



2016 Generic Drug Savings & Access in the United States Report

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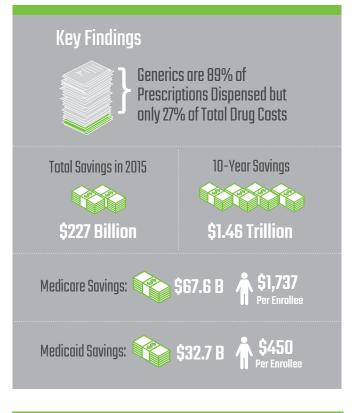


Generic Medicines Drive Savings, Not Costs

The generic pharmaceutical industry plays an important role in the health system and generic drug manufacturers are true drivers of health system value — generating savings and enhancing access for patients, public programs, taxpayers, employers and others who rely on more affordable medicines.

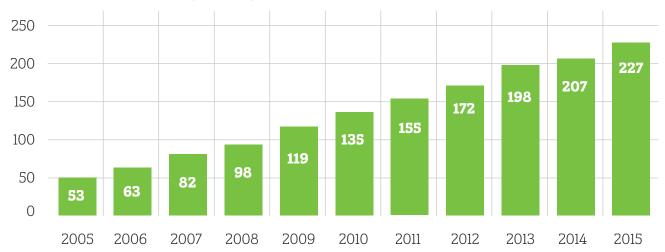
The 8th annual 2016 Generic Drug Savings & Access in the United States report is compiled by the QuintilesIMS Institute on behalf of the Generic Pharmaceutical Association (GPhA). This year, the report analyzes the savings from generic drugs realized at the national level as well as state-by-state, by therapeutic area, age group, public program and payor type. For the first time, this report includes common patient examples drawn from real world clinical evidence.

Health spending continues to strain patient budgets. In 2014, per capita health spending reached \$9,523, according to the Centers for Medicare and Medicaid Services (CMS), the most recent data available. With total health spending at approximately \$3 trillion, it is helpful to look at drivers of these costs and the segments responsible for the bulk of spending. At the same time, it is important to recognize sources of significant health savings.



"When the dialogue turns to policy changes, there is one area where all stakeholders appear to be finding common ground – the solution to rising drug costs is increased competition from generic drugs." *—Chip Davis, President and CEO,GPhA*

GPhA understands the concerns about the rising cost of drugs. Today, branded specialty drugs are 1% of prescription drugs prescribed but remain responsible for more than 30% of total drug spending, according to separate QuintilesIMS data. **As brand and specialty drug costs climb, patients and the nation's health system can continue to find some relief from generic drugs.**



Annual Generic Drug Savings (\$ Billions)

"Our review of evidence strongly supports the conclusion that generic drug prices are not an important part of the drug cost problem facing the nation."

Department of Health and Human Services (HHS, Office of the Assistant Secretary for Planning and Evaluation, January 2016) issue brief

Generic products have been controlling costs for more than 30 years. Experts anticipate that generic savings will continue to grow and that generic drug manufacturers will continue to deliver on this industry's promise – timely access to safe, effective and more affordable medicines for millions of people.

Generic drug utilization is increasing while the share of pharmaceutical spending attributed to generics is decreasing. This means that more prescriptions are being dispensed while generic costs decline. Nearly 3.9 billion of the total 4.4 billion prescriptions dispensed in the United States are for generics. In 2015, generic drug savings reached \$227 billion.

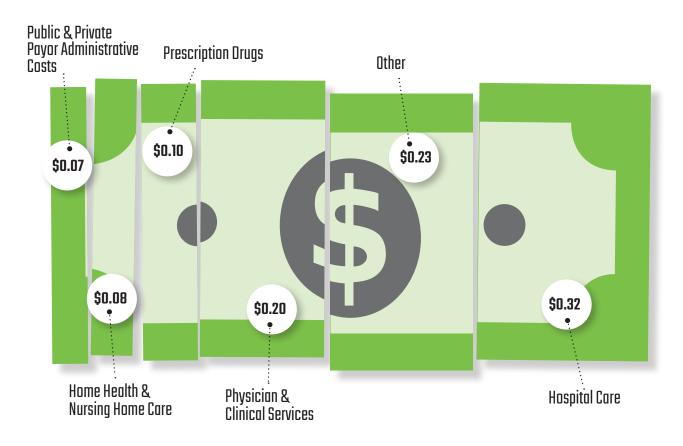
Generics make up 89% of prescriptions dispensed but only 27% of total medicine spending. Put another way, brand drugs are only 11% of prescriptions but are responsible for 73% of drug spending.

