

HISTORY OF RESEARCH

History of Various Research

- **The advent of antibiotics:** Hailed as a wonder drug, penicillin is considered one of the most important medical discoveries in modern medicine. As a result, once fatal bacterial infections could be cured. In 1940, advancing earlier studies from the late 1920s, Oxford researcher Sir Howard Florey brought together a research team and isolated the drug penicillin. While bacterial infections had killed thousands of soldiers during World War I, human trials of the drug included WWII soldiers who were successfully treated.
- **Streptomycin and Tuberculosis:** A bacterial disease that affects the lungs, tuberculosis was a significant killer of young people in the U.S. and the U.K., especially following WWII. In 1947, the first randomized controlled trial was run to test the efficacy of the antibiotic Streptomycin. The bacteria had not responded to penicillin. The new drug proved to measurably reduce the number of deaths from tuberculosis. The components of this particular trial are the basis of modern clinical trials. However, patients who received the drug were unaware of their participation. This would have violated the consent laws that exist today.
- **A vaccine for polio:** Also known as Paralytic Poliomyelitis, polio is a highly contagious virus that may cause paralysis. As a result of a vaccine discovered in the 1950s by Jonas Salk, it is now preventable. The polio vaccine trials were among the [largest clinical trials ever performed](#). In the United States, over 600,000 school children were injected with either the vaccine or placebo. More than a million others participated as “observed” controls. In 1955, the results revealed good statistical evidence that Salk’s vaccine was 80 to 90% effective in preventing polio.
- **AZT and Treatment for HIV:** Millions of people have been infected since the beginning of the HIV epidemic. According to the World Health Organization, approximately 32 million people have died globally. The drug that combats HIV is one that scientists were already aware of but had abandoned. Called AZT, or azidothymidine, it was originally devised in the 1960s to slow cancer growth. According to a brief history of AZT from the National Museum of American History, AZT was quickly approved in 1987. While there was only one clinical trial run on human subjects, instead of the standard three trials, HIV patients who received the placebo were dying. The need to immediately treat them was prioritized over full testing.
- **MMR and the Measles, Mumps, and Rubella Virus Vaccine:** This combined vaccination, which replaced previously individual doses, is considered [one of the greatest achievements of public health](#) and remains an efficient way to inoculate large populations of people. The trials that went into this simultaneous vaccination are too numerous to quantify. After various vaccine attempts in the 1950s and 1960s, the MMR combination was approved for use in 1971.