovered by Paul Ehrlich in 1908 after he observed that bacteria took up toxic dyes that human cells did not. The first major class of antibiotics was the sulfa drugs, derived by French chemists originally from azo dyes. Throughout the twentieth century, major advances in the treatment of infectious diseases were observable in (Western) societies. The medical establishment is now developing drugs targeted towards one particular disease process.[acomplia](#) Thus drugs are being developed to minimise the side effects of prescribed drugs, to treat cancer, geriatric problems, long-term problems (such as high cholesterol), chronic diseases type 2 diabetes, lifestyle and degenerative diseases such as arthritis and Alzheimer's

disease.

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