Vital generic products help millions of patients. Today's generic drug savings provide the health system with the ability to make investments in tomorrow's new medicines. Still, innovation alone is not sufficient to ensure positive patient outcomes or patient access.

Innovation must be coupled with access for the system to work as intended. The generic and biosimilar sectors are precisely where innovation and access intersect.

Total U.S. Healthcare Spending

Prescription medicines today account for just 10% of healthcare spending.



Ten-year savings from generic drugs totaled \$1.46 trillion (2006-2015). **In fact, from 2005 to 2015 generic savings increased 328% (\$53 billion to \$227 billion).** Older generics (launched before 2006) saved \$829 billion during that time period compared to newer generics (launched 2006-2015) which saved \$626 billion. Innovation is important in the generic space – it is essential that newer generic products enter the market and reach patients as safely and quickly as possible.

The 2016 Generic Drug Savings & Access in the U.S. report emphasizes the importance of

"[Rising drug costs] are entirely attributable to strong drug price growth among brand name and specialty drugs, which more than offset substantial price decreases among generic drugs."

Trends in Retail Prices of Prescription Drugs Widely Used by Older Americans, 2006 to 2013 (Feb. 2016, AARP)

the balance between innovation and competition and demonstrates that year over year generics are one of the largest and most reliable cost-saving segments in all of health care.

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Top 10 Generic Drugs Ranked by Savings

| Products | Generic Entry Year | Brand Pre-expiry price | Generic price 2015 | 2015 Savings (\$Bn) | Percent Savings | 2015 Dispensed Rxs (Mn) |
|-------------------------|-----------------------|------------------------------|-----------------------|------------------------|--------------------|-------------------------------|
| Lipitor (atorvastatin) | 2011 | \$3.29 | \$0.14 | \$12.30 | 96% | 93 |
| Zofran (ondansetron) | 2006 | \$21.67 | \$0.24 | \$11.30 | 99% | 21.7 |
| Prilosec (omeprazole) | 2002 | \$3.31 | \$0.11 | \$11.20 | 97% | 76.6 |
| Zocor (simvastatin) | 2005 | \$2.62 | \$0.03 | \$7.30 | 99% | 65.6 |
| Norvasc (amlodipine) | 2007 | \$1.54 | \$0.03 | \$5.20 | 98% | 81.4 |
| Neurontin (gabapentin) | 2004 | \$1.02 | \$0.09 | \$5.10 | 91% | 57.1 |
| Plavix (clopidogrel) | 2006 | \$4.91 | \$0.18 | \$4.50 | 96% | 25.2 |
| Singulair (montelukast) | 2012 | \$3.75 | \$0.21 | \$4.30 | 94% | 35.8 |
| Seroquel (quetiapine) | 2012 | \$6.00 | \$0.17 | \$4.20 | 97% | 19.8 |
| Zoloft (sertraline) | 2006 | \$2.18 | \$0.06 | \$4.10 | 97% | 46 |

"I just retired from a career in radiation therapy. As a health care professional, I track my appointments, treatment, and spending very carefully. The blood pressure medicine I used to take cost \$43 a month. Then I switched to a generic equivalent that's only \$24.50 for six months. My husband and I are healthy—in fact, we just took a bike tour around the mountains of Vancouver Island—but I'm concerned about heath care as we get older. Generic prescriptions help us to keep money in reserve in our Health Savings Account."

