ISSUE BRIEF
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Paying for Prescription Drugs Around the World: Why Is the U.S. an Outlier?

Dana O. Sarnak, David Squires, Greg Kuzmak, and Shawn Bishop

ABSTRACT

ISSUE: Compared with other high-income countries, the United States spends the most per capita on prescription drugs.

GOAL: To compare drug spending levels and trends in the U.S. and nine other high-income countries — Australia, Canada, France, Germany, the Netherlands, Norway, Sweden, Switzerland, and the United Kingdom; consider potential explanations for higher U.S. spending; and explore patients' exposure to pharmaceutical costs.

METHOD: Analysis of health data from the Organisation for Economic Co-operation and Development, the 2016 Commonwealth Fund International Health Policy Survey, and other sources.

FINDINGS AND CONCLUSIONS: Various factors contribute to high per capita drug spending in the U.S. While drug utilization appears to be similar in the U.S. and the nine other countries considered, the prices at which drugs are sold in the U.S. are substantially higher. These price differences appear to at least partly explain current and historical disparities in spending on pharmaceutical drugs. U.S. consumers face particularly high out-of-pocket costs, both because the U.S. has a large uninsured population and because cost-sharing requirements for those with coverage are more burdensome than in other countries. Most Americans support reducing pharmaceutical costs. International experience demonstrates that policies like universal health coverage, insurance benefit design that restricts out-of-pocket spending, and certain price control strategies, like centralized price negotiations, can be effective.

KEY TAKEAWAYS

- Prescription drug spending in the U.S. far exceeds that in other high-income countries.
- Higher drug prices, along with greater use of newer, more expensive drugs, are the primary driver of higher U.S. drug spending.
- Americans are more likely than residents of other high-income countries to bear this financial burden out-of-pocket.

The Commonwealth Fund

BACKGROUND

U.S. health care spending, per capita and as a percent of GDP, dwarfs that of any other high-income country, and longitudinal trends reveal that the gap in spending between the United States and the rest of the world continues to grow. Understanding the components and drivers of health care spending is important for policymakers, providers, and patients.

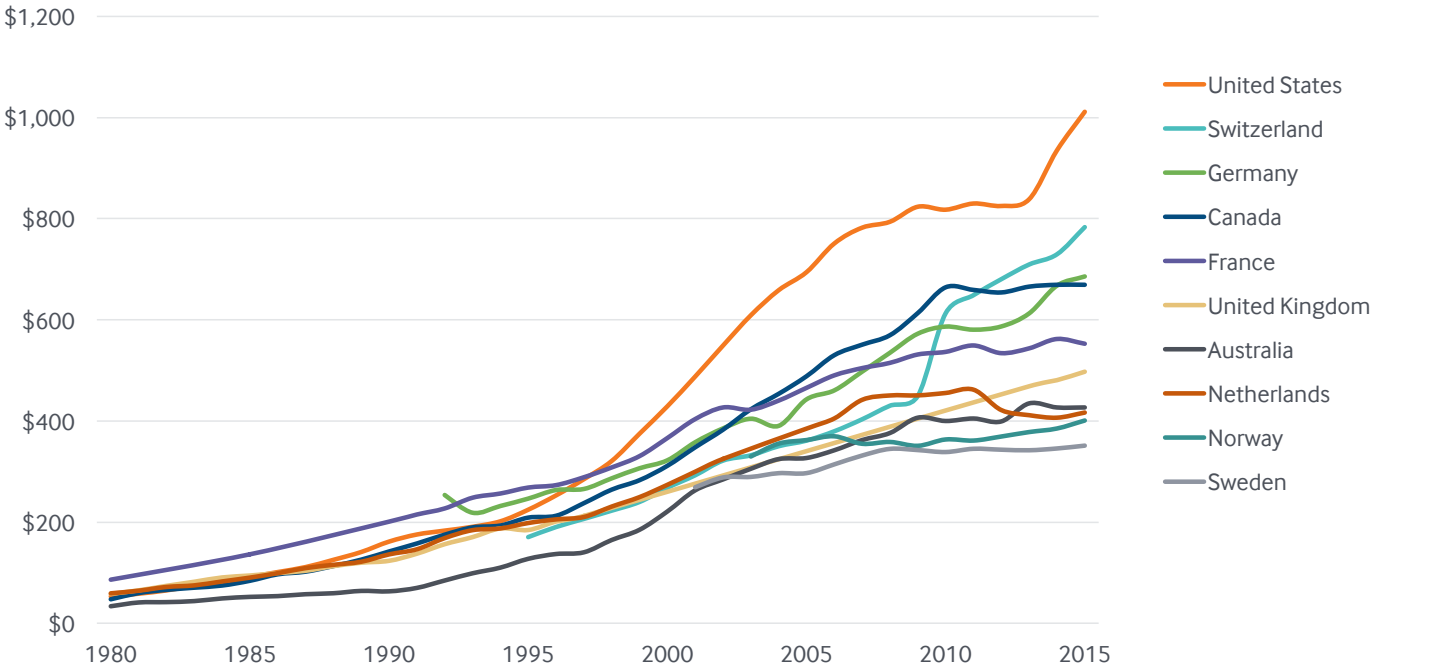
One important component of overall health care expenditures is the amount spent on prescription drugs. This brief compares prescription drug spending in the United States and nine other high-income countries: Australia, Canada, France, Germany, the Netherlands, Norway, Sweden, Switzerland, and the United Kingdom. We explore how three factors that determine drug spending — drug utilization, the type and mix of drugs consumed, and the price of drugs — differ across countries. We then examine how these costs are borne by patients in these countries — in particular, the role insurance coverage and design plays in protecting patients, and specifically vulnerable populations, from the burdens of paying the ever-rising costs of pharmaceuticals.

