

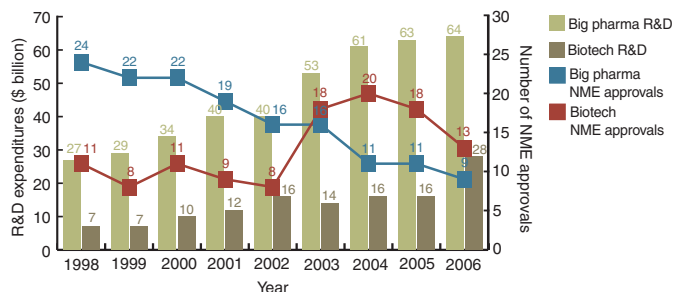
Drug output slows in 2006

Stacy Lawrence

Productivity continued to decline, with a total of only 18 new molecular entities approved, just four of which were biologics. On average for 2004–2006, the 15 largest pharmaceutical firms garnered 19 new product approvals, compared with 26 for biotech. With the drop in productivity,

Biotech and big pharma productivity

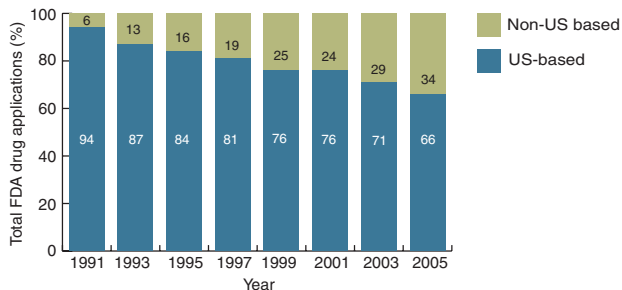
Pharma's average R&D spending increased to about \$7 billion per new molecular entity (NME), whereas biotech's jumped to ~\$2 billion.



Big pharma defined as 15 largest pharmaceutical companies by market cap. Source: Ernst & Young; *Nature Reviews Drug Discovery*

Geographic origin of FDA applicants

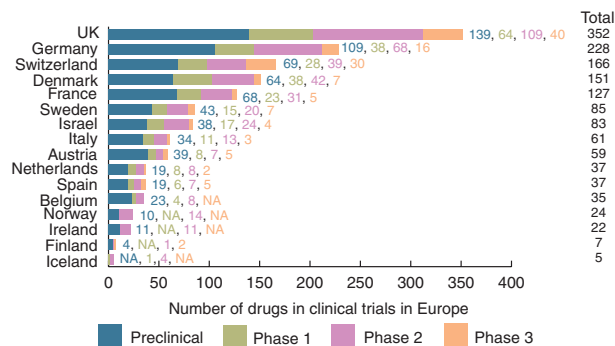
More than one-third of clinical investigations are now done outside the US.



Source: Food and Drug Administration; Tufts Center for the Study of Drug Development

Number of drugs in clinical trials in Europe

Most of the late-stage drug trials in Europe are concentrated in the UK, Germany and Switzerland.

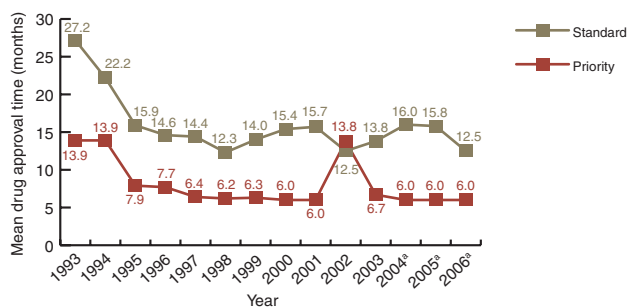


Public and private companies. Source: Ernst & Young

not only has pharma spending steadily increased but biotech firms also saw a jump in R&D. The good news is that Investigational New Drug submissions and New Drug Applications continue to be above average, with the latter hitting a high not seen since 1999.

FDA approval times for NMEs

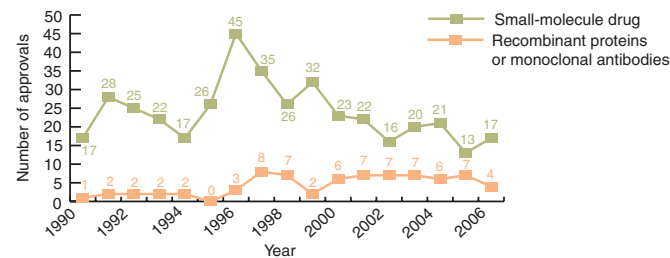
Last year, median approval times were relatively fast for both priority and standard FDA reviews.



^aIncludes biologics. NMEs, new molecular entities. Source: US Food and Drug Administration

Approvals of small- and large-molecule therapeutics

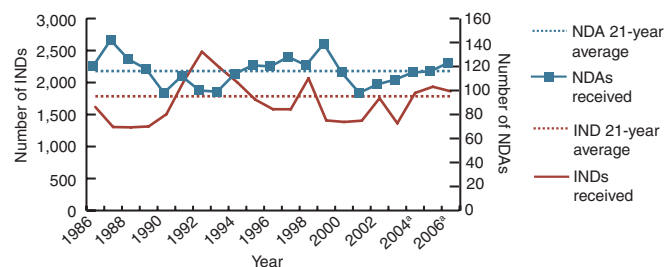
Since 2000, an average of about 19 small-molecule drugs have been approved each year compared with ~6 large molecules.



Based on FDA approvals. Source: Tufts Center for the Study of Drug Development

Number of FDA applications

Despite slight declines last year, investigational new drug (IND) submissions and new drug applications (NDA) are still up about one-third and one-fifth, respectively, from lows five or six years ago.



^aIncludes biologics. Source: Food and Drug Administration

Stacy Lawrence is a senior writer at BioCentury Publications