

The Costly Myths about Pharmaceutical R&D

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A recent article in **Forbes** on February 10th sets a new record for the “staggering cost” of developing new drugs. It estimates R&D averages \$4-11 billion per new drug, 3-5 times more than the highest estimates by the industry-supported economists at the Tufts University Center for the Study of Drug Development.

<http://www.forbes.com/sites/matthewherper/2012/02/10/the-truly-staggering-cost-of-inventing-new-drugs/>

This record estimate sets the stage for far more government subsidies and protections, paid by taxpayers, than even Big Pharma ever hoped for.

As authors of an article cited by Forbes showing that the costs of R&D are much lower, we would like to straighten out a few errors in these estimates that the pharmaceutical media, lobbyists, and executives use to justify higher prices and costs to employers and governments that pay for them.

First, the estimates in **Forbes** accept company R&D figures uncritically and ignore evidence that what companies count as “R&D” may be broader than the costs of bench, lab, and trial research that make up R&D. Drug companies work hard their real costs from any outside scrutiny. And they *never* link their alleged costs to how quickly they earn them back at high prices. See more on <http://www.pharmamyths.net/>.

Second, the estimates in **Forbes** divide total reported costs by the number of “new drugs.” Given the small number – only 5 in 14 years for AstraZeneca for example -- “new drugs” must mean NMEs or new active ingredients. The big companies turn out many more newly patented variations on existing drugs that involve less risk, time and cost. In other words, the **Forbes** estimates divide total R&D for research on all products by the handful of NMEs. These me-too variations are the main products of R&D, and they account for about 60 percent of the nation’s drug budget.

Third, there is no credible evidence that the failure rate has increased, aside from industry claims. The failure rate used by Forbes is twice the rate used by leading economists for the industry.

Fourth, no one knows the real cost of basic research, the “R” in R&D. It can take from 3 months to 30 years to discover a new active ingredient that works. Much of that cost is borne by others -- NIH, other national research programs, venture capitalists funding bio techs, foundations, and others.

Finally, half of the industry’s average cost of R&D is not real R&D costs at all, but an estimate profits foregone – a highly inflated estimate of what companies would have made had they put their money in an index fund and not developed new drugs in the first place! Given the staggering cost estimates in **Forbes**, you might think that drug companies should do just that and become investment banks.

Our own estimate of pharmaceutical R&D is often misquoted as an average of \$43 million, which commentators reject as absurd without bothering to read what we wrote. In fact, we

make clear this estimate in 2000 does not include the cost of discovery (because they vary greatly and no one has accurate figures), nor the “cost of capital” (for reasons explained in our article). Our estimate is the net cost to major companies after taxpayers cover about 50% of their R&D expenses. We use the median cost because the average cost gets inflated by a few costly R&D projects. (Do a search for “demythologizing the high costs of pharmaceutical research”) See also www.pharmamyths.net

In sum, we estimate that the median, net, corporate cost to develop a new drug, based on the confidential cost data that companies reported to their policy research center at Tufts University, is \$56 million in 2011, plus the unknown company costs of discovery and the artificial estimate of profits foregone, if you think it should be added. We also show that R&D costs for in-house new active ingredients are much higher, and costs for me-too variations are much lower than this single figure.

This number is almost double the only solid corporate report of R&D costs, found in audited tax returns from the late 1990s, where companies reported average trial costs of only \$22.4 million. -Not \$224 million but \$22.4 million. If you actually read our deconstruction of how economists have inflated the cost of R&D, you will learn a lot.

What do we get for all that money?

Forbes is right that staggering costs should not be “a badge of honor.” What matters is how much better new drugs are for patients against clinical criteria and how many people can afford them. Sadly, 85-90 percent of all newly approved products of pharmaceutical R&D are judged by independent review groups to be little better than existing ones. See THE RISKS OF PRESCRIPTION DRUGS on Amazon. These are the drugs that brilliant marketing turns into huge sales that make up that 60 percent of the nation's drug costs.

But drug companies know what they are doing. Between 1995 and 2010 (the era of the so-called “innovation crisis”), they reported spending \$34.3 billion more in R&D and generating \$200.4 billion more revenues – not a bad return. Pharmaceutical companies average several times more profit than the Fortune 500. By contrast, if the Forbes figures and business arguments are correct, then nearly all the global companies would have gone bankrupt between 1997 and 2011.