FINDINGS

Pharmaceutical Spending in the U.S. and Abroad

Prescription drug spending per capita is far higher in the United States than in the nine other high-income countries considered (Exhibit 1). This was not always the case. In the 1980s, several countries spent about the same amount per capita as the U.S. But in the 1990s and early 2000s, spending on prescription medications grew much more rapidly in the U.S. than in other nations. The mid-1990s saw a decade of rapid pharmaceutical growth in all countries, as annual numbers of FDA-approved drugs hit all-time highs, and sales of hypertensive and cancer drugs boomed.[1] In the U.S., this was accompanied by expansions of coverage (including for prescription drugs) by the federal government, through such programs as the Children's Health Insurance Program, Medicaid, and Medicare.

Exhibit 1. National Trends in Per Capita Pharmaceutical Spending, 1980–2015



Notes: Final expenditure on pharmaceuticals includes wholesale and retail margins and value-added tax. Total pharmaceutical spending refers in most countries to "net" spending, i.e., adjusted for possible rebates payable by manufacturers, wholesalers, or pharmacies. Data from all countries include only the portion spent on retail prescription medications, except for the Netherlands and the United Kingdom, where spending on pharmaceuticals includes prescribed medicines, over-the-counter medications, and other medical nondurable goods. Pharmaceuticals consumed in hospitals and other health care settings are excluded.
Data: Organisation for Economic Co-operation and Development, 2017. Data for Australia and Canada from 2014.

In the mid-2000s, spending growth slowed in all 10 countries, as fewer blockbuster drugs gained approval and many top-selling drugs, like Lipitor, came off patent.[2] This slowdown ended in striking fashion in 2014 and 2015, as U.S. prescription spending spiked by approximately 20 percent over a period of two years. This growth, like that experienced in the 1990s, was principally because of the introduction of several expensive specialty drugs to treat hepatitis C, cystic fibrosis, and other conditions.[3] Also likely contributing to this growth in the U.S. was the increase in health insurance coverage following passage of the Affordable Care Act.

While prescription spending also rose in 2014 and 2015 in several other countries (Germany, Norway, Switzerland, and the United Kingdom), the increases were not as large or abrupt as in the U.S.

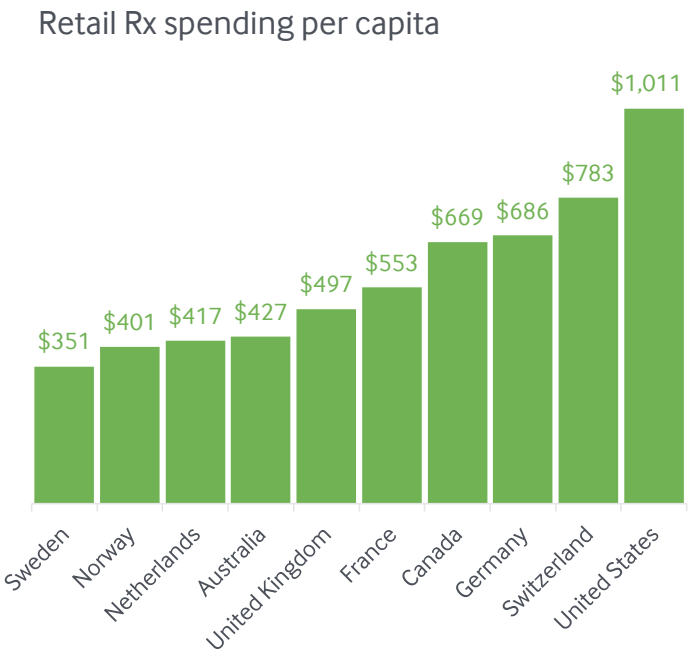
The result is that by 2015, U.S. spending on pharmaceuticals exceeded $1,000 per person and was 30 percent to 190 percent higher than in the other nine countries (Exhibit 2).

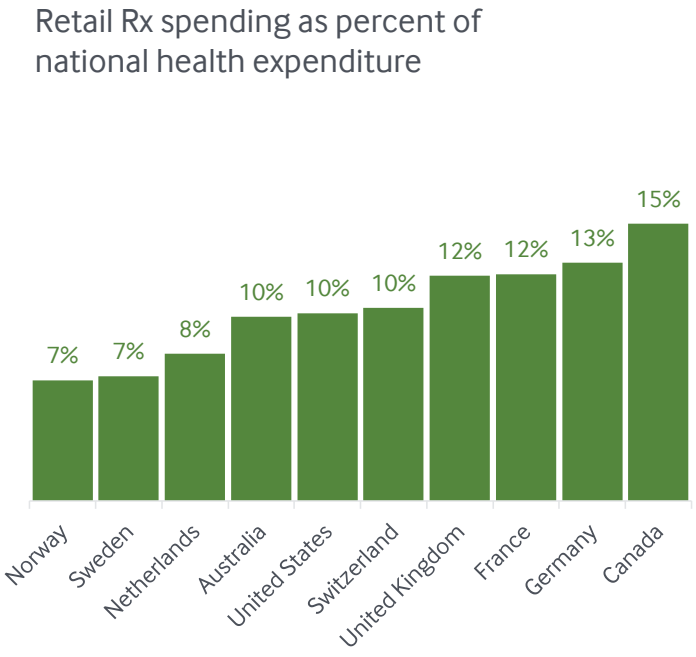
However, *as a share of total national health expenditures* (NHE), prescription drug spending in the U.S. is not out of line with that in other countries. In fact, it is in the middle of the range: retail prescription drugs account for 10 percent of total NHE in the U.S., whereas in Norway they account for 7 percent and in Canada for 15 percent (Exhibit 2). These numbers represent conservative estimates, as they do not include spending on pharmaceuticals consumed in other health care settings or in hospitals. If this other spending were included, U.S. drug spending as a share of NHE would be closer to 17 percent.[4]

Explaining High U.S. Spending on Pharmaceuticals: Volume, Utilization, Mix, and Prices

Four possible factors determine a country's spending on pharmaceuticals: country population and volume of drugs consumed, drug utilization per person, type and mix of drugs consumed (e.g., generics versus brand-name drugs), and prices at which drugs are sold.

