Creating a stable drug pricing strategy in an unstable global market

May 2019
Despite biopharmaceutical companies’ early responses to pressures on pricing and innovation, challenges remain.

Six models have emerged that biopharmaceutical companies can use to improve product access and affordability.

Biopharmaceutical companies should improve data strategies to enable new pricing models and demonstrate value for different stakeholders.

Biopharmaceutical executives should realign organizational functions as new policies move forward.

Biopharmaceutical companies can bring global pricing experiences to bear on the US market.

Sidebar: Makers of orphan drugs and other high-cost specialty drugs are entering into unique value-based contracts across a number of global markets.

Sidebar: Pricing transformation in the generic drug sector.

End notes

Acknowledgments

Contacts
A flurry of policy proposals, new regulations and investigations into biopharmaceutical drug pricing practices are changing the way medicines are bought and sold around the world. New scientific discoveries are helping patients overcome longstanding health problems—e.g., curative drugs are emerging in new therapeutic areas—but the cost of innovation and the global assessment of product value is creating barriers to treatment. Biopharmaceutical companies will need innovative financial models, robust data strategies and organizational changes to successfully navigate the changing global market for medicines, and to balance product prices and value with affordability and medication access.
A fundamental unanswered question with respect to medicines is whether the more than $300 billion US market for prescription drugs—the largest market for drugs in the world—should be governed by the same commoditized supply and demand system that functions so effectively for other consumer products. If not, should health care broadly and access to medicines specifically be considered a human right, one that rises above established market forces? If free access to medicines is considered a human right, how do public health plans manage finite resources to make product coverage decisions? And finally, should the health care system continue to operate in a purgatorial middle ground between supply and demand and free access, rife with misaligned financial incentives?

US policymakers continue to grapple with these questions and come to different conclusions, as seen in “Medicare for All” proposals by presidential candidates and Democrats in Congress, and the ongoing campaign to repeal and replace the Affordable Care Act by Republican lawmakers, President Donald Trump and his administration. One approach that has garnered bipartisan support in a divided US Congress—and support from more than a dozen patient advocacy groups—is the use of value-based pricing and new payment models to lower the cost of medicines.

Patients are speaking out about affordability and access to the drugs they need to survive. Total out-of-pocket spending for drugs in the US is expected to increase by approximately 57 percent or $27 billion, between 2018 and 2027, according to an analysis of The Centers for Medicare & Medicaid Services’ (CMS) National Health Expenditure data conducted by PwC’s Health Research Institute (HRI). Employers continue to experiment, and struggle, with new ways to lower drug costs for employees. And 51 percent of global biopharmaceutical executives surveyed by HRI in February 2019 said traditional drug pricing practices are unsustainable.

Increases in drug wholesale acquisition costs, or list prices, have come under intense media and political scrutiny, opening up a policy debate ranging from rebate reform and making prices more transparent to international price benchmarking and importing drugs from Canada. Congressional hearings on the topic of drug pricing have led to additional policy ideas, such as reforming the patent system to encourage faster entry of generic and biosimilar drugs.

Against this landscape, HRI survey data and interviews with biopharmaceutical executives, industry trade groups, legal experts and analyses of drug pricing proposals reveal a need for biopharmaceutical companies to develop sustainable product or category-specific pricing strategies. New strategies will need to account for both the novel attributes of innovative therapies as well as nuanced market conditions—and policy changes—wherever products are sold.

Strong data capabilities, organizational alignment and lessons learned from global markets can help executives respond to changing market conditions. Biopharmaceutical companies should take advantage of new financial models and avoid pricing decisions that lead to reactionary price cuts, punitive regulatory actions or public scorn.
Despite biopharmaceutical companies’ early responses to pressures on pricing and innovation, challenges remain

Pharmaceutical and life sciences leaders are rethinking their drug pricing strategies as new regulations, drug assessment tools and demands alter the market for medicines (see Figure 1). Launching new drugs at prices below established competitors’ rates is becoming more common but is not widespread. Several companies have also launched lower-cost versions of patent-protected products, or authorized generics with reduced prices, often in response to public pressure. Launching separate, lower-cost versions of products may not be a sustainable strategy for most products. However, companies facing pricing pressure on late-stage pipeline candidates or products launching against similar, competing therapies may increasingly consider new pricing options or commitments.

### Figure 1. New industry responses to drug pricing pressures

<table>
<thead>
<tr>
<th>Action taken</th>
<th>Company</th>
<th>Treatment</th>
<th>Product (Date)</th>
<th>Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td>New products launched at an equal or lower list price than on-market competitors’</td>
<td>Sanofi and Regeneron</td>
<td>Rheumatoid arthritis</td>
<td>Kevzara, May 2017</td>
<td>Launched at a list price 30% lower than the two most widely used competing products⁸</td>
</tr>
<tr>
<td></td>
<td>AstraZeneca</td>
<td>Severe asthma</td>
<td>Fasenra, November 2017</td>
<td>Launched at a price equal to competing therapies. After one year, dropped price “below the treatment cost of all other biologic therapies for severe asthma”⁹</td>
</tr>
<tr>
<td></td>
<td>Novartis</td>
<td>Multiple sclerosis</td>
<td>Mayzent, April 2019</td>
<td>Launched at a 7% discount to its legacy MS drug, Gilenya¹⁰</td>
</tr>
<tr>
<td></td>
<td>Roche</td>
<td>Multiple sclerosis</td>
<td>Ocrevus, March 2017</td>
<td>Launched at a 25% discount to an older drug it outperformed in clinical trials¹¹</td>
</tr>
<tr>
<td>Launching lower-cost versions and “authorized generics” of patented products using a separate National Drug Code (NDC) and reduced list price</td>
<td>Eli Lilly and Company</td>
<td>Diabetes</td>
<td>Humalog authorized generic, March 2019</td>
<td>Launched at a 50% lower list price to its branded equivalent¹²</td>
</tr>
<tr>
<td></td>
<td>Amgen</td>
<td>Cardiovascular</td>
<td>Repatha, October 2018</td>
<td>Introduced a new NDC at a 60% reduction in list price¹³</td>
</tr>
<tr>
<td></td>
<td>Sanofi and Regenon</td>
<td>Cardiovascular</td>
<td>Praluent, February 2019</td>
<td>Introduced a new NDC at a 60% reduction in list price¹⁴</td>
</tr>
<tr>
<td></td>
<td>Asegua (subsidiary of Gilead)</td>
<td>Hepatitis C</td>
<td>Epclusa, authorized generic, September 2018</td>
<td>Launched at a 60% discount to its branded equivalent¹⁵</td>
</tr>
<tr>
<td>Commitments to hold annual price increases of products below 10 percent, or below inflation rates</td>
<td>Merck</td>
<td>All therapeutic areas</td>
<td>All products</td>
<td>Committed to not increasing average net prices above the rate of inflation annually¹⁶</td>
</tr>
<tr>
<td></td>
<td>Allergan</td>
<td>All therapeutic areas</td>
<td>All products</td>
<td>Published a “social contract with patients,” including a commitment to limit drug price increases to less than 10% annually¹⁷</td>
</tr>
<tr>
<td></td>
<td>Novo Nordisk</td>
<td>All therapeutic areas</td>
<td>All products</td>
<td>Committed to limit annual price increases to single digits¹⁸</td>
</tr>
<tr>
<td>Publishing price information, or a website containing price information, in direct-to-consumer (DTC) advertisements for individual products</td>
<td>PhRMA’s 37 member companies</td>
<td>All therapeutic areas</td>
<td>All products</td>
<td>Ahead of a proposed regulation requiring list prices to be included in broadcast advertising, PhRMA members committed to including “direction as to where patients can find information about the cost of the medicine, such as a company-developed website, including the list price and average, estimated or typical patient out-of-pocket costs, or other context about the potential cost of the medicine”¹¹⁹</td>
</tr>
</tbody>
</table>

