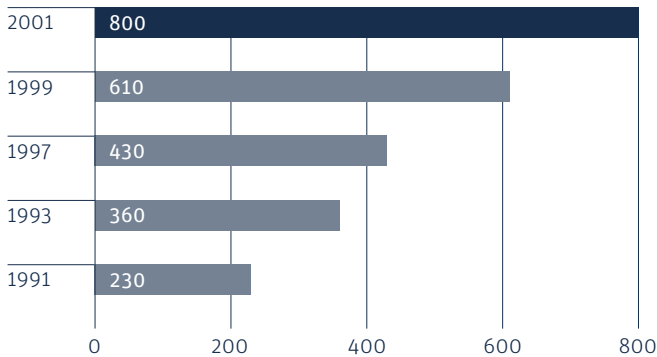


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## Development Costs for a New Pharmaceutical in USD million

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Sources: Di Masi J. et al., Tufts University (1991); Office of Technology Assessment (1993); Myers and Howe (1997); Office of Health Economics & Lehman Brothers (1999); Tufts University (2001)

In 2001, an average of USD 800 million was required for the research and development of a new drug with a new molecular entity. More than half of these costs are spent on clinical development, especially the logistically expensive, multinational phase-III studies. The requirements involved in proving a new drug's safety, efficacy, tolerability and quality during the marketing authorization process have increased steadily. A further reason for the high increase in costs lies in the growing complexity of the diseases treated. Examples include multiple sclerosis and Parkinson's disease, for which researchers must take into account many physical processes simultaneously to identify possibilities for risk-free pharmaceutical therapy.