Exhibit 2. Retail Pharmaceutical Spending, 2015





Notes: Final expenditure on pharmaceuticals includes wholesale and retail margins and value-added tax. Total pharmaceutical spending refers in most countries to "net" spending, i.e., adjusted for possible rebates payable by manufacturers, wholesalers, or pharmacies. Data from all countries include only the portion spent on retail prescription medications, except for the Netherlands and the United Kingdom, where spending on pharmaceuticals includes prescribed medicines, over-the-counter medications, and other medical nondurable goods. Pharmaceuticals consumed in hospitals and other health care settings are excluded. All health care spending estimates exclude capital formation.

Data: Organisation for Economic Co-operation and Development, 2017.

While the United States has the largest population and the greatest absolute prescription drug spending as a country, its spending per capita (shown in Exhibit 1 and Exhibit 2) is still significantly higher than that of other countries. This higher per person spending is not because of its larger population.

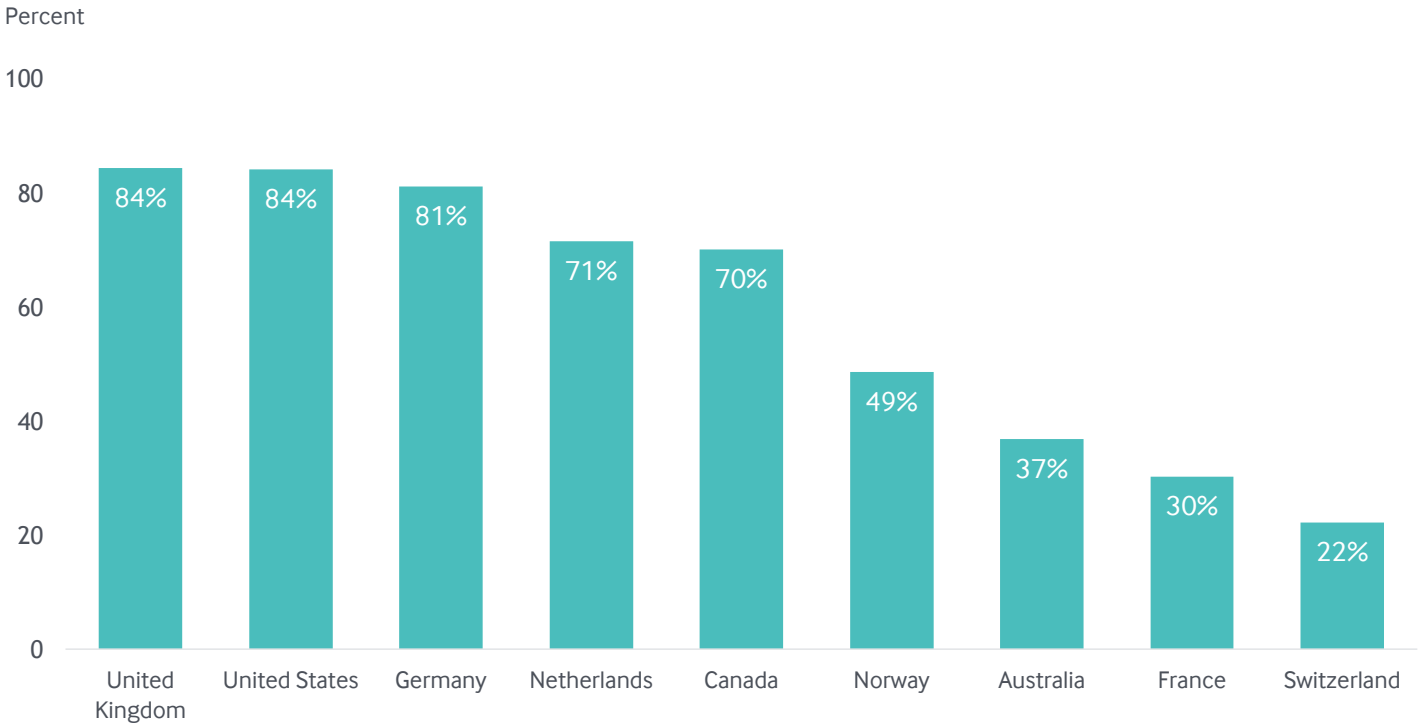
At the same time, The Commonwealth Fund's 2016 International Health Policy Survey suggests that per person prescription drug utilization in the U.S., while at the high end among high-income countries, is not an outlier.[5] Forty-seven percent to 60 percent of adults in all countries report taking one or more prescription drugs regularly, and while the U.S. is at the upper end of this range (59%), the differences may not be statistically significant. These findings align with other research concluding that Americans consume similar amounts of drugs as people do in other countries.[6]

The types of drugs consumed also influence pharmaceutical spending. In general, generic drugs have a lower per-unit price than nongenerics. In the U.S., generics make up 84 percent of the total pharmaceutical market (in terms of utilization, not spending), a larger share than in all the other countries except for the U.K. (Exhibit 3).

That generics — which have been aggressively promoted over brand-name drugs by payers and pharmaceutical benefit managers — make up such a large portion of the U.S. pharmaceutical market may seem counterintuitive, given that the U.S. spends more on pharmaceuticals than any other country. Further complicating the picture are research findings that approximately 20 percent of U.S. generics underwent a rapid price increase between 2010 and 2015.[7] More research is needed on how these markups affected overall U.S. pharmaceutical spending.

Finally, we investigated whether and how drug prices contribute to high U.S. spending. Comparing drug prices across countries is a complicated and imperfect process, primarily because of the proprietary nature of the rebates

Exhibit 3. Share of Generics in Pharmaceutical Markets



Notes: Data not available for Sweden. Data represent the total pharmaceutical market in Canada, Norway, and Switzerland. Data represent the reimbursed pharmaceutical market in Australia, France, Germany, the Netherlands, and the United Kingdom. Data represent the community pharmacy market in the United States. Data from 2014 in all countries except in Canada and France (2013), the U.S. (2012) and Australia (2007).