-Karole, 55, Bloomfield, MI

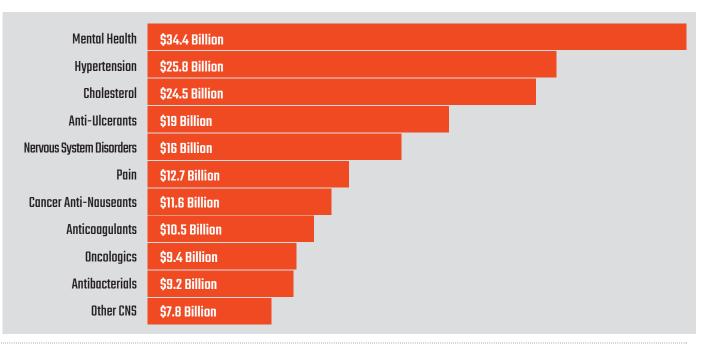
Generic Savings by Therapy Area

Generic drugs continue to improve the lives of millions of people across many therapy areas. The highest levels of savings in 2015 were found in drugs for treating mental health, hypertension, cholesterol and ulcers.

Some of the largest generic savings can be found in medicines frequently found in the medicine cabinets of millions of Americans. For example, depression affects approximately 19 million Americans across age, race and gender. Generic versions of the popular brand drug Zoloft became available in 2006. Last year there were 45 million prescriptions dispensed for generic versions of Zoloft (sertraline) at a price of six cents per pill. This is a **97% price reduction** from the brand pre-expiry price of \$2.18 per pill. Zocor (simvastatin) treats high cholesterol and reduces risk of heart attacks and related health problems. The brand price pre-patent expiry for this medicine was \$2.62 per pill. The generic version currently sells for three cents per pill – **a 99% savings**. In 2015, more than 65 million prescriptions for this medicine were dispensed.

Simvastatin and other top generic savers treat familiar ailments — high cholesterol, acid reflux and others. Pronounced savings can also be found in anti-nauseants typically prescribed during cancer treatments or drugs prescribed to prevent epileptic seizures or nerve pain.

Generic Savings by Therapy Area



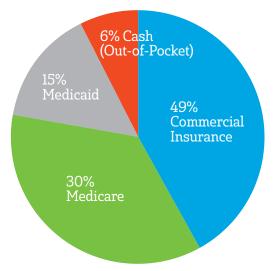
Generic Drugs Help Public Programs and Taxpayers

The federal government is the nation's largest purchaser of generic drugs. In fact, without generics Medicaid and Medicare spending on prescription medicines would nearly double. A 2016 GAO report found that prices for generic drugs in Medicare Part D declined 59% from the first quarter of 2010 to the second quarter of 2015.

Medicare savings from generics totaled \$67.6 billion in 2015 with savings of \$1,737 per enrollee. Medicaid program savings from generics reached \$32.7 billion which translates to savings of \$450 per enrollee. Medicare spending on drugs in 2015 is projected to reach \$96.6 billion while Medicaid is projected to reach \$32.2 billion.

On average, each state saved \$4.4 billion from generic drugs in 2015. This means that state Medicaid savings averaged \$651 million and state Medicare savings averaged \$1.35 billion per state. For a full list of state-bystate savings, see appendix. "Generic drug prices fell 59 percent from the first quarter of 2010 through the second quarter of 2015 [in the Medicare Part D program]." *U.S. Government Accountability Office (GAO) (September, 2016)*

Generic Savings by Payor Type



"When my prescription goes generic, I'm dancing for joy. It makes a huge difference to my personal bottom line. The generics are effective and affordable, and the savings go toward the mortgage on my house." *Yve, 42, Brooklyn NY*

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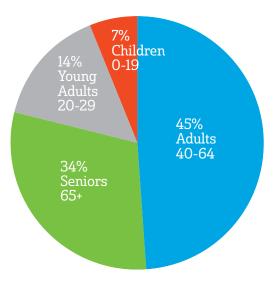
Generics put Treatment within Reach for Patients

Medicines typically prescribed to adults (40-64) accrued \$100 billion in savings while those typically prescribed to seniors (65+) account for \$75 billion in savings. Medicines taken by these two population segments represent patients most likely to benefit from 79% of generic drug savings. Medicines for young adults (20-39) saved \$30.4 billion while medicines predominantly treating children (0-19) made up \$16 billion in savings.