Source: PwC Health Research Institute analysis
Outside the US, key global regulators and cross-market collaborative bodies have deployed new cost effectiveness assessments to help determine price benchmarks and joint reimbursement rates for innovative therapies.20 A robust biosimilars market has developed in Europe, providing a lower-cost option for many specialty drugs.21

Biopharmaceutical executives making drug pricing decisions for products sold across the globe—from the time of launch to the end of a product’s patent life and beyond—are increasingly challenged to create a pricing strategy that sufficiently rewards innovation and reinvestment in science and discovery while ensuring patients can get access to pharmaceutical treatments. Market changes in the US and globally are pushing biopharmaceutical companies to make organizational changes and beef up their data strategies in support of product value.

Meanwhile, biopharmaceutical companies are producing novel and previously unimaginable treatments and cures for devastating diseases.22 Specialty drugs targeting orphan diseases (diseases that affect fewer than 200,000 people nationwide) and an array of cancer types, for example, are rapidly entering the market. In 2018, the US Food and Drug Administration (FDA) approved 59 novel new drugs; 34 of those drug approvals—more than half—are indicated for rare diseases.23 These products enter the market priced to reflect their novel attributes and innovation. Paying for these products, however, can strain health care budgets and lead to barriers to medication access, especially for patients with multiple health conditions.

Ninety percent of global biopharmaceutical executives surveyed by HRI said the health care system will be challenged to afford the next wave of innovative medicines unless there are fundamental changes to drug evaluation and payment models.24 Drugmakers should craft pricing strategies that anticipate these changes and work with payers to establish pricing models that fit the needs of new products.
Pricing models for drugs have become more segmented and nuanced to reflect unique product characteristics, competitive dynamics and patient needs. As biopharmaceutical companies have experimented with different financial arrangements for different product types, six important models have emerged: financial risk-based contracts, health outcomes contracts, mortgage models, subscription or Netflix models, indication-specific pricing and volume-based purchasing.

Financial risk-based contracts and health outcomes contracts are the two primary types of value-based contracts, or contracts that are designed to tie prices to how a drug performs in the real world, as opposed to prices based solely on data and evidence collected during the highly controlled clinical trial process. New technology for monitoring patients and gathering health data has accelerated the use of value-based contracting and other innovative payment models, and has helped to improve patient access to therapy. However, data sharing challenges and operational hurdles persist.

Of the seven biopharmaceutical CEOs who testified at a Senate Finance Committee hearing in February, six argued in their written statements for expanding the use of value-based contracts. Four of the five pharmacy benefits manager (PBM) executives testifying before the same committee in April argued in favor of value-based contracts in their written statements.

While certainly not a panacea for pricing challenges, value-based contracts, volume-based pricing and other novel financial models are helping patients access pharmaceutical drugs. Christie Bloomquist, AstraZeneca’s vice president, corporate affairs, government affairs, North America, told HRI that AstraZeneca has more than 40 value-based arrangements across their therapy areas, including oncology, cardiovascular, renal and metabolism and respiratory.

“Value-based contracts are often perceived as being stacked in favor of the pharmaceutical company, so you have to have real skin in the game,” said Bloomquist. “In one of our agreements for an oncology medicine, we’ve paid back money around 20 percent of the time, when the drug doesn’t work as expected. You can’t have an agreement where you always win.”

In 2017, HRI conducted a survey of US biopharmaceutical executives to better understand the prevalence of value-based contracts, including contracts tied to patient clinical outcomes, economic outcomes, or both. Only 25 percent of surveyed US executives in 2017 had participated in a value-based contract. In 2019, the number of US executives using value-based contracts increased to 57 percent, a 32 percentage point jump in two years’ time (see Figure 2).
In Europe, single-payer health systems and managed entry agreements pushed drugmakers to participate in risk-based or outcomes-based contracts several years ago, and those practices are being adopted in other geographies, especially for innovative specialty drugs and orphan products.

**Figure 2. Among US-based executives, participation in value-based contracts has increased substantially since 2017**

Does your organization currently use value-based drug contracts of any kind?

<table>
<thead>
<tr>
<th>Year</th>
<th>Yes</th>
<th>No</th>
<th>Don’t know</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>25%</td>
<td>61%</td>
<td>14%</td>
</tr>
<tr>
<td>2019</td>
<td>57%</td>
<td>43%</td>
<td>0%</td>
</tr>
</tbody>
</table>

Source: PwC Health Research Institute (HRI) Launching into value US biopharmaceutical executive survey, June 2017; HRI global biopharmaceutical executive survey, February 2019

**Financial risk-based contracts** are one of the value-based models companies are using to make products more competitive in the market. These contracts involve full or partial reimbursement to the purchaser if certain predetermined financial outcomes are not met. Financial outcomes could include successfully treating a patient at a lower cost than a competing therapy, for example.

