



Research & Development Policy Framework

We are in a new era of medicine where breakthrough science is transforming care and our approach to treating patients. Robust investment in research and development (R&D) by biopharmaceutical companies is resulting in advances and discoveries unlike anything we've seen before. The application of genomics to develop personalized medicines is enabling physicians to tailor treatments to the unique needs of the patient, and immunotherapies are harnessing patients' own immune systems to fight off various conditions, including cancer and rare diseases.

Over the last decade, PhRMA member companies have invested more than \$800 billion in the search for new treatments and cures. While these investments continue to build upon previous medical advances, they are just beginning to yield results on the latest breakthroughs, opening the door to entirely new ways to tackle some of the most complex and difficult to treat diseases of our time.

America's biopharmaceutical sector is the most R&D-intensive industry in the U.S. economy. In fact, the biopharmaceutical industry invests on average six times more in R&D as a percentage of sales than all other manufacturing industries.

The progress we see today is revolutionizing how we diagnose, treat and cure disease, saving patients' lives and improving quality of life across a broad range of chronic and rare conditions. In this new era of medicine, many diseases previously regarded as deadly are now manageable and potentially curable. Today, there are more than 8,000 medicines in clinical development around the world. The future has never been brighter as researchers explore new frontiers that just a few years ago may have been regarded as science fiction, but now transform patients' lives.



 Industry Profile 2022



 The Biopharmaceutical Research Ecosystem – Five Things You Need to Know



 2024 PhRMA Annual Membership Survey



Innovation in the Biopharmaceutical Pipeline

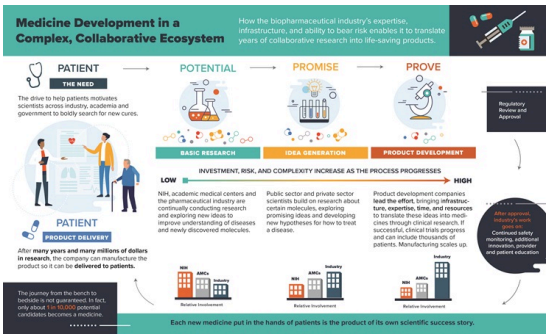


Progress toward New Medicines and Vaccines

The biopharmaceutical industry utilizes its scientific and industrial expertise to build on and advance basic science research into safe and effective treatments and vaccines that can be made available to patients. The biopharmaceutical industry is uniquely positioned to take on the necessary risk to advance research into safe and effective treatments. For example:

- On average, it takes 10-15 years and costs \$2.6 billion to develop one new medicine, including the cost of the many failures.
- Only 12% of new molecular entities that enter clinical trials eventually receive U.S. Food and Drug Administration (FDA) approval.
- Approximately 7,000 rare diseases exist today yet only 5% have an available treatment.
- The decades-long investments biopharmaceutical companies have made in new technologies, research and previous vaccines prepared the industry to act swiftly to respond to the COVID-19 pandemic.
- A vast array of public-private [partnerships](#) between the biopharmaceutical industry, academia and public sector enables us to expand the frontier of science. Importantly, the biopharmaceutical industry spends on average three times the amount on R&D each year than the total annual budget of the NIH.

Related Resources



[Medicine Development in a Complex, Collaborative Ecosystem](#)

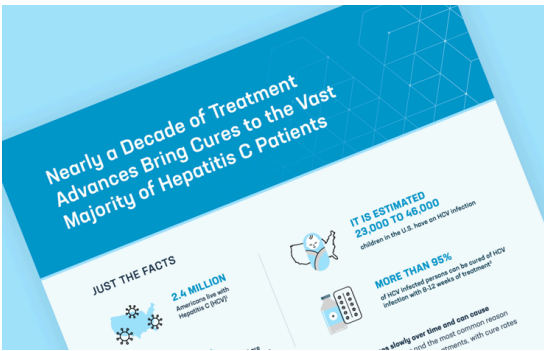
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Advances in Treatment

- **Progress in the fight against cancer:** Since peaking in 1991, the cancer death rate in the United States has decreased by more than 33%. This progress is due in large part to new treatment advances in oncology like precision medicine, immunotherapy and CAR-T cell therapy.
- **Turning HIV/AIDs into a treatable chronic condition.** The introduction of highly active antiretroviral therapy (HAART) in the mid-1990s, which transformed treatment leading to over 90% decline in death rates and preventing an estimated 862,000 premature deaths.
- **Harnessing the medical power of the genome.** In recent years, biopharmaceutical scientists have been harnessing the power of cell and gene therapies to treat and potentially cure a range of diseases from cancer to disorders of the blood.



Committed to Research

All of PhRMA's member companies meet the following criteria:

- A three-year average global R&D to global sales ratio of 10% or greater; and
- A three-year average global R&D spending of at least \$200 million per year.

PhRMA member companies have invested over \$1 trillion dollars in R&D since 2000, establishing the biopharmaceutical sector as the most R&D-intensive industry in the U.S. economy. In fact, the biopharmaceutical industry invests on average six times more in R&D as a percentage of sales than all other manufacturing industries.

Through investment in R&D, biopharmaceutical researchers and scientists have gained a better understanding of diseases and a greater ability to harness new scientific advances, leading to tremendous progress in the development of treatments and cures for some of the most debilitating diseases patients face.

Updated as of September 2024.

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