Data: Organisation for Economic Co-operation and Development, 2016.

drug manufacturers offer different payers. In a 2013 analysis, researchers attempting to account for these rebates created a retail price index for pharmaceuticals, with the U.S. set at 100. Index values ranged from 95 in Germany to 46 in the United Kingdom, reflecting that U.S. retail prices for commonly prescribed drugs were 5 percent to 117 percent higher than prices in the other six countries included in the study (Exhibit 4). The authors suggested that the lower prices in these other countries reflected their more centralized processes for procuring pharmaceuticals and determining coverage.[8]

Another recent analysis from Bloomberg compared the prices of six top-selling drugs across countries (Exhibit 5).[9] Though these drugs' higher prices may not be representative of all brand-name drugs, they suggest that — even after adjusting for the confidential discounts offered to U.S. health plans — prices for many blockbuster drugs are markedly higher in the U.S. than elsewhere. Further, this analysis does not include potential rebates negotiated in other countries for payers (e.g., the government), and therefore may represent a conservative analysis of the price differential compared with the U.S.[10]

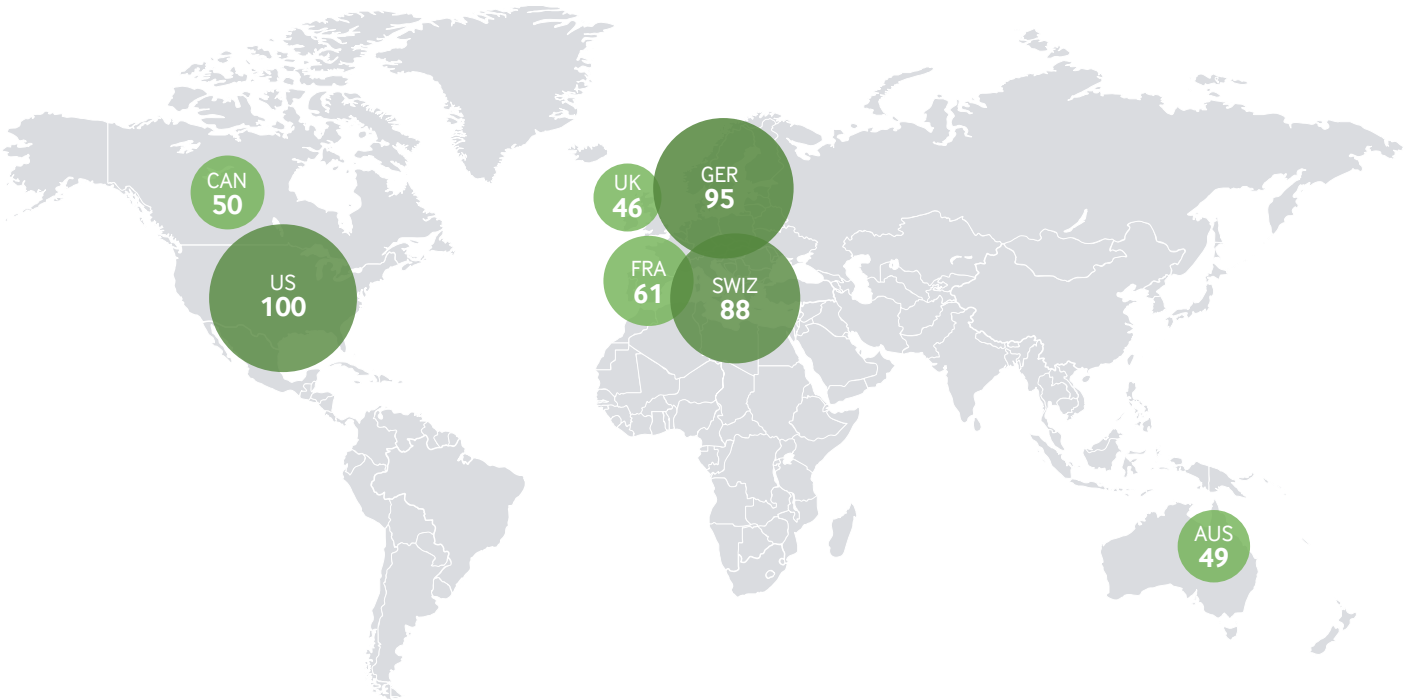
Patients' Exposure to Pharmaceutical Costs

Just as pharmaceutical spending differs across countries, the degree to which patients are exposed to out-of-pocket costs varies. Cost exposure is determined by the extent of insurance coverage among the country's population and by national standards (or a lack thereof) for insurance benefit design and protections against high out-of-pocket costs for poor or sick patients (Appendix).

In Norway, for example, copayments for pharmaceuticals can be more than $50 per prescription, though these charges are capped at approximately $260 annually. In contrast, the U.K.'s National Health Service requires little or no patient cost-sharing.

Despite the differences among them, all countries do more than the U.S. does to limit patients' exposure to high out-of-pocket costs. While insured U.S. patients often pay

Exhibit 4. Retail Price Index for Pharmaceuticals, 2010



Notes: Data not available for the Netherlands, Norway, or Sweden. Weighting is based on a Laspeyres index. See Kanavos et al. 2013 for further details.

Data: P. Kanavos, A. Ferrario, S. Vandoros et al., "Higher U.S. Branded Drug Prices and Spending Compared to Other Countries May Stem Partly from Quick Uptake of New Drugs," *Health Affairs,* April 2013 32(4):753–61.

Exhibit 5. Monthly Price of Six Top-Selling Prescription Drugs

Note: Data not available for the Netherlands, Norway, or Sweden, nor for Australia in the case of Sovaldi.

Data: R. Langreth, B. Migliozzi, and K. Gokhale, "The U.S. Pays a Lot More for Top Drugs Than Other Countries," *Bloomberg*, Dec. 18, 2015.

