The roughly $2.6 billion spent on developing one new drug reflects the fully capitalized costs of studying compounds that ultimately fail to reach the market. For each drug that becomes available, about $1.4 billion represents direct out-of-pocket costs. That means about $1.2 billion was spent on time and resources that led to clinical trial failures.

Despite this daunting math, drug development continues because a single successful drug launch can represent more than $1 billion in revenues per year, the patents can last up to 20 years after approval and the drugs have the potential to improve the lives of patients. However, as companies try to manage their bottom lines and optimize successes, they must make trade-offs.

To understand how that $1.2 billion might be spent, we need to unpack the clinical development process a bit. The chance that a new drug will enter clinical development and become a registered drug is 12 percent. Additionally, 45% of trials require at least one extension, and the cost of a delay can be up to $8 million per day. Without delays, the typical costs to develop a drug are $4 million for Phase One, $13 million for Phase Two and $20 million for Phase Three. Those costs increase even more when multiple studies and late-stage failures are considered.

The sooner companies can determine if a development phase should be called off, the sooner they can save money and dedicate those savings to more promising projects. Sophisticated analytics combined with deep insights into current scientific literature and other proprietary data may allow companies to, for example, halt a Phase Two trial after an ambiguous Phase One result. If the drug failed in Phase Two, that failure alone would lead to a cost of $17 million.

Failure is a natural and necessary part of the process for developing new drugs. But with evolving technologies, pharmaceutical companies have more opportunities to reduce the impact failure has on their bottom line.

Find out how IBM Watson Health can help boost your trial efficiency.

Ibid


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