Contracts focused on providing financial savings can help mitigate purchaser risks associated with high-cost therapies, particularly when there are similar, competing therapies available. Organizations with products in competitive segments of expensive therapeutic areas, such as oncology, cardiology or rheumatoid arthritis, for example, may be able to improve market access and product uptake by offering a financial risk-based contract.31

The University of Pittsburgh Medical Center entered a financial risk-based contract for AstraZeneca’s Brilinta—a cardiovascular drug—that requires that patients receive the product at a $10 copay for a 30-day supply, instead of around $40, said Bloomquist. The contract includes an outcomes component tied to hospitalization for a second heart attack.
Biosimilars, too, are a natural fit for financial risk-based contracts because they are substituted for a more expensive branded biologic drug and could be assessed against it.

**Health outcomes-based contracts**, like financial risk-based contracts, offer full or partial reimbursement to purchasers if patients don’t respond to therapy, or don’t reach a targeted health outcome. Examples of health outcome measures include blood glucose control in diabetes—measured by HbA1c blood tests—or a reduction in the number of asthma attacks associated with product use, for example.

Measuring health outcomes has become more reliable as insurers have gotten more sophisticated in combining clinical electronic health record (EHR) data with prescription claims data. However, many disease areas don’t have a strict biological outcome that can readily serve as an assessment metric for drug performance.

Additionally, patient behavior, such as nonadherence to a treatment plan, can lead to poor outcomes unrelated to a drug’s performance. Connected digital devices and digital therapeutics may help measure adherence rates and create new contracting opportunities through the data they generate. Specialty products in the primary care market segment, such as multiple sclerosis, diabetes or chronic obstructive pulmonary disease (COPD) are good candidates for exploring health outcomes-based contracts. Manufacturers marketing curative therapies for hepatitis C have also entered into such contracts, offering refunds for patients who aren't cured after using the therapy. Cigna signed a health outcomes-based contract in 2015 for Harvoni, one of Gilead’s hepatitis C products.33

**A mortgage model** for purchasing drugs offers the benefit of allowing purchasers to spread the cost of an expensive therapy over a period of time, as opposed to requiring the total payment upfront. Mortgage models can reduce the sticker shock attached to high-priced products and promote better affordability for patients.

Products that aren’t facing direct competition, such as new immunotherapy products for oncology, orphan drugs targeting rare diseases, or emerging gene and cell therapies, are all good candidates for the mortgage model. Fifty percent of the executives surveyed by HRI said they are using a mortgage model (see Figure 3).

Spark Therapeutics is in discussions with CMS to offer a mortgage model for Luxturna, a treatment for a rare form of retinal dystrophy, which causes blindness. Spark also is working to create value-based agreements with private insurers for Luxturna.34
Cr eating a stable drug pricing strategy in an unstable global market

The subscription or Netflix model offers an “all you can treat” arrangement for purchasing drugs. Pioneered in Australia for hepatitis C products, this model lets purchasers pay a set amount for unlimited patient access to specific products for a set period of time.36 In the US, state regulators and public health plans in Louisiana and Washington are moving forward with subscription models for hepatitis C patients.37 In April, the Washington State Healthcare Authority signed an agreement with AbbVie US LLC for hepatitis C products, with a goal to “eliminate the hepatitis C virus in the state of Washington by 2030.”38

Subscription models may become useful for other curative therapies beyond hepatitis C, such as gene and cell therapies, because they promote patient access by removing benefit design restrictions. In a speech on harnessing the curative potential of genomic technologies, former FDA Commissioner Scott Gottlieb said, “Innovative payment vehicles for curative therapies can accelerate patient access, and lower long-term societal costs.”39

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8 Creating a stable drug pricing strategy in an unstable global market
There is evidence that new financial models for curative therapies and other high-cost medications are moving forward and increasing in number. In June 2019, Sanofi will begin offering diabetes patients a flat price of $99 per month for up to 10 boxes of insulin pens or 10 milliliter vials. Seventy percent of executives surveyed by HRI said they are using a subscription model for at least one of their products (see Figure 2). Manufacturers considering subscription models should make sure the patient population getting access is clearly defined, as treatment populations may fluctuate unexpectedly.

**Indication-specific pricing** is a model used for products approved to treat more than one type of disease. In this model, a product’s price is based on the indication or therapeutic area it is prescribed to treat. Products indicated for multiple diseases are often more effective in treating one disease compared with another. As such, indication-specific pricing contracts pay more for a drug when it’s highly effective in treating one disease, but pays less for indications where the drug is less effective.

Insurers may also place one product indication in a preferred tier for patients, and place the same drug in a less preferred tier, or forego coverage altogether, for a different indication. The increased use of electronic health records by physicians has led to a significant increase in e-prescribing, which in turn has made it easier for insurers and PBMs to identify which disease a drug is prescribed to treat. Indication-specific pricing models have been implemented by large PBMs, such as Express Scripts and CVS, for oncology and autoimmune products, respectively.

Monoclonal antibodies, for example, often receive approval for multiple indications, and have helped to push the use of indication-specific pricing to major drug markets across the globe. The FDA has approved over 80 monoclonal antibodies for use, spanning treatment areas including cancer, asthma, macular degeneration, arthritis and Crohn’s disease, among others. In Europe, indication-specific pricing exists but isn’t yet common in the majority of markets.

**Volume-based pricing** models continue to be useful in circumstances where large quantities of a drug are needed, especially for preventive therapies, such as flu shots. Volume-based pricing is attractive to government payers that provide free vaccines to citizens, for example.

During a Senate Health Committee hearing in March, Sen. Patty Murray, D-Wash., noted that the measles, mumps and rubella vaccine costs just $20 a dose, compared to the $1 million her home state has spent combating outbreaks. Generics may also be purchased in volume-based deals and antibiotic stewardship programs may also benefit from such arrangements. Volume-based pricing models are less relevant for high-cost specialty drugs or biologics, where the use of value-based contracts is on the rise, according to HRI survey data.

Data is the currency that defines product value. To successfully price and commercialize products, biopharmaceutical companies will need to become more sophisticated in their use of data to support customer negotiations and new financial models; to navigate different value assessment frameworks in different global markets; and ultimately, to tell the story of individual products to different customers.
Biopharmaceutical companies should improve data strategies to enable new pricing models and demonstrate value for different stakeholders

Health care stakeholders such as insurers, PBMs, government payers, physicians and consumers who purchase prescription drugs, and the manufacturers responsible for selling them, disagree about the appropriate way to assess product value. Pricing models built around achievable health or financial outcomes will need strong supporting data and data-sharing capabilities to make them work.