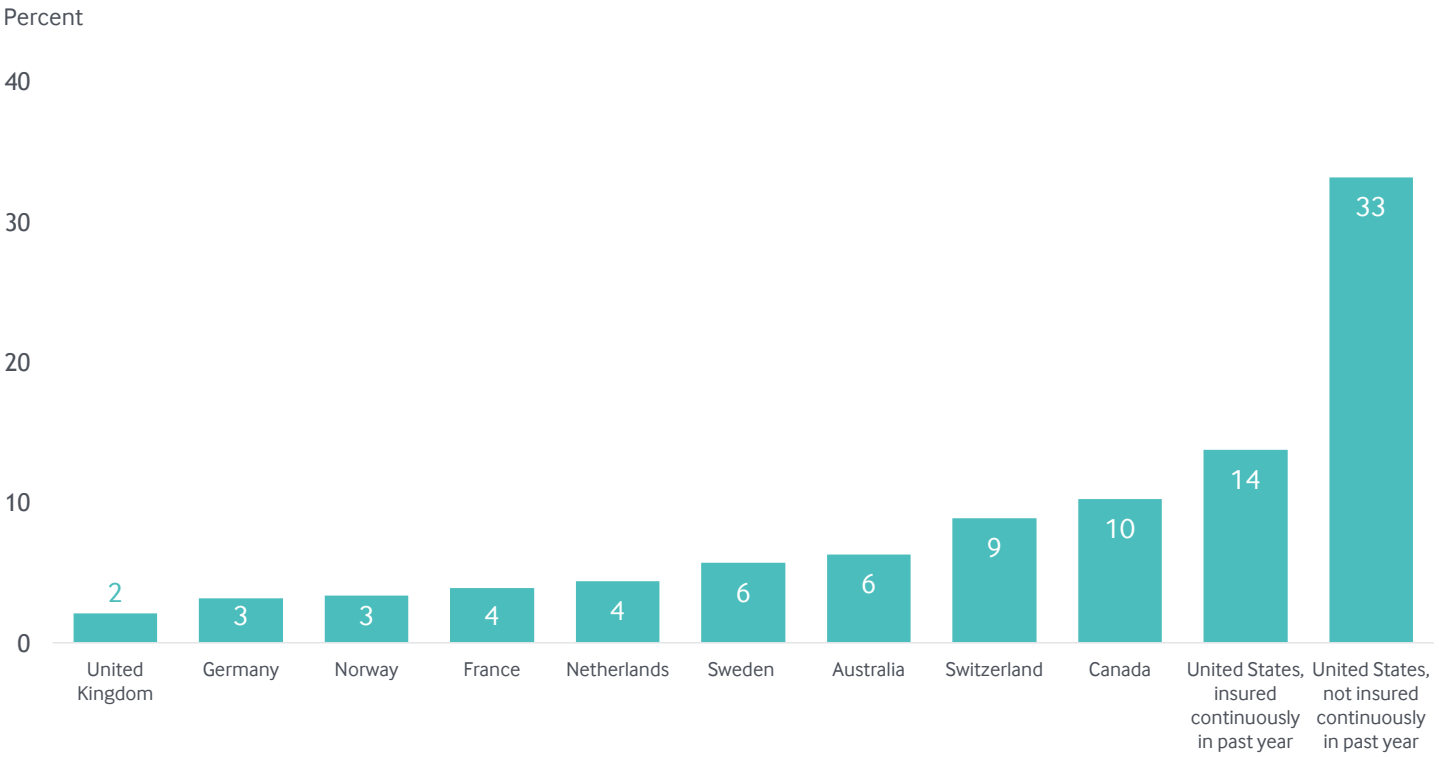
little or nothing for generic prescriptions, they can be billed tens of thousands of dollars for certain high-priced medicines. Even Medicare's Part D prescription drug benefit has no out-of-pocket cap for beneficiaries. Only a handful of U.S. states have passed legislation to limit out-of-pocket spending for insurance sold within their borders; for example, Maryland has a $150 monthly cap for specialty-tier drugs.[11]

In a 2016 international survey of adults, 14 percent of insured Americans reported that, in the past year, they did not fill a prescription or skipped doses of medicine because of the cost, compared with 2 percent in the U.K. and 10 percent in Canada, the nation with the highest rate after the U.S. (Exhibit 6).[12] Among Americans without continuous insurance coverage over the past year, the rate was twice as high: one-third reported they did not fill a prescription for medicine, or skipped doses of medicine, because of the cost.

For patients with chronic conditions, cost barriers are particularly detrimental, as they can undermine adherence to highly effective medication regimens.[13] The 2016 survey found that, in most countries, patients with two or more chronic conditions were significantly more likely to skip medications because of costs than were healthier patients, with one-fourth of chronically ill adults in the U.S. reporting such a problem (Exhibit 7). Notably, the only countries where such patients were not significantly more likely to report cost barriers to prescription drugs were France, Germany, and the U.K. — countries that have instituted protections to reduce out-of-pocket charges for their chronically ill populations.