Patients often have multiple chronic diseases and their costs add up quickly. Out of pocket costs can vary between traditional commercial insurance plans with set copayments, high deductible health plans or Medicare Part D. Regardless of payment type, generic medicines are typically much less expensive. "The use of generic drugs—that, on average have retail prices that are 75 to 90 percent lower than the retail prices of brand-name drugs—can provide significant cost savings to the U.S. health care system. Generic drugs not only lower costs for individuals in the form of lower copayments and other out-of-pocket costs, but they also lower costs for third-party payers—including private health insurance plans and public programs."

U.S. Government Accountability Office (GAO) (September, 2016)

Savings by Patient Age



"I owned and operated a pharmacy in downtown Toledo for 34 years. Nearly all of my customers were on Medicaid, so the savings from generic prescription medication flowed back to the State of Ohio. As their pharmacist, I had a serious responsibility to look after their care. As a taxpayer, I was always grateful for generic drugs. Today, as a patient and grandpa, I take generics to manage a chronic condition. It's every bit as effective and reliable as the brand-name alternative."

–James, 74, Palm Beach Gardens, FL

Patient Saving Scenarios

These savings can really add up for patients who rely on access to more affordable medicines. The comparisons below are "typical patients." These clinically-derived examples represent millions of every day Americans that face the very real challenge of struggling to afford their prescription medicines. "The average price for the most commonly used brand-name drugs has increased 164% since 2008, whereas generic drug prices have continued to decline. Between 2014 and 2015, the price of generic products, on average, decreased 19.9%, while the price of brand name products increased, on average, 16.2%." *Express Scripts 2015 Drug Trend Report (March 2016)*

Mary has Medicare Part D insurance and relies on treatments for diabetes, heart failure and high cholesterol. She also takes an anticoagulant. Mary's monthly out of pocket expenses are 1,400% higher without generic drugs.

| Disease/Treatment | Brand | Monthly Out of Pocket Cost | | Generic | |
|--------------------------------------|-------------------------|----------------------------|---------|--------------|--|
| Diabetes | Glucophage | \$43.18 | \$2.31 | Metformin | |
| Heart Failure | Coreg | \$57.10 | \$2.68 | Carvedilol | |
| Cholesterol | Crestor (Rosuvastatin)* | \$45.39 | \$4.88 | Atorvastatin | |
| Anticoagulant | Xarelto (Rivaroxaban)* | \$65.29 | \$3.75 | Warfarin | |
| Total Monthly Out-of-Pocket Costs | | \$210.96 | \$13.62 | | |

* Where generic equivalents are not available, a different medicine in the same therapy is shown, though they are not substitutable and clinical results are not considered equivalent. These comparisons do not constitute medical advice and a physician should always be consulted.

"One day, my pharmacist saw that I was taking the brand-name of my hypertension drug, and he said, 'Why don't you try the generic and see how it works for you?' We're talking a huge price difference—\$120 a month versus \$10 a month. I take the savings and invest back in my own health."

-Kevin, 49, Sandwich, MA

Patient Saving Scenarios cont.

Kwame has a high deductible plan through a commercial insurer. He takes medicines for diabetes, chronic pain and to manage his cholesterol. He is also bipolar. Kwame's monthly out of pocket expenses drop from \$570.56 to \$97.89 if he can access generics. That's almost 488% savings.

| Disease/Treatment | Brand | Monthly Out of Pocket Cost | | Generic |
|--------------------------------------|-------------------------|----------------------------|---------|--------------|
| Diabetes | Glucophage | \$67.94 | \$4.34 | Metformin |
| Cholesterol | Crestor (Rosuvastatin)* | \$88.35 | \$12.01 | Atorvastatin |
| Bipolar | Abilify | \$182.89 | \$60.07 | Aripiprazole |
| Chronic Pain | Oxycontin* | \$231.38 | \$21.47 | Oxycodone |
| Total Monthly Out-of-Pocket Costs | | \$570.56 | \$97.89 | |