Attempts to pay for the “value” of a given drug—and the myriad ways that value can be assessed—are complicated by the heterogeneous nature of products and payment structures in the US (see Figure 4). Regardless of the different ways value can be assessed by different stakeholders, data is the crux of proving it.

Globally, the use of strict scientific calculations, such as quality-adjusted life year (QALY), incremental cost-effectiveness ratio, or the use of comparator product prices, don’t always account for the unique attributes of an individual product or the circumstances of a specific country or patient population.

Patients in different countries may have different diets that can influence outcomes in diabetes or cardiovascular disease, or may prioritize different physical activities in defining quality of life. Third party organizations such as the Institute for Clinical and Economic Review (ICER) are increasingly bringing similar calculations to bear on US pricing and reimbursement decision-making.47

Figure 4. Drug value can be assessed in different and conflicting ways

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Quality-adjusted life year</strong></td>
<td>Drug affordability is calculated according to strict thresholds set by government payers.</td>
</tr>
<tr>
<td><strong>ICER framework</strong></td>
<td>Affordability and benchmark price determinations are set based on impact to health care budgets.</td>
</tr>
<tr>
<td><strong>Cost avoidance</strong></td>
<td>Drug value may be calculated in terms of savings associated with the avoidance of medical interventions typically associated with a disease area.</td>
</tr>
<tr>
<td><strong>Innovative drugs for previously unmet needs</strong></td>
<td>Curative therapies for rare diseases target smaller patient populations and carry high price tags.</td>
</tr>
<tr>
<td><strong>Incremental improvement</strong></td>
<td>Drugs offering incremental advantages over competing therapies may be valuable to specific patient types.</td>
</tr>
</tbody>
</table>

Source: PwC Health Research Institute
In most developed markets outside of the US, government pricing organizations—such as the National Institute for Health and Care Excellence in the United Kingdom—use a quality-adjusted life year metric to assess the value of medicines and to enforce drug price thresholds regarding how much the national health service is willing to pay for a drug that achieves a desired quality of life outcome for a given patient population. In the US, passage of the Affordable Care Act in 2010 prohibited the use of a QALY measure to determine price thresholds in Medicare. But the use of the QALY measure is growing among large commercial insurers, such as CVS Caremark.48

US-based executives surveyed by HRI were open to the idea of using a QALY measure, even as a condition for FDA approval. Executives outside the US were less enthused by this idea, according to HRI survey data (see Figure 5). “I think the QALY metric will continue to be policy shaping,” said AstraZeneca’s Bloomquist. “What’s really clear is that data is becoming increasingly important to us—how we generate data, how we work with others to generate data, and how we use real world evidence to support economic reviews and assessments.”

New technologies can also help to demonstrate specific outcomes associated with individual products. More than 90 percent of the executives surveyed by HRI agreed that patient monitoring technology, including digital therapeutics, wearables, biosensors or smart appliances in the home that collect health data are enabling new drug pricing models between biopharmaceutical companies and drug purchasers.49

As more countries request more information to support the value of a product, biopharmaceutical companies will need to have strong data demonstrating the unique value and benefits of medicines and how they compare with other products in the market.

Although many pharmaceutical companies have access to market volume data (e.g., prescription claims data), specialty pharmacy data, market research, sales force data (e.g., customer details, product sampling), qualitative physician surveys and advertising data collected from media agencies, these data sets are often not fully integrated or curated in the form of a story that can reinforce the value of a product and help to justify its price.50

What’s really clear is that data is becoming increasingly important to us—how we generate data, how we work with others to generate data, and how we use real world evidence to support economic reviews and assessments.

Christie Bloomquist
AstraZeneca
ICER, the third party drug value assessment group, also uses a modified version of the QALY metric to assess products and determine an appropriate benchmark price for insurers and other drug purchasers.\(^5\)

ICER announced in January that, in addition to conducting product assessments and publishing price benchmarks for newly launched drugs, it would begin publishing a new annual report in October targeting “unsupported price increases.” The stated purpose of the report is to “analyze significant prescription drug increases and determine whether or not new clinical evidence exists that could be used to support those increases.”\(^5\)
In the US, executives are closely watching as ideas presented in the Trump administration’s American Patients First drug pricing blueprint move forward. Industry executives were most concerned about the adoption of an international price index (IPI) for physician-administered drugs in Medicare Part B (see Figure 6), which could lead to hundreds of millions of dollars in lost revenues annually, according to HRI executive survey data.53

“The Trump administration’s proposal to tie Medicare Part B pricing to an international price index would put patients’ access to lifesaving medicines at risk and threaten companies’ abilities to pursue current or future research and development projects,” said Jennifer Bryant, senior vice president, policy and research at PhRMA, an industry trade group. If the IPI becomes law, manufacturers could decide to delay launching new products into international markets included in the price index reference group, or forego launches in those countries altogether.

One senior pricing executive at a top 20 pharmaceutical company told HRI that drug manufacturers might consider moving physician-administered products into self-administered delivery mechanisms as one option for avoiding risk associated with a Medicare Part B international price index.

Seventy-eight percent of executives surveyed by HRI said their companies would need to make organizational changes or management and process changes if public health plans began using international prices as a benchmark for reimbursement.
Importing cheaper drugs directly from outside of the US and changing the rebate safe harbor to lower drug list prices were the second and third chief concerns among surveyed executives. In 2018, Vermont passed a law allowing for the importation of high-cost drugs from Canada.

In Florida, Republican Gov. Ron Desantis has made importing drugs from Canada an early priority of his administration. However, the US Department of Health and Human Services (HHS) must approve state importation programs before they can proceed.

The agency has never granted such an approval to date. HHS Secretary Alex Azar, formerly president of Lilly USA, a division of biopharmaceutical company Eli Lilly and Co., has called importing cheaper drugs a “gimmick” that won’t effectively lower prices, but has also suggested that drug importation from Canada could potentially be allowed for single-source products that lack competition and undergo extreme price hikes. Several companies have raised the prices of single-source products by orders of magnitude, or thousands of percentage points, in the last five years.
In January 2019, HHS released a proposal to make significant changes to safe harbors that protect rebates from the anti-kickback statute. Rebates on list prices are offered by manufacturers to insurers and pharmacy benefit managers in exchange for formulary placement and market share. Despite having a potentially disruptive impact to stakeholders across the health care system, these changes are widely supported by the biopharmaceutical industry.