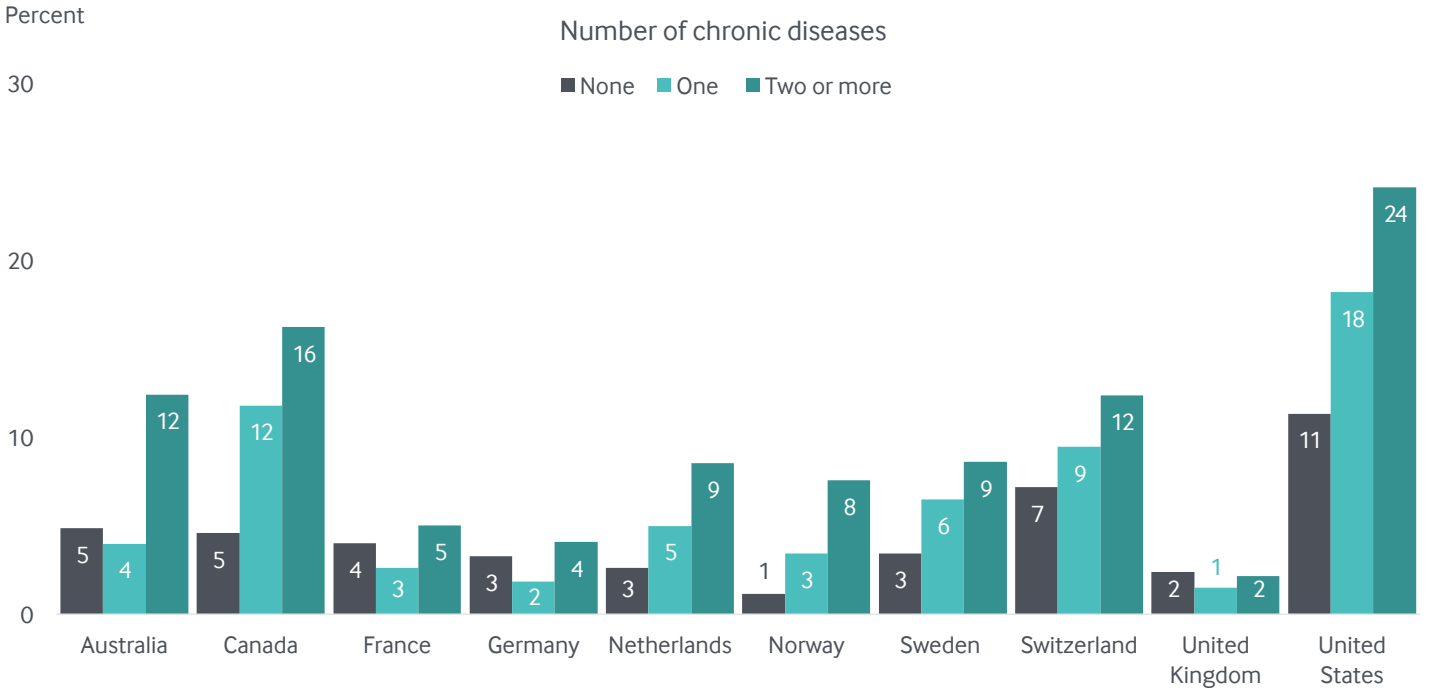
The Affordable Care Act, however, implemented significant reforms to improve the affordability of health care, including prescription drugs. Most notable were the insurance coverage expansions, through which more than 20 million low- and middle-income Americans gained coverage. Data from the Commonwealth Fund's Biennial Health Insurance Surveys show that the percentage of low-income adults who reported not taking a prescribed drug because of the cost declined to 24 percent in 2016 from 39 percent in 2010 (Exhibit 8).

Exhibit 6. Adults Who Cited Cost as a Reason for Skipping Prescriptions or Doses, 2016



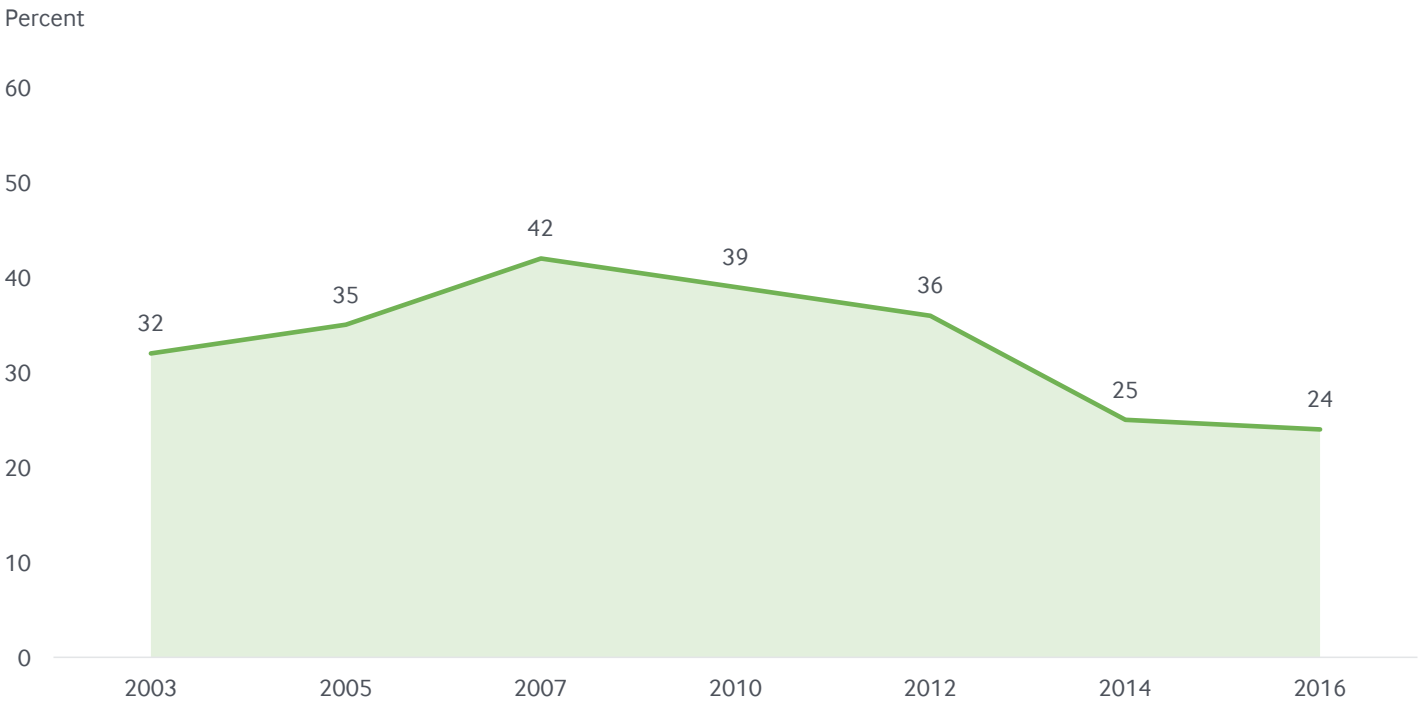
Data: 2016 Commonwealth Fund International Health Policy Survey of Adults in 11 Countries.