* Where generic equivalents are not available, a different medicine in the same therapy is shown, though they are not substitutable and clinical results are not considered equivalent. These comparisons do not constitute medical advice and a physician should always be consulted. Brand out-of-pocket costs in this example were not offset with any patient co-pay assistance from manufacturers. Generic Oxycontone is the same active ingredient but is not approved as a directly substitutable generic for Oxycontin.

Barbara has commercial insurance coverage and copes with high blood pressure, high

cholesterol, depression and chronic gout. Barbara's costs would be 71% lower using only generics.

| Disease/Treatment | Brand | Monthly Out of Pocket Cost | | Generic |
|--------------------------------------|-------------------------|----------------------------|---------|--------------|
| Hypertension | Diovan HCT | \$43.57 | \$9.18 | Valsartan |
| Cholesterol | Crestor (Rosuvastatin)* | \$29.67 | \$6.90 | Atorvastatin |
| Depression | Prozac | \$52.08 | \$5.03 | Fluoxetine |
| Gout | Uloric (Febuxostat)* | \$39.28 | \$26.27 | Colchicine |
| Total Monthly Out-of-Pocket Costs | | \$164.60 | \$47.38 | |

* Where generic equivalents are not available, a different medicine in the same therapy is shown, though they are not substitutable and clinical results are not considered equivalent. These comparisons do not constitute medical advice and a physician should always be consulted. Brand out-of-pocket costs in this example were not offset with any patient co-pay assistance from manufacturers.

Improving Patient Access

The Generic Pharmaceutical Association (GPhA) supports policies that foster robust pharmaceutical competition in order to make sure that patients and the entire health system can realize the full value of safe, effective and more affordable generic and biosimilar medicines. **There are policy and regulatory changes that, if enacted, would enhance competition and improve patient access.**

"While the use of generic drugs has increased over time, clinicians often prescribe more expensive brand name drugs when equally effective, well proven, and less expensive generic versions are available. The use of generic drugs is a High Value Care way to improve health, avoid harms, and eliminate wasteful practices." -Wayne J. Riley, President, American College of

Physicians, MD, MPH, MBA, MACP

It is a public health and patient safety imperative that patients take medicines as prescribed and adhere to the instructions of their doctor, pharmacist or healthcare provider.

Four Steps to Getting the Most Value from your Prescription Drugs

Patients fully engaged in efforts to improve their health are taking steps to get the full value of safe, effective and more affordable generic drugs:

1. Choose Generic: Make sure to ask your provider or pharmacist if a generic version of the medicine you need is available.

2. Adhere to Your Treatment

Regimen: Always use medicines as directed by your healthcare provider.

3. Store Your Medicines Safely:

Keep your prescription drugs in a place that is cool and dry, since heat and humidity can damage medicines. If there are children in your household and/or you are storing controlled substances prescribed for you, a locked storage area is a good idea to promote safety and prevent misuse.

4. Follow Safe, Easy Disposal

Practices: In-home disposal is the fastest, safest and most convenient way to avoid misuse. The FDA, the Environmental Protection Agency, and the White House Office of National Drug Control Policy also support in-home disposal. Avoid pouring medicines down the drain unless instructed by your healthcare provider.

Biosimilars Snapshot

Biosimilars are safe and effective alternatives to costly brand biologic medicines used in the treatment of cancer, rheumatoid arthritis and other conditions. Biologics and biosimilars are produced from living organisms (microorganisms, plant or animal cells) rather than chemical compounds, which means they are more complex to manufacture than most other available medicines. Before they are available for patients, biosimilars will pass extensive FDA clinical and scientific tests to ensure they are safe and effective as their more costly branded counterpart. The final product is analyzed with some of the most sophisticated and innovative pharmaceutical technology available today.