If the proposed rebate rule is finalized and implemented, drug wholesale acquisition costs, also known as list prices, are expected to come down. Actuaries at CMS estimate an $83 billion saving in out-of-pocket costs for patients across Medicare plans between 2020 and 2029. HHS noted in its proposal fact sheet that average rebates are between 26 and 30 percent.

In testimony given before the Senate Finance Committee in February, AstraZeneca CEO Pascal Soriot said that despite rising list prices, the average rebate across AZ’s portfolio of products is nearly 50 percent, and the company’s primary care products’ net prices are flat to declining. Should the rebate rule go forward, Soriot said AZ is “prepared to reduce list prices by the [previously] rebated amounts.” By doing so, patient out of pocket costs would be lowered without cutting into product revenues. Soriot, as well as other CEOs testifying at the committee hearing, also suggested extending rebate reforms to the commercial market.

Perhaps the most interesting aspect of the proposed changes to the rebate safe harbor—aside from substantially lowering out-of-pocket costs for US Medicare patients taking specialty drugs and paying a percentage of the list price—is the degree of transparency it would bring to drug prices. Global executives surveyed by HRI said price transparency is putting the highest amount of pressure on traditional drug pricing models (see Figure 7).

In the rebate and list price system, rebate amounts are shielded from public view by proprietary contracts between drugmakers and purchasers. If the proposed rebate rule is finalized, it will mean “full product-level net price transparency in the Medicare Part D context,” said Kristen Bernie, deputy vice president, policy and research, at PhRMA. “That is a game changer for the industry.”

“...that is a game changer for the industry.”

Kristen Bernie
PhRMA
Along with price transparency, changes to the way Medicare and Medicaid pay for drugs, the emergence of curative therapies, global health technology assessment groups and private insurers round out the top five pressure points on pricing practices, according to surveyed executives.

Of these five, only curative therapies are a source of pressure originating from the innovative center of the industry. The development of curative therapies for diseases previously treated with maintenance therapies creates a substantial disruption to established pricing and reimbursement practices.
Many of the actions taken in global markets are being discussed by US policymakers and private insurers, such as improving access to biosimilars, providing real-world evidence to support payment and reimbursement decisions, and restricting formulary coverage in public health plans such as Medicare and Medicaid. Germany, for example, is considering new policies that would require orphan drugs to provide additional real-world evidence to support high prices.

Several executives interviewed by HRI suggested that list price increases are unlikely to be a major contributing factor to overall company revenues in the coming years due to the amount of focus on list price by US patients, politicians and other industry observers.

To gain market share, companies will have to rethink pricing practices, Rick Ascroft, senior vice president, managed markets, at Takeda Pharmaceutical Co. Ltd. told HRI. “Gone are the days when companies could charge a premium for drugs that treat the same ailment, but only offer incremental improvement,” said Ascroft.

Asked about how drug pricing strategies would change in the next two years, 50 percent of surveyed executives said launch prices would be more conservative, compared with 26 percent who plan to be more aggressive with launch prices and 24 percent who don’t anticipate changes to launch prices. However, 47 percent of surveyed executives said they plan to be more aggressive with launch prices in five years, compared with 44 percent who plan to be more conservative, and nine percent who don’t plan to change launch pricing practices.

In global markets, prices don’t typically increase; they decrease. “We’re seeing price erosion in most of the developed markets outside the US,” said Kevin Haniger, vice president, international advocacy, at PhRMA. Several countries are putting new pressure on drug prices, through a faster uptake and more robust market for biosimilars, and new models for price negotiation (see Figure 8). To increase buying power, Nordic countries—including Denmark, Iceland and Norway—have established a joint procurement and tendering process for purchasing drugs used in hospitals.
Half of the executives surveyed by HRI believe that a price ceiling has already been reached for a pipeline product their companies are developing. Twice as many executives based in the UK felt that a price ceiling had been reached for a pipeline product compared with UK executives who don’t believe such a ceiling has been reached.65

Companies have responded to global pricing pressures by changing their launch strategies, entering into value-based contracts in exchange for access and reimbursement, and bolstering the evidence supporting their products beyond what’s needed for approval.

As the number of orphan drugs approved by the FDA continues to grow, companies should plan for the possibility of additional requirements and evidence to support the use of those products stateside. Manufacturers should bring their global pricing experiences to bear on US pricing strategies and decision-making, as new proposed policies and regulations become law.

<table>
<thead>
<tr>
<th>Country</th>
<th>Detail</th>
</tr>
</thead>
</table>
| France  | • Biosimilar interchangeability is permitted, and the country intends to reach a goal of 80% biosimilars penetration by 202266  
• Clawback clauses are in place within drug contracts whereby manufactures will be liable to refund the government any money spent on drugs over the capped revenue negotiated for the specific product or therapeutic area67  |
| Germany | • A bill to allow for biosimilar substitution was announced in February. This is planned to be phased in over the coming three years68  
• Draft legislation is in place that would require manufacturers of orphan drugs to provide real world efficacy data to support pricing69  |
| Canada  | • In March, it was announced that Canada would establish the Canadian Drug Agency. This agency will negotiate drug prices, assess the cost-effectiveness and recommend which drugs to add to a newly created national formulary  
• The Canadian Drug Agency’s negotiating power is expected to save $3 billion in annual prescription costs in the long term, according to the proposal70  |
| China   | • China joined the International Council for Harmonization of Technical Requirements for Pharmaceuticals for Human Use in June 201771  
• In March, it was announced that the national reimbursement scheme would be expanded to include oncology and orphan drugs72  |
| Japan   | • Japan launched a new cost-effectiveness scheme for the reimbursement of pharmaceuticals and medical devices in April. Companies are now required to submit cost-effectiveness assessments for selected products that demonstrate the product’s incremental cost effectiveness ratio73  
• This metric will be used to determine the level of adjustment to product reimbursement74  |

Source: PwC Health Research Institute
Prepare for potential challenges to list prices in the U.S. by calculating true net price trends. John Shakow, partner, FDA and life sciences at King & Spalding, a corporate law firm, recommends calculating a public and private net price, or PPNP, to have at the ready when questions about list prices arise. The PPNP is net of all discounts, including government rebates, 340B prices and other required deductions from gross that are not captured by the figures reported to Medicaid and Medicare. Several biopharmaceutical companies already publish aggregate net prices for some products.75

Seventy-three percent of US executives surveyed by HRI said pricing decisions are determined, to some extent, by statutory discounts in government programs such as Medicaid and the 340B Drug Discount Program. Those prices aren’t widely known to the public, and can be useful to share with interested—or investigative—parties to justify pricing decisions.