Exhibit 7. Adults Who Cited Cost as a Reason for Skipping Prescriptions or Doses, by Health Status, 2016



Data: 2016 Commonwealth Fund International Health Policy Survey of Adults in 11 Countries.

Exhibit 8. Low-Income U.S. Adults Who Cited Cost as a Reason for Skipping Prescriptions or Doses, 2003–2016



Note: Population limited to adults ages 19 to 64 and with household poverty status at 200% of federal poverty level or lower.
Data: The Commonwealth Fund Biennial Health Insurance Surveys (2003, 2005, 2007, 2010, 2012, 2014, 2016).

DISCUSSION: THE PRIMACY OF PRICE

Spending on prescription drugs in the U.S. far exceeds that in nine other high-income countries, a phenomenon that appears to be principally explained by the higher prices U.S. purchasers and consumers pay. Americans are more likely than their counterparts to bear this financial burden out-of-pocket — both because the U.S. is the only country among those studied with a large uninsured population, and because even Americans with insurance tend to have less protective benefits than people in other countries.

The importance of price in explaining high U.S. pharmaceutical spending is made apparent when we examine historical trends. The two eras when drug spending growth in the U.S. broke away from that in other high-income countries (the 1990s and 2014–15) took place when blockbuster drugs were hitting markets all over the world. Given that the U.S. generally pays higher prices for on-patent drugs, this influx may have caused its spending to rapidly outstrip that in other countries.

One reason U.S. prescription drug prices are higher may be the relative lack of price control strategies. Unlike the U.S., many other countries employ centralized price negotiations, national formularies, and comparative and cost-effectiveness research for determining price ceilings.[14] In the U.S., health care delivery and payment are fragmented, with numerous, separate negotiations between drug manufacturers and payers and complex arrangements for various federal and state health programs.[15] And, in general, the U.S. allows wider latitude for monopoly pricing of brand-name drugs than other countries are willing to accept.

Recent opinion polls have found that large majorities of Americans believe the government should be doing more to reduce the cost of prescription drugs.[16] Ninety-two percent of U.S. adults favor letting the federal government negotiate lower drug prices for Medicare beneficiaries. Such a reform would mark a significant shift in U.S. policy toward the more centralized pricing determinations used

in other high-income countries. Currently, the Veterans Health Administration and the Department of Defense are the only federal entities allowed to effectively negotiate directly with drug manufacturers; they pay prices that are roughly half of those paid at retail pharmacies.[17]

Granting Medicare — which finances well over a quarter of prescription expenditures — the properly designed authority to negotiate drug prices could help reduce costs for beneficiaries.[18] Doing so could also potentially bring prices closer to those in other high-income countries. But given the maze of public and private payers in the U.S. health system, bringing down drug prices for all Americans will most likely require a suite of market-based and government-led pricing reforms.

The more moderate spending trends in the other nine countries also may reflect policies that result in new drugs and medical technologies being adopted more gradually.[19] Other countries generally assess not just whether a new drug is effective, but whether it is more effective than existing therapies — and, in some cases, whether it is cost-effective. Thus, while U.S. per-person drug utilization may be similar to that in other high-income countries, new research indicates that the mix of drugs Americans consume includes a higher proportion of newer, more expensive medications — yet with no evidence of better health outcomes.

It is crucial to note that America's higher spending on prescription drugs (and the higher prices Americans pay) does not necessarily mean the spending is wasteful. A larger, more profitable pharmaceutical sector may attract investments resulting in more innovative and effective drugs in the future. For this reason, policymakers who wish to reduce America's prescription drug bill need to weigh, on the broader merits, the pros and cons of different cost-control policies.

Since implementation of the Affordable Care Act's insurance expansions, there has been a clear improvement in access to pharmaceuticals and other health care services in the United States, the only one of the 10 countries in our study that lacks universal health coverage. Still, cost barriers remain far too common, especially for those Americans still without coverage. As policymakers and the public debate the future of the ACA, the goal should be to improve on the country's recent gains, rather than to further restrict access to prescription drugs based on ability to pay.

METHODS

The data in this issue brief are drawn from a variety of sources on pharmaceutical spending in high-income, industrialized countries. Generally, the analysis seeks to provide a comprehensive yet targeted overview of pharmaceutical spending trends in a set of countries using varied but symbiotic data.

The Organisation for Economic Co-operation and Development (OECD) annually tracks and reports on a wide range of health system measures across 34 high-income countries, from population health status to health care spending and utilization. The pharmaceutical spending analyses shown in Exhibits 1 and 2 examined OECD health data released in 2017 for 10 countries: Australia, Canada, France, Germany, the Netherlands, Norway, Sweden, Switzerland, the United Kingdom, and the United States. These exhibits present OECD data for the year 2015 or, if not available, for 2014. All currency amounts are listed in U.S. dollars (USD) and adjusted for national differences in cost of living. Total pharmaceutical spending refers in most countries to "net" spending, i.e., adjusted for possible rebates payable by manufacturers, wholesalers, or pharmacies. Data from all countries include only the portion spent on retail prescription medicines except for the data from the Netherlands and the United Kingdom, which include prescribed medicines, over-the-counter medications, and other medical nondurable goods, as the disaggregated data were not available. Pharmaceuticals consumed in hospitals and other health care settings are excluded.