"Smart policy is grounded in science. Today's decisions are creating the market that will put biosimilars within reach for millions of American patients."

-Bert Liang, M.D., Ph.D., M.B.A., President & CEO, Pfenex, and Chairman, GPhA Biosimilars Council

Biosimilars enable patients, payers, physicians and others to benefit from greater choice when it comes to treatment options.

Almost 50 biosimilars are currently in development and will likely result in a highly competitive marketplace over the next five years. "Approved biosimilar products have been determined to be highly similar to a Food and Drug Administration approved reference product and demonstrated that they have no clinically meaningful differences from the reference product in terms of safety, purity and potency." *—Leah Christl, Ph.D., Associate Director for Therapeutic Biologics, Food and Drug Administration*

According to QuintilesIMS, the global brand biologic medicines market is projected to exceed USD390 billion by 2020, up from 46 billion in 2002. By 2020 biologics will account for up to 28% by value of the global market for pharmaceuticals.

By all accounts, biosimilar competition is expected to decrease spending on these costly medicines. **Biosimilars savings projections range from \$44-\$250 billion over 10 years.**

Biosimilars will help our health system by reducing costs and these safe and effective, more affordable alternatives to costly brand biologic medicines will improve patients' choices. Patients and providers can be assured that an FDA approved biosimilar will have **"no clinically meaningful differences"** from its brand biologic counterpart. Biosimilar manufacturers are working hard to educate physicians, pharmacists, regulatory experts and others to reiterate that these medicines are safe and effective.

Biosimilars will create market competition in the biologic sector and drive down prices for these treatments just as Congress did in 1984 when the Hatch Waxman Act created the framework which has governed the modernday generic drug industry.

Looking Forward

The generic drug industry is a remarkable health savings success story. This report and others show that overall generic drug prices continue to decline and generic savings continue to increase. This trend has been consistent for decades and will only increase with the uptake of biosimilar medicines. More can be done to increase patient access to affordable generic medicines, a proven lever against rising health costs. It is essential that decision makers consider objective data and authoritative analysis to drive any policies that affect our nation's patients and healthcare system.

Generic deflation continues to help millions of patients and taxpayers increasingly strained by soaring brand and specialty drug costs. It is a near universally acknowledged fact that the generic drug industry is responsible for making medicines more affordable and accessible for millions of Americans.

GPhA will continue working with Congress, regulators, industry and patient groups to create a framework to bring greater savings and affordable medicines to our country. The foundation of that framework is greater competition.

As policymakers evaluate their options, it is important to ensure that policy proposals enhance pharmaceutical competition. This effort can help lower drug costs while expanding access to safe and effective generics and biosimilars for millions of people.