Companies should invest in data collection and analysis—beyond what is required for regulatory approval—to more effectively accommodate the differing requirements and needs of patients across the globe.

Many industry experts believe that the political and public focus on list prices is misguided because insurers and PBMs negotiate rebates against the list price. However, the shift toward charging co-insurance in Medicare—or a percentage of the total list price for a drug—for high-cost products means that many patients pay at least a portion of the list price out of pocket.76

High deductibles in private health care plans have also exposed some patients to higher out-of-pocket drug costs, particularly as private insurers have moved to stop counting drug industry financial assistance toward patient deductibles.77 Pharmaceutical and life sciences companies should focus on out-of-pocket costs for patients, and use the contracting process to minimize out of pocket costs, which can help to improve adherence rates and health outcomes.

Design pricing models that maximize product access in local markets. As industry pipelines continue to shift toward rare diseases, oncology treatments and gene or cell therapies, an understanding of access issues in key global markets is essential. New financing models may help patients get access to drugs, especially in countries or states where new policies have been created to handle innovative new therapies (see Figure 9).

For example, Louisiana’s “All you can treat” agreement with Gilead subsidiary Asegua Therapeutics will provide unlimited access to the authorized generic version of Epclusa, a curative treatment for hepatitis C, to Louisiana’s Medicaid patients for five years.78 Organizations should also consider leveraging a portfolio of products in a subscription model, or offering subscription access to a suite of products.
Takeda’s acquisition of Shire PLC is increasing the company’s focus on the rare disease market and new financing models, according to Ascroft at Takeda. “If patients can’t access your medicine, what’s the point in developing it?” said Ascroft. Takeda “supports innovation in pricing structures” and is considering alternative financing options, including subscription and mortgage models for rare disease products, he said.

An increase in the use of health data and analytics—catalyzed by the adoption of electronic health records—is making it easier for companies to engage in value-based contracts. Thirty-three percent of US-based biopharmaceutical executives surveyed by HRI said the use of electronic health records by providers has had a positive effect on their businesses.

An understanding of different patient populations living in different geographies, and covered by different health plans and different kinds of insurance, is needed to select the right financial model for a given purchaser.

When using value-based contracts, manufacturers should also ensure that patients are benefiting from the arrangement. Improved patient access in the form of negotiated out of pocket costs, or making sure that money paid back to an insurer is passed through to the patient when a drug doesn’t perform as expected, should be a component of any value-based contract whenever possible.
Look past the next quarter when creating a new product pricing strategy. Asked about which industry group is most responsible for the increase in public and political pressure on drug prices, 70 percent of executives said that biopharmaceutical shareholders are “very responsible,” the highest response for any of the 10 selection choices (see Figure 10). Shareholders focused on price growth as a key lever of financial performance risk causing a public backlash against their companies.

Reputational harm can take much longer to repair than a quarterly report with flat product growth due to price stabilization or changes in the market. Organizations should continue to build product lifecycle management programs that anticipate new products entering the market, and affordability issues unique to individual patient groups. Financial assistance programs will continue to be an important aspect of patient access, but drug prices will continue to receive the most attention in the public and policy realm.

Most biopharmaceutical executives don’t communicate widely with patients prior to setting the price of a new drug, according to HRI global executive survey data. Understanding the issues unique to patients who will become the likely recipients of a new therapy can help inform pricing strategies by identifying the outcomes most valuable to patients.

Figure 10. Biopharmaceutical shareholders are most responsible for increased public and political pressure on prices

How responsible is each industry sector or group for the increase in public and political pressure on drug prices?

<table>
<thead>
<tr>
<th>Industry Sector/Group</th>
<th>Very Responsible</th>
<th>Somewhat Responsible</th>
<th>Not Responsible</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biopharmaceutical shareholders</td>
<td>70%</td>
<td>24%</td>
<td>6%</td>
</tr>
<tr>
<td>Public insurers</td>
<td>65%</td>
<td>30%</td>
<td>5%</td>
</tr>
<tr>
<td>Private insurers</td>
<td>58%</td>
<td>33%</td>
<td>9%</td>
</tr>
<tr>
<td>Drug wholesalers/distributors</td>
<td>47%</td>
<td>43%</td>
<td>10%</td>
</tr>
<tr>
<td>Drug manufacturers</td>
<td>45%</td>
<td>51%</td>
<td>4%</td>
</tr>
<tr>
<td>Pharmacies</td>
<td>22%</td>
<td>53%</td>
<td>25%</td>
</tr>
<tr>
<td>Provider groups</td>
<td>21%</td>
<td>60%</td>
<td>19%</td>
</tr>
<tr>
<td>Pharmacy benefit managers</td>
<td>21%</td>
<td>41%</td>
<td>38%</td>
</tr>
<tr>
<td>Consumer/patient advocacy groups</td>
<td>14%</td>
<td>69%</td>
<td>17%</td>
</tr>
<tr>
<td>Third party drug value assessors (e.g., ICER)</td>
<td>8%</td>
<td>77%</td>
<td>15%</td>
</tr>
</tbody>
</table>

Source: PwC Health Research Institute global biopharmaceutical executive survey, February 2019
Build capabilities to enable effective use of evolving pricing models. Planning for future pricing scenarios (e.g., a world without rebates) and developing the capabilities to enable these (and more) evolving pricing models is becoming increasingly important as stakeholders across the value chain align over the need for change.

Working to build these capabilities now so they are ready for use when needed can create a competitive advantage, or at the very least a de-risking strategy, for companies that take the lead. Successful planning for what comes next in pricing, contracting and market access will take a real commitment to build the right organization, data and technology, policies and processes, and development of skill sets.

Managing a single or small number of innovative contracts is feasible in an incubator type setup; companies will need a scalable, repeatable and efficient capabilities system to manage dozens of different types of emerging pricing models across a diverse portfolio and pipeline of products.
Sidebar

Makers of orphan drugs and other high-cost specialty drugs are entering into unique value-based contracts across a number of global markets

European markets including the UK and France have long used value-based contracts to mitigate risk associated with expensive drugs. Other countries are adopting new financial models to help promote access to expensive therapies.

