Debunking the Myth of Who Funds Biomedical Innovation

By Robert Popovian — December 16, 2019

Who funds this research? Most would say it's government, but they'd be wrong. ACSH friend Dr. Robert Popovian, vice president of Pfizer's U.S. Government Relations, discusses this perennially controversial topic.

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The false maxim that the government is primarily responsible for all innovation has been refuted through published literature in peer-reviewed scientific journals over the past several decades. Recently, an article in the British Medical Journal once again analyzed the topic. Comparable to prior research, the investigators found that the majority of biopharmaceutical research was conducted and funded by the private sector.
Despite having excluded vaccines, biologic medicines and gene therapies from their final analysis, a study limitation noted by the authors, the researchers found that 75 percent of all Food and Drug Administration-approved drugs between January 2008 and December 2017 were funded and researched by private companies. Only 19 percent of the approved drugs had origins in publicly supported research and development, and 6 percent originated in companies that were spun from publicly supported research programs.

Thus, 25 percent of approved medicines benefited from “some” public support. The results were impressive and indicative of how central private-sector research is to biopharmaceutical innovation.

The results also confirmed research that had been done previously. For example, a study published in 2011 in the New England Journal of Medicine found that the private sector was responsible for 80-90 percent of new drugs and vaccines approved by the FDA between 1990 and 2007.

The public and private sectors play complementary roles in the discovery and development of new treatments. Both segments conduct basic, translational and clinical research; however, the type of research conducted by each sector is different.

The public sector conducts and funds the majority of basic research, while the private sector funds and performs the majority of translational and clinical studies. For example, a research paper published in 2016 in the Drug Information Journal found that 54 percent of basic science milestones were achieved predominantly by the public sector and 27 percent by the private sector. It is important to note that clinical trials are primarily funded by the biopharmaceutical industry and consume more than 80 percent of total research and development funding.

Both the private and public sectors are key to advancing innovation. Their synergy is best described by Dr. Francis Collins, the director of the National Institutes of Health [2], when talking about finding a treatment for sickle cell disease.

“I can see an emerging pathway toward curing that disease using gene editing of bone marrow cells, but it will take the full intelligence, resources and technology from the government, academia and the private sector to make it happen.”

Overall, the private sector [3] contributes the lion’s share of investment in U.S. medical and health research and development — $115 billion (67 percent of total) in 2016 — with the biopharmaceutical industry providing approximately 80 percent ($89 billion) of that funding. Despite these findings, some policymakers and pundits continue to repeat the false narrative, which only serves to distract from the important discussion around lowering overall health care costs.
What is more troubling is that these same policymakers want to institute price controls that will negatively impact the ability of the private sector to fund research and development. Price control policies will lead to reduced private sector revenue; hence, restricting the number of new drugs developed in the future since profits from one generation of medicines pay for the development cost of the next generation of innovative treatments.

These policymakers even admit that their price control measures will lead to less innovation. This admission may prove to be the patients’ greatest ally. Recent polling by Kaiser indicates Americans’ opposition to price control measures, specifically Medicare negotiation, rises sharply when the consequence of such measures is reduction in future cures.

Innovation by biopharma gives hope to patients and families in need of cures. An objective look at the research about who is really conducting biopharmaceutical research should inform our policy debates both today and in the future.

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