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APPENDIX

2015 Savings by State (\$ Millions)

| State | MEDICAID | MEDICARE D | CASH | COMMERCIAL | TOTAL |
|-------|----------|------------|---------|------------|----------|
| AK | 37.2 | 55.6 | 21.1 | 180.4 | 294.2 |
| AL | 371.6 | 1,516.3 | 311.2 | 2,322.4 | 4,521.5 |
| AR | 282.3 | 908.1 | 220.2 | 1,394.8 | 2,805.4 |
| AZ | 592.0 | 1,148.0 | 228.2 | 2,059.1 | 4,027.3 |
| CA | 3,669.8 | 6,420.5 | 1,186.8 | 8,907.1 | 20,184.2 |
| CO | 420.0 | 641.3 | 192.9 | 1,361.4 | 2,615.6 |
| CT | 449.4 | 754.9 | 134.0 | 1,341.5 | 2,679.7 |
| DC | 128.7 | 197.6 | 33.1 | 333.9 | 693.3 |
| DE | 146.3 | 176.5 | 32.0 | 304.2 | 659.1 |
| FL | 1,600.9 | 4,697.8 | 925.3 | 5,860.3 | 13,084.3 |
| GA | 752.9 | 2,223.0 | 570.7 | 3,664.8 | 7,211.3 |
| HI | 125.4 | 228.6 | 29.8 | 337.2 | 721.1 |
| IA | 359.1 | 791.0 | 140.4 | 1,236.1 | 2,526.6 |
| ID | 110.1 | 261.9 | 72.9 | 498.2 | 943.0 |
| IL | 1,231.3 | 2,582.5 | 547.5 | 4,557.3 | 8,918.6 |
| IN | 598.1 | 1,456.2 | 320.4 | 2,635.5 | 5,010.2 |
| KS | 203.1 | 643.0 | 250.1 | 1,296.5 | 2,392.6 |
| KY | 1,164.2 | 1,466.2 | 268.1 | 1,898.4 | 4,796.9 |
| LA | 447.0 | 1,304.8 | 314.5 | 2,330.8 | 4,397.2 |
| MA | 901.9 | 1,518.5 | 172.6 | 2,698.3 | 5,291.2 |
| MD | 698.0 | 807.6 | 205.7 | 2,032.0 | 3,743.4 |
| ME | 139.3 | 293.2 | 30.8 | 491.7 | 954.9 |
| MI | 1,224.2 | 2,263.6 | 447.5 | 3,560.5 | 7,495.9 |
| MN | 523.9 | 983.2 | 202.7 | 1,650.7 | 3,360.6 |
| MO | 536.7 | 1,539.2 | 305.4 | 2,340.9 | 4,722.2 |
| MS | 219.1 | 991.9 | 271.8 | 1,303.1 | 2,785.8 |

| State | MEDICAID | MEDICARE D | CASH | COMMERCIAL | TOTAL |
|-----------------|----------|------------|----------|------------|-----------|
| MT | 62.4 | 168.7 | 58.3 | 312.9 | 602.2 |
| NC | 803.4 | 2,389.9 | 465.4 | 3,893.7 | 7,552.4 |
| ND | 59.6 | 163.7 | 71.3 | 332.0 | 626.6 |
| NE | 142.2 | 486.2 | 112.4 | 831.5 | 1,572.3 |
| NH | 61.6 | 234.0 | 33.3 | 519.8 | 848.7 |
| NJ | 1,019.8 | 1,921.5 | 270.4 | 2,979.0 | 6,190.7 |
| NM | 169.3 | 315.0 | 79.5 | 629.9 | 1,193.7 |
| NV | 304.6 | 443.9 | 97.4 | 848.6 | 1,694.5 |
| NY | 4,458.4 | 6,179.2 | 692.9 | 7,928.0 | 19,258.5 |
| OH | 1,863.1 | 2,794.2 | 436.6 | 4,512.7 | 9,606.6 |
| OK | 290.7 | 746.5 | 213.2 | 1,529.0 | 2,779.4 |
| OR | 399.4 | 694.1 | 130.5 | 1,084.1 | 2,308.2 |
| PA | 1,538.8 | 3,465.8 | 385.8 | 5,168.7 | 10,559.1 |
| RI | 197.0 | 339.4 | 25.6 | 523.9 | 1,085.8 |
| SC | 356.8 | 1,267.9 | 235.9 | 1,933.3 | 3,793.8 |
| SD | 49.9 | 176.0 | 55.4 | 301.8 | 583.2 |
| TN | 658.3 | 2,036.5 | 403.4 | 2,983.4 | 6,081.5 |
| TX | 1,503.4 | 4,464.2 | 1,181.2 | 8,938.3 | 16,087.1 |
| UT | 127.8 | 359.5 | 186.7 | 1,095.8 | 1,769.8 |
| VA | 423.2 | 1,410.6 | 278.7 | 3,302.6 | 5,415.2 |
| VT | 69.1 | 122.5 | 9.6 | 176.0 | 377.3 |
| WA | 661.2 | 927.5 | 189.4 | 2,059.8 | 3,837.9 |
| WI | 601.4 | 1,056.1 | 204.9 | 1,944.7 | 3,807.0 |
| WV | 481.1 | 666.1 | 83.3 | 903.1 | 2,133.7 |
| WY | 27.2 | 76.4 | 23.6 | 185.2 | 312.3 |
| Grand Totals | 33,262.1 | 68,776.7 | 13,360.3 | 111,514.8 | 226,913.8 |

