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EYE ON THE NEWS

How Do You Price a Pandemic?

The coronavirus outbreak reminds us that invention and innovation in health care are expensive—and we shouldn't hesitate to spend the money.

Peter Kolchinsky
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With the Wuhan coronavirus declared a global health emergency, drug companies are racing to find treatments for the infected and a vaccine for everyone else. The pandemic unfolding in China makes a compelling context for the drug-pricing debate in Washington, in which one side insists that we don't need innovation if patients can't afford it, implying that we have better things to spend our money on than supposedly overpriced medicines. Do Americans really believe that, though—especially under current circumstances?

Some health economists, such as those at the Institute for Clinical and Economic Review (ICER), believe that they can tell us the right price to pay for each new medicine that the FDA approves. These equations compare the price of a drug with the improvements it offers in patients' quality of life and the economic savings gained by keeping patients healthy. What the Wuhan crisis shows, though, is that we are all patients with a common symptom—fear, which many are suffering from now over the prospect of a deadly virus, Covid-19, terrorizing communities and families. Fear comes with its own costs, as the global economy is already discovering, with travel bans and quarantines. A treatment or vaccine would ease our minds, even if most of us don't wind up using it. How should we price the value of peace of mind? Health economists don't know.

Reports suggest that the coronavirus kills 2 percent of those whom it infects, though its mortality rate may be lower than that—more like 0.5 percent to 1 percent. Still, if you have 60 people in your circle—colleagues, friends, family members—then a 0.5 percent mortality rate means that there's a 25 percent chance that one of those people will die of coronavirus. If your child goes to a nursery school where such a virus might readily spread, a 1 percent mortality rate means that there's an 11 percent chance that one child in a class of a dozen will die. Are we ready for that kind of heartbreak? It's hardly irrational, then, to think about this virus, to talk about it and worry about it—and yes, to start washing our hands for the recommended 20 seconds.

But that's not all we can do. Most people don't realize that America has been preparing for Wuhan for decades. We are better prepared to respond to such a threat today than ever before. We have fueled a vibrant biotech industry that, over the last four decades, has developed hundreds of new drugs to treat many kinds of diseases. We can now call upon monoclonal antibodies, bispecific antibodies, allosteric modulators, degraders, RNAi, antisense oligonucleotides, AAV gene therapies, mRNAs, and many other types of technologies to attack a given problem. More than two dozen companies are busy applying their tools to the challenge of stopping Covid-19.

Paying for the medicines our biotechnology industry creates keeps America prepared to respond to novel health-care threats. The primary way that we pay for our vaccine and antiviral infrastructure is through health-care taxes (e.g., Medicare and Medicaid), insurance premiums, and patients' out-of-pocket spending. The government also provides research grants to biotech companies with the equipment, personnel, and ingenuity to respond to an impending crisis. Besides commercially sold vaccines, such as our yearly flu vaccine, our health-care dollars also fund the development of many important, seemingly unrelated medicines—such as those for rare genetic disorders and cancer—that can be applied to combat viruses in the event of an outbreak.

During World War II, America discovered that it could retool its thriving automobile industry to churn out tanks and bombers. One could say that there was an insurance value to cars that served America in a time of war. Similarly, paying for the medicines our biotechnology industry creates for the diseases that we already know of keeps America prepared for novel health-care threats.

Health economists analyze the value of each drug too narrowly. They may declare that an antiviral medicine is overpriced, based on the value of treating patients with HIV, but no health economist would have foreseen that an HIV drug is now being tested as a possible treatment for the coronavirus. If it works, it wouldn't be the first time that we have discovered a new use for an old drug. While ICER doesn't pay this phenomenon much heed, economists at the National Bureau of Economic Research have calculated the insurance value of medical innovation, estimating that conventional formulas like those used by ICER are undervaluing drugs by 30 percent to 80 percent. That's a bargain that Congress risks throwing out the window with price controls rooted in myopic math.

Also lost in the heated debate over drug affordability and overlooked by health economists is a unique and special property of nearly all medicines. Drugs go generic and become inexpensive over time; hospitals and surgery never do. Here, too, ICER assumes that a new drug will always cost the same high price as the day that it comes to market. Again, economists have quietly pointed out that treating such finite mortgage payments as infinite rents underestimates the value of drugs by 40 percent to 75 percent. Imagine how off the math would be if you combined ICER's overlooking of both drugs' insurance value with the reality that they will become inexpensive generics—you won't have to, because economists are now working on integrating all these variables. We can only hope that Congress responds to such reason.

Making sure that all new medicines go generic and remain inexpensive afterward—with new regulations in some cases, as I've proposed—is how we guarantee that America gets value from its investment. Soon, the drugs and other technologies we're developing for many diseases might allow us to say that we've collectively "vaccinated" ourselves of worrying that our children might suffer from them. The next generation may well breathe a sigh of relief that its children likely won't die of breast cancer, sickle cell disease, or heart disease—at least not before a ripe old age.

Considering how important it is to pay for the novel medicines that keep our biotechnology sector up and running, it's wrong to ask the vulnerable, sick, and poor among us to pay for the infrastructure that brings all of us peace of mind. This is what insurance plans do when they impose high out-of-pocket costs on patients. It's like making a family whose house is on fire pay out of pocket to fund the fire department that helps all of us sleep better. Insurance premiums and taxes spread across a mostly healthy, working population are how we can afford to enjoy the fruits of our biotechnology sector as it develops better treatments for the diseases that afflict us now and offers some sense of security that we can respond quickly to an emerging threat. Congress needs at least to lower and cap out-of-pocket costs and maybe even consider banning "cost-sharing"—a euphemism, at best—just as it banned insurance plans from refusing to cover preexisting conditions. It's not that Congress doesn't know this—but recent legislative bills that would cut patients' out-of-pocket costs are linked to congressional efforts to impose price controls on what legislators fail to see are undervalued assets.

So Congress and other policymakers should beware of reformers seeking to define "fair" prices for pandemic vaccines or any other drug in our growing armamentarium. Their equations miss much of what we instinctively know to be valuable. The surest way to discourage scientists and investors is by undervaluing their solutions. We'll appear to have saved some money, but we'll pay with diminished peace of mind.

***Peter Kolchinsky*, a biotechnology investor and scientist, is Managing Partner of RA Capital Management, L.P., and author of The Great American Drug Deal.**

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52 Vanderbilt AvenueNew York, NY 10017 | (212) 599-7000

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