

2022 YEAR IN REVIEW

NEW DRUGS

The FDA awarded **36 novel drug approvals** in 2022

2022's 36 new drug approvals fall short of the **50 approved in 2021**, and **53 new drug approvals** in 2020

The Center for Drug Evaluation and Research (CDER) approved **77 drugs in total** during 2022 – many being similar or related to previously approved drugs

The **10 vaccines and biologics** approved in 2022 were only slightly behind previous pandemic years – **11 in 2021 and 13 in 2020**

While on par with FDA approvals in 2020 and 2021, Europe's Committee for Medicinal Products for Human Use (CHMP) **49 positive opinions** in 2022 for new medicines outpaced the US's 36 FDA approvals

The focus of many of 2022's newly approved drugs often lay with **cancer and cardiovascular disease**



A **shortage of personnel** greatly impacted clinical research, resulting in delayed and canceled trials, as well as poor randomization rates

Clinical research sites were hit hard by a **32% turnover rate**, with many citing workload and burnout as main contributing factors

17% of healthcare professionals expect that the greatest impact on pharmaceuticals going forward will come from genomics

The majority of the **API market share** was occupied by **cardiology** – likely due to the increasing commonness of cardiovascular diseases (estimated to be 17.9 million deaths annually)

TRENDS

Remote Patient Monitoring, Early Warning Systems, and an increasing use of contactless, Internet-enabled medical devices and sensors (including the use of AI-driven technologies) have expedited and enhanced diagnosis and treatment

MERGERS/ACQUISITIONS

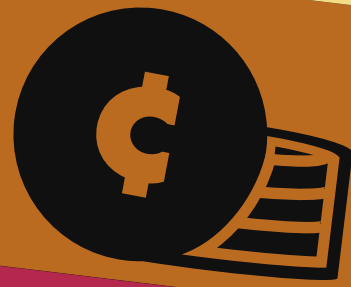
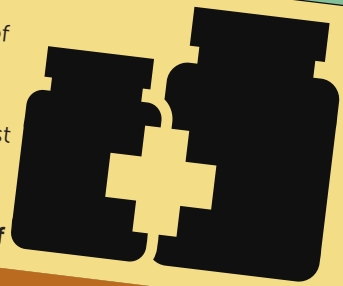
PwC (PricewaterhouseCoopers International Limited) estimates a **49% decrease in deal value** for pharmaceutical and life sciences deals in 2022 as compared to 2021 (down to \$137.8 Billion in Dec 2022)

PwC found a **28% decrease in deal volume** in 2022 (about 266 deals in total)

Pfizer acquired Global Blood Therapeutics Inc, Biohaven Pharmaceutical Holdings

Johnson & Johnson announced an **\$18.9 Billion USD** acquisition of Abiomed

After the DOJ's Antitrust Division and the FTC met to discuss antitrust enforcement and fair competition, many mergers – from Optum to Baylor, Cone Health to HCA – have been **delayed, blocked, or called off**



The virtual clinical trials market size value in 2022 was **\$8.3 Billion USD**

2022 pharmaceutical market sales have risen roughly 4.6% over those of 2021 to **over \$25 Billion USD**

The global API market in 2022 was valued at **\$190.5 Billion USD**

SALES & FINANCIALS

Facing thousands of opioid-related lawsuits and an **\$8 Billion USD** debt, drugmaker Endo International filed for **Chapter 11 bankruptcy**

To cut **\$1 Billion USD**, Biogen confirmed as many as **1,000 layoffs**

By Q3, Pfizer's 2022 revenue was **\$22.6 Billion USD**, prompting a \$2B boost in their vaccine sale forecast

Moderna's 2022 **COVID-19 vaccine sales** totaled **\$18.4 Billion USD** – beating out 2021's \$17.7 Billion

CLINICAL TRIALS

In 2022, **38,036** industry-funded clinical trial studies were launched – slightly up from 2021's 37,000

4,024 registered clinical trial studies posted results during 2022

2022 saw **28% of Phase II clinical trials terminated** – the previous five-year average was 19%

BioNTech initiated a study aiming to develop **the world's first mRNA-based malaria vaccine**

To address population inequities in clinical studies, the US approved the **NIH Clinical Trial Diversity Act of 2022**

Oncology and Central Nervous System are the leading therapy areas in 2022's clinical trials, accounting for 50% and 14% of study starts, respectively



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NEW DRUGS

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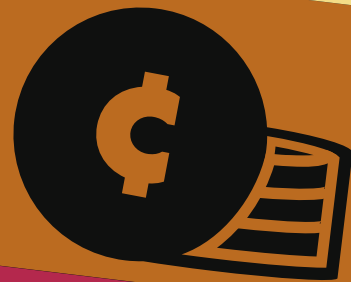
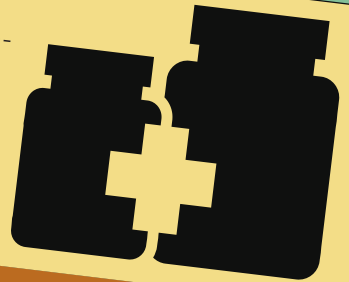
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