Methodology

The value of generics currently on the market was estimated using the pre-expiry prices of the brands they replaced. The current dataset includes pre-expiry brand prices for 788 generic molecules. The value of each generic molecule was determined by multiplying its pre-expiry brand price by the generic volume sold in each of the last ten years. This value represents what would have been spent on brand name medicines in the absence of generic competition. The savings attributed to each of the 788 generic molecules was determined by subtracting historic generic spending from the estimated brand spending in the absence of generic competition.

This analysis was refreshed with annual sales and volume data for all medicines sold in the United States between 1992 and 2015, focusing on the 10-year savings for the period 2006 to 2015. Savings from generics launched in the 1993 to 2015 study period are based on the most current knowledge of their pre-expiry prices. Savings from generics launched prior to 1993 were calculated using brand prices from 1992 which is the oldest archived data period retained by QuintilesIMS.

Generic savings were calculated at the moleculeclass level using a single average price for each molecule across all formulations (oral solid, liquid,). Molecules that are available in multiple formulations are assumed to have the same preand post-expiry utilization patterns. Molecules with injectable formulations were calculated related to specific formulations to appropriately measure the cost differences between brands and equivalent generic forms. State level generic savings was estimated by apportioning total savings for each molecule by each state's share of the national retail prescription volume. This method embeds two assumptions; first, that prices are uniform across the country, and second, that retail prescription activity mirrors prescription activity in other channels, notably mail order.

Savings generated by children, young adults, older adults, and seniors were estimated based on national prescription trends captured in the QuintilesIMS National Prescription Audit. These figures represent the portion of the national savings generated by each age group, not the sum of the patients' personal savings.

Savings by pay type was estimated using the share of each molecule dispensed via retail pharmacies to patients paying with cash and those covered by Medicare, Medicaid, and commercial insurance. After calculating savings at the molecule, state, and payer level, results were summed to the state-payer level, results were summed to the state-payer level. This method does not analyze the cost to the patient who may have a co-pay or discount card; rather it divides generic savings equally amongst patients based on prescription use, regardless of insurance plan.

Patients with Medicaid, Medicare, and commercial insurance pay different prices for their medications based on their insurance benefit design. This analysis did not attempt to estimate savings to individual patients based on their method of payment. Instead, total generic savings for each molecule was divided evenly based on the number of prescriptions filled by patients of each pay type.

Notes on Changed Methodology from Prior Edition

In the current edition of this study, the QuintilesIMS Institute has employed not previously available historic archives. The prior versions of this study were based on archives and live data covering periods 2003-present. The current edition of the study includes archives extending a further 11 years to 1992. The calculation of generic savings depends upon the brand's pre-expiry price, or the oldest available brand price if the pre-expiry price is not available. Older generics, particularly those first launched 1992-2003, and even those first launched before 1992, now have improved accuracy in the study. Brand prices change post-expiry, and therefore the more complete and accurate prices have improved the accuracy of the savings estimated in the study.

Offsetting these reduced savings modestly were the inclusion of some medicines where brands ceased marketing between 1992-2003, leaving only generics available for those medicines. These medicines were excluded previously due to the absence of a brand price for calculations of savings, but can now be included.

Typical Patient Analysis Methodology

Typical disease and treatment comorbidities were determined through expert interviews with QuintilesIMS disease experts and medical professionals.

Leading brands and generics in each treatment therapy area were observed in QuintilesIMS's pharmacy data for annual patient copayment averages for a variety of insurance coverage situations, normalized to 30-day prescription costs. Where costs of different medicines are compared, it is representative of common usage, but does not constitute medical advice, physicians should always be consulted in the choice of medicines.

Typical patients for the analysis are presented as a composite of average out of pocket costs for medicines that could occur in the U.S. for a patient prescribed the named medications.

Out of pocket costs are based on an average of all plans, all patients and over the entire calendar year.



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