**Germany:** In March, it was announced that GWQ ServicePlus, a German health insurance fund group, entered into a health outcome-based contract with Novartis for its CAR-T cell therapy, Kymriah. This agreement requires Novartis to repay some of the €320,000 ($360,000) cost if survival outcomes are not met within a defined time frame.

The agreement marked an important health outcomes-based deal for an anti-cancer gene therapy and CAR-T therapy in Germany. GWQ ServicePlus entered into a similar agreement with Merck Serono for its multiple sclerosis drug, Mavenclad, whereby Merck Serono will be responsible for the cost of follow-up treatment if expected outcomes are not reached.

**Spain:** In February 2018, the Spanish Health Ministry announced a new financial model to help patients get access to treatments for rare diseases and conditions that have a high economic and health impact. The first drug covered by this model was an orphan treatment for spinal muscular atrophy. About half of the cost of the orphan drug would be paid for under the new model.

Under this model, patients would also be subject to clinical review and monitoring to review the efficacy of the treatment. “If the medication is effective, it will be maintained; if not, it will be withdrawn,” Spain’s general director of pharmacy, Encarnación Cruz, said at the time.
**Italy:** Italy has been at the forefront of outcome-based pricing, with contracts beginning as early as 2006. There are four variations of these contracts; cost sharing, risk sharing, payment based on results and, most recently, success fees, whereby payment is only made if the treatment is effective.87

Of the approximately 50 outcomes-based contracts in place in Italy, minimal reimbursements have been made by manufacturers.88 This suggests that the terms of the agreement may have been in favor of the manufacturers’ outcome, or could not reliably justify reimbursements.

**Brazil:** It was announced in February that Brazil is taking steps to approve certain high-cost orphan drugs.89 New risk-sharing agreements will be created with drug manufacturers. “In practice, this means the government will only pay for the treatment if there is an improvement for the patient,” according to a ministry statement.90

**Beneluxa Initiative:** The Beneluxa Initiative is one of several cross-country health technology assessment groups in Europe with the goal of collaborating to deliver sustainable access to innovative drugs for patients in smaller countries. The Initiative includes pipeline horizon scanning, which helps member countries anticipate high-cost new drugs entering the market, and joint price negotiating.91 Members of the Beneluxa Initiative include Belgium, the Netherlands, Luxembourg, Austria and Ireland.92

To date, two products have been subject to Beneluxa’s joint price negotiations: Vertex’s cystic fibrosis drug, Orkambi, and Biogen’s Spinraza.93 In May 2017, Beneluxa ended the negotiations with Vertex without reaching an agreement. As a result, Orkambi could not be reimbursed in the Netherlands or Belgium.94

Dutch Secretary Martin van Rijn noted in a statement that, “We would like to make this drug available to patients, also to better understand its potential, and we are prepared to pay a substantial price for this. I hope therefore the company, in the future, is willing to make an acceptable offer.”95

The first successful joint price negotiation was achieved in July for Spinraza. Reimbursement was granted in both Belgium and the Netherlands with similar terms.96 The agreement would reimburse Spinraza until 2020, as data is reviewed to analyze the efficacy of the treatment. The agreement will then be revised based on these results.97
Sidebar

Pricing transformation in the generic drug sector

Pricing transformation can be an effective lever for generic drug manufacturers to maximize margin realization and organizational efficiency. Drug policy reform, consolidation among key buyers, an increase in generics manufacturing outside the US, and increased generic drug approval rates are among the key factors contributing to downward pricing pressure (see Figure 11). By automating processes to help focus less on price administration and more on pricing strategy and analysis, organizations can be more thoughtful rather than reactive in their pricing.

Figure 11. Generic drugs are facing pricing pressure in four important areas

- **Generic pricing pressure**
  - **Drug policy reform**: Global drug policies continue to support lower drug prices and increasing generic access and competition.
  - **Key buyer consolidation**: Consolidation amongst distributors and pharmacies have increased price transparency and customers’ buying power.
  - **Ex-US manufacturers**: Increased competition from generic manufacturers in India and other low-cost countries.
  - **Increased approvals**: Increased competition due to FDA’s record number of generic drug approvals (see Fig. 12).

The generic drug sector has experienced a multiyear period of declining prices. One primary driver is the unprecedented number of new generic drugs approved by the FDA. In 2017, the FDA fully approved 843 generic drugs, according to an HRI analysis. This represents over 100 percent growth since 2014 (see Figure 12).

The consolidation of generics purchasers has also pushed prices down. In 2018, approximately 90 percent of generic drug purchasing in the US was controlled by three large distributors representing major insurers, pharmacy benefits managers and pharmacies.98
Cr eating a stable drug pricing strategy in an unstable global market

Outside the US, new laws focused on maximizing the use of generics over branded therapies are driving prices down and creating additional incentives for generic substitution and use. In China, for example, the State Medical Insurance Administration has recently enacted policies that significantly change the landscape of pricing and access, especially for generic drugs. In December, a pilot scheme for tendering was announced, reflecting the government’s intention to build a price-for-quantity and price-for-market access mechanism for generic drugs. The policy led to a 52 percent price reduction, on average, for 25 generic drugs in China.99

In the UK, the Health Service Medical Supplies (Costs) Act came into force in April 2017. Under this act, unbranded generics are now subject to government price caps and controls, where previously such prices were controlled by market competition only.100

As pricing data becomes more transparent and readily available, purchasers are becoming more sophisticated about product selections in the generics market. As a result, generics manufacturers have become more reactive to changes in demand, increasing the number of price reviews conducted each year. As generics become even more commoditized, reactive pricing processes, combined with limited visibility into revenue and other product data, will no longer work to support profit and margin goals.

Generic drug manufacturers and other members of the supply chain face substantial headwinds as pricing pressures increase. The traditional approach to generic pricing is focused on drug portfolio expansion and price execution in a fragmented, low-tech environment. However, this is no longer suitable for manufacturers today. A new strategy and process, and new tools, are needed to improve the performance of generics in today’s environment.

