

THE NEW HEALTH CARE

Low Prices for Vaccines Can Come at a Great Cost

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June 27, 2016

A \$30,000 price tag for cancer drug therapy that extends life only a few weeks is understandably alarming. But a \$2,000 price tag for all childhood vaccines — credited with eradicating smallpox, preventing a million or more cases of other diseases and averting thousands of deaths each year — is a bargain. In fact, the price of childhood vaccines may be too low for our own good because it contributes to shortages.

Vaccine shortages have popped up in the United States many times over the past 50 years. In 2001, eight of 11 recommended childhood vaccines were unavailable or in short supply. A recently published study by the economist David Ridley and other Duke University researchers found that between 2004 and 2014, an average of nearly three out of 22 vaccines were in short supply in the United States. In 2007, one-third of vaccines were. (Looking globally, limited vaccine supplies hampered the response to a recent yellow fever outbreak that began in Angola and spread elsewhere.)

Vaccine prices have gone up over the years, in large part because of newer vaccines that command higher prices. The number of recommended vaccine doses has also increased, which pushes up the overall cost of full vaccination. Still, vaccines are inexpensive relative to their value. A typical dose costs \$50 and, apart from an annual flu shot, only a few doses are required over a lifetime. According to the Duke study, vaccines with lower prices were more likely to be in short supply than those with higher prices. There were no shortages of vaccines with a price per dose above \$75.

Low prices are implicated in vaccine shortages, just as they are for other injectable drugs delivered in hospitals and doctors' offices. Generic injectables used for patients with serious illnesses and in emergencies also have low prices that contribute to shortages. But vaccines, unlike such injectables, are not generic. Vaccines are brand biologics (large-molecule, protein-based drugs made by living organisms, not by chemical processes), which normally command very high prices. So why are their prices low instead of high?

Vaccine prices are held down by government programs, which extend vaccinations to millions of children who might not otherwise get them. Federal and state programs buy more than half of childhood vaccine doses at a discount. The largest federal vaccine program — Vaccines for Children — may adjust prices within a year, but only downward, and it constrains changes in what it pays for some vaccines to below the overall inflation rate. Though the program keeps a six-month backup supply of vaccines on hand, the average shortage lasts three times that long, according to the Duke study.

Commercial market vaccine prices are higher than government ones, but not by enough to prevent shortages.

Low prices and concentrated buying power in government programs have pushed redundancy out of the market. There are only a few vaccine manufacturers, and some vaccines — including those for measles, mumps, rubella, varicella and shingles — are produced by just one. With little excess capacity, when a manufacturer experiences a problem requiring a shutdown, vaccine production falls below needed levels, causing a shortage. It can take years and close to a billion dollars to bring a new vaccine to the market, hardly a recipe for rapidly addressing a shortage.

“Manufacturers won’t invest in extra production capacity when prices are too low,” Mr. Ridley said.

Vaccines are among the most cost-effective treatments ever developed. Though most medical treatments don’t save money, vaccines do — preventing many diseases that would cost more to treat and allowing millions of people to live longer and more productive lives. Several studies have found that at even at 10 times their cost, vaccines would still save money.

We probably don’t need to raise vaccine prices by a factor of 10 to promote new vaccine investment and stabilize supply. According to one study, a doubling in price would incentivize new vaccine research, development and production.

For drugs as valuable as vaccines, that might be a price worth paying.