New pharmaceuticals: public research combines efficiency with contained costs

June 29 2020

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Is the basic research that goes into the development of new drugs more efficiently conducted by public-sector scientists, pharmaceutical firms, or independent private laboratories? What role do each of these groups play in determining prices of innovative pharmaceuticals, which have risen steeply over the last years?

To answer these questions, economists Francesca Barigozzi, of the University of Bologna, and Izabela Jelovac, of the CNRS, designed and studied a model inspired by game theory.

In an article recently published in *Health Economics*, they demonstrate that basic research is most cost-effective when carried out either in a public research laboratory or a pharmaceutical firm. If basic and applied research are highly complementary—where improving the quality of one benefits the other—public research units outperform pharmaceutical companies in the conduct of basic research.

Furthermore, the price of new drugs is lowest when basic research takes place in public labs. These findings therefore condition the validity of the economic assumption that greater efficiency in research necessarily results in a more expensive end product. In some cases, public-sector basic research is the most efficient and leads to the lowest drug prices.