Figure 12. In 2017 and 2018, FDA approved record numbers of generic drugs

Source: PwC Health Research Institute analysis of FDA generic drug approvals
Note: “First generic” refers to the first time a particular drug has been approved in generic form.
Pricing transformation for generic drugs: Four key dimensions

Executing a pricing transformation may be achieved through a phased approach centered on the following key dimensions:

**Data driven optimization:** Supplementing transactional data with third party data sets allows generics manufacturers to optimize product price according to margin by customer channel or segment. Data inputs needed for this process may include drug dispensing data, published wholesale acquisition cost, drug acquisition cost, average wholesale price and reimbursement data.

Further precision can be achieved through performance levers such as velocity adjustments. Standardized price management dashboards provide net margin visibility to guide pricing revisions and trigger cost adjustment requests for active pharmaceutical ingredients when specific costs are not sustainable due to margin pressures.

**Pricing governance:** Pricing rules can prevent margin leakages and bring discipline to an organization’s pricing and discounting practices. Rules can be created at different levels of sophistication—such as enforcing price per pill consistency, bulk size pricing, short dated products pricing, oral solid versus injectable pricing, new product launch rules and reference pricing—as organizations grow more mature in their pricing journey and data quality. Such rules can help enforce pricing consistency and also act as levers in generic pricing decisions.

**Tools and automation:** Generics manufacturers should focus on strategic initiatives, while tactical price adjustments are automated through tools via system managed rules, pricing logic, pass-throughs and alerts. End-to-end system integrations with enterprise resource planning and peripheral systems ensure that user errors and response times to price changes are minimized without sacrificing accuracy or precision pricing adjustments.

As an example, generics manufacturers typically adjust the prices of two to three percent of their portfolio each day. Large multinational generic manufacturers can manage upward of 1,000 National Drug Codes (NDCs), which means approximately 30 price changes per day. This can multiply into hundreds, if not thousands, of price changes per day that cascade down to individual customers and contracts. Automating this process can help free up key resources to focus on strategic initiatives.
**Post deal analysis:** Substantial margin leaks originate post deal when customers fail to meet promised compliance rates, which are used to estimate upfront prices. Rebates and chargebacks further dilute expected margins. These losses can be minimized or built into the pricing equation through periodic post-deal analysis and by factoring the metrics into systematic validations and price rules. Learnings from post deal analysis and a customer’s past performance can help inform future contracting strategies with new or existing customers.

Building a pricing transformation capability may require a substantial investment, but putting the appropriate technology and processes in place will help combat downward pricing pressure in the market. Pricing transformations at generics manufacturers may help improve margin realization substantially, beginning in the first year of operation (see Figure 13).

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**Figure 13. Pricing transformation can help generics manufacturers in four key ways**

<table>
<thead>
<tr>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Minimize cost of API</strong></td>
</tr>
<tr>
<td>Active pharmaceutical ingredient (API) cost is minimized as part of the pricing process for stock keeping units (SKUs) which are too costly to be sustainable in competitive marketplace</td>
</tr>
<tr>
<td><strong>Incremental margin dollars</strong></td>
</tr>
<tr>
<td>A data-driven pricing approach managed by pricing rules and alerts, and precision pricing at a customer-SKU contract level, can prevent revenue leakage</td>
</tr>
<tr>
<td><strong>Facilitate contract revisions</strong></td>
</tr>
<tr>
<td>Customer compliance and performance reviews conducted through post-deal analyses or feedback loop processes can help manufacturers revisit pricing terms such as bill backs, on-invoice discounts, price protections and volume incentive rebates</td>
</tr>
<tr>
<td><strong>Portfolio rationalization</strong></td>
</tr>
<tr>
<td>Assessing the economic viability of individual products based on historical data and market changes—such as new product filings—can help determine if divestitures, discontinuation or market entry makes sense for low-volume or low-profitability products</td>
</tr>
</tbody>
</table>

Source: PwC Health Research Institute

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Generics manufacturers should reassess and redesign their pricing strategies and processes to create a more dynamic pricing function that can anticipate market changes and improve financial performance. A holistic and phased pricing transformation that addresses people, process, technology and data will enable generics manufacturers to create a more effective pricing strategy and help mitigate revenue and margin leakage.
29

Creating a stable drug pricing strategy in an unstable global market

End notes

4. PwC Health Research Institute analysis of National Health Expenditures data from CMS.
7. List price and wholesale acquisition cost is used interchangeably, and refers to the price of a drug before rebates or discounts.
11. Ibid
22. Gilead report, “Gilead’s efforts to ensure patient access to sovaldi for the treatment of chronic hepatitis C,” https://www.gilead.com/-/media/Files/pdfs/Patient-Perspectives/Patient-Access-to-SOF-for-HCV
31 Creating a stable drug pricing strategy in an unstable global market


62 HRI biopharma executive survey, February 2019

63 Ibid


65 HRI biopharma executive survey, February 2019


69 Francesca Bruce, “Germany To Increase Data Requirements For Pricing Orphan And Other Drugs,” Feb. 19, 2019, https://pink.pharmaintelligence.informa.com/PS124783/Germany-To-Increase-Data-Requirements-For-Pricing-Orphan-And-Other-Drugs


72 Brian Yang, “Cancer, Rare Disease Drugs To Be Covered As China Expands Reimbursement,” March 15, 2019, https://scrip.pharmaintelligence.informa.com/SC124911/Cancer-Rare-Disease-Drugs-To-Be-Covered-As-China-Expands-Reimbursement


74 Ibid

75 Merck, J&J, Eli Lilly, Takeda and other companies have published annual transparency reports including aggregate net prices for products.


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About this research

PwC’s Health Research Institute conducted interviews with industry executives working in pricing, reimbursement and market access roles at biopharmaceutical companies and analyzed PwC data, including a survey of 100 global biopharmaceutical executives (2019) and a survey of 100 US-based biopharmaceutical executives (2017). HRI also spoke with industry trade groups, insurance executives and legal experts, and analyzed drug pricing proposals in the U.S. and globally.

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To have deeper conversations about how this subject may affect your business, please contact:

**Kelly Barnes**  
Partner, US Health Industries and Global Health Industries Consulting Leader  
kelly.a.barnes@pwc.com  
214 754 5172

**Karen Young**  
Partner, US Pharmaceutical and Life Sciences Leader  
karen.c.young@pwc.com  
973 236 5648

**Doug Strang**  
Global Pharmaceutical and Life Sciences Advisory Leader  
dstrang@pwc.com  
215 840 5548

**Benjamin Isgur**  
Health Research Institute Leader  
benjamin.isgur@pwc.com  
214 754 5091

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