The share of generics in pharmaceutical markets analysis shown in Exhibit 3 utilized 2016 OECD health data for ten countries: Australia, Canada, France, Germany, Netherlands, Norway, Switzerland, the United Kingdom, and the United States (data not available for Sweden). This exhibit presents OECD data for the year 2014 or for the most recent year available (2013 in Canada and France, 2012 in the U.S., and 2007 in Australia).

Data in Exhibit 4 come from an analysis by Kanavos and colleagues (2013) on branded drug prices and spending, originally published in Health Affairs for Australia, Canada, France, Germany, Switzerland, the U.K., and the U.S. The other three countries were not included in the article and therefore excluded from Exhibit 4.

Data in Exhibit 5 are from a Bloomberg analysis (2015) that compared prices of eight brand-name drugs in the U.S. and other countries, which includes both the U.S. list price for the drug as well as an approximate U.S. price after discounts.

Exhibits 6, 7, and 8 present data from Commonwealth Fund surveys: the 2016 Commonwealth Fund International Health Policy Survey of Adults in 11 Countries, and the 2003–2016 Commonwealth Fund Biennial Health Insurance Surveys.

NOTES

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9 R. Langreth, B. Migliozzi, and K. Gokhale, "The U.S. Pays a Lot More for Top Drugs Than Other Countries," *Bloomberg,* Dec. 18, 2015.

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ABOUT THE AUTHORS

Dana O. Sarnak, M.P.H., is a former senior research associate for the Commonwealth Fund's International Health Policy and Practice Innovations program. She provided the program with research, writing, and analytic support and helped to design the Fund's annual international health policy surveys and analyze their findings. Previously, she was a policy analyst for the Institute for Children, Poverty, and Homelessness. Sarnak holds an M.P.H. in international community health from New York University, and is currently pursuing a doctorate in public health at Johns Hopkins University.

David Squires, M.A., formerly served as senior researcher for Commonwealth Fund President David Blumenthal and senior researcher for the Fund's International Health Policy and Practice Innovations program. He has also worked for Abt Associates as associate analyst in domestic health. Squires holds a master's degree in bioethics from New York University.

Greg Kuzmak, M.P.H., is a former deputy director for the Commonwealth Fund's International Health Policy and Practice Innovations program. He has also worked for the development organization Chemonics International Inc., where he was a program manager and program associate for the Rwanda Family Health Project, and for ICAP, where which he provided support for implementation of global quality improvement trainings. Kuzmak is currently a program manager for the Clinton Health Access Initiative. He holds an M.P.H. from Columbia University's Mailman School of Public Health.

Shawn Bishop, M.P.P., joined The Commonwealth Fund in 2016 as vice president for the Controlling Health Care Costs program, which monitors and analyzes spending in both the public and private health care sectors, and Advancing Medicare, which identifies ways in which the Medicare program can serve its beneficiaries more effectively and efficiently. Previously, she provided strategic consulting related to Medicare and the Affordable Care Act, including policy development and outreach to Congress and the administration. Bishop earlier served as senior vice president of research for the Marwood Group, offering financial services firms and others analysis of political, legislative, and regulatory environments, and as professional staff with the U.S. Senate Finance Committee. She holds a master's degree in public policy from the University of California, Berkeley.

Editorial support was provided by Jen McDonald.

For more information about this brief, please contact:
Shawn Bishop, M.P.P.
Vice President
Controlling Health Care Costs and Advancing Medicare
The Commonwealth Fund
smb@cmwf.org

About the Commonwealth Fund
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Appendix. Patient Exposure to Out-of-Pocket Prescription Drug Costs

Country	Out-of-pocket prescription drug spending per capita, 2015	National cost-sharing requirements for prescription drugs	Protection mechanisms	
			Reduced cost-sharing for chronically ill or low-income populations?	Maximum out-of-pocket spending limit?
Australia	$126	Copayments up to AUD 38.30 (USD 25) per prescription	Reduced copayments for people with low income	Several safety-net programs to reduce out-of-pocket charges after annual thresholds are reached
Canada	$149	Varies by province		
France		Nonreimbursable copayment of €0.50 (USD 0.60) per prescription, plus variable coinsurance rate (0–85%) depending on its clinical benefits, usually covered by supplemental insurance	Chronically ill are exempt for medicines related to their illness. Government provides supplemental insurance for low-income patients.	For nonreimbursable copayment: €50 (USD 56) for **all** health care services
Germany	$42	Copayments from €5 to €10 (USD 5.60 to 11.22) per prescription	No	2% of patient's gross income (or 1% of gross income for chronically ill patients)
Netherlands		Deductible of €385 to €885 (USD 432 to 993) for health care costs, including prescription drugs	No	No out-of-pocket payments after deductible is reached
Norway	$175	38% coinsurance up to NOK 520 (USD 53) per prescription	Reduced coinsurance for people with low incomes or certain chronic conditions	Annual out-of-pocket expenses for all health services capped at NOK 2185 (USD 260)
Sweden	$101	Deductible of SEK 1,100 (USD 128) annually, after which subsidy gradually increases to 100%	No	SEK 2,200 (USD 295)
Switzerland	$221	Deductible of CHF 300 to CHF 2,500 (USD 275 to 2,294). After deductible, insured persons pay 10% coinsurance for all services. Coinsurance 20% if generic is not used.	No	After deductible is reached, coinsurance payments are capped at CHF700 (USD 642) for adults and CHF350 (USD 321) for all health services
United Kingdom		Standardized copayment in England of £8.60 (USD 11.09) per prescription item. No copayment in Scotland, Wales, or Northern Ireland.	Reduced or no copayment for people with low incomes or certain chronic conditions	No
United States	$142	Varies by insurance plan		

Data: *Out-of-pocket prescription drug drug spending per capita, 2015* — Organisation for Economic Co-operation and Development, *Health 2016*; data for Australia and Canada from 2014. *All other data* — Authors' adaptation from E. Mossialos, A. Djordjevic, R. Osborn, and D. Sarnak (eds.), *International Profiles of Health Care Systems* (The Commonwealth Fund, May 2017).

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