



May 2019

Single-Payer and Universal Coverage Health Systems: *Final Report*

The 2018 Washington State Legislature directed the Washington State Institute for Public Policy (WSIPP) to conduct a study of single-payer and universal health coverage systems.

Our interim report addressed several aspects of the study assignment.¹ We discussed policies to promote universal health care, outlined health care coverage and expenditures in Washington, examined potential effects of implementing single-payer health care, discussed challenges to implementing it, and summarized characteristics of national and state single-payer proposals. This final report describes universal coverage and single-payer systems in other countries and reviews evidence regarding differences in health care costs, access to care, and health outcomes.

We summarize findings from both reports in [Section I](#). [Section II](#) summarizes health care systems in high-income countries ([Appendix III](#) provides detailed profiles of the Canadian, German, Swiss, and Dutch systems). [Section III](#) examines the factors responsible for higher costs in the US and cost control measures adopted in other countries. We compare access to care in [Section IV](#) and health outcomes in [Section V](#).

¹ Bauer, J., Hicks, C., & Casselman, R. (2018). *Single-payer and universal coverage health systems—Interim report* (Doc. No. 18-12-3401). Olympia: Washington State Institute for Public Policy.

Summary

We compare the US health care system to that in other high-income countries. These countries have achieved universal coverage and substantially lower health care spending than the US. Some have done so with single-payer systems; others with multi-payer, insurance-based systems.

These other countries, both single- and multi-payer, have mechanisms to control the prices of medical services and pharmaceuticals. They have lower insurer administrative costs and in the case of single-payer countries, lower provider administrative burdens. These countries also have to varying degrees limited utilization of some high-margin procedures and advanced imaging. And, importantly, these countries have been better able to discourage the diffusion of medical technologies and drugs that have modest or uncertain effectiveness.

These countries have also been more successful than the US in limiting financial barriers to care and promoting more equitable access across income groups.

Finally, the United States' higher health expenditures do not translate to better health outcomes and quality of care for the entire US population.

These countries provide valuable lessons for health care reform in the US. However, it is less clear to what extent their single-payer systems and universal coverage policies, governmental controls, taxation systems, and benefit designs are translatable to the US.

I. Summary of Report Findings

We summarize key findings from our interim report below. Please refer to the report for more detailed discussions and supporting citations.²

Summary of Interim Report

Universal Coverage

Universal health coverage is a system where all people have access to the necessary services to enhance their health without putting themselves through substantial financial hardship. Among the high-income countries discussed in this report, only the United States does not have universal coverage. The other countries each have automatic or mandatory insurance enrollment.³

In Washington State, roughly 400,000 Washington residents (almost 6%) remain uninsured. If achieving universal coverage is the goal, it would require three things:

- 1) automatic or mandatory coverage,
- 2) subsidies for those who cannot afford insurance, and
- 3) guaranteed issue of insurance regardless of pre-existing conditions.⁴

² Bauer et al. (2018).

³The other countries include Japan, Germany, the United Kingdom (UK), France, Canada, Australia, Netherlands, Sweden, Switzerland, and Denmark.

⁴Fuchs, V. (2018). Is single payer the answer for the US health care system? *JAMA*, 319(1) and Rice, T., Unruh, L., van Ginneken, E., & Rosenau, P. (2018). Universal coverage reforms in the USA: From Obamacare through Trump. *Health Policy*. 122, 698-702.

Legislative Assignment

\$100,000 of the general fund—state appropriation for fiscal year 2019 is provided solely for the Washington state institute for public policy to conduct a study of single payer and universal coverage health care systems. The institute may seek support from the office of the state actuary. The institute shall provide a report to the appropriate committees of the legislature by December 1, 2018. The study shall:*

- a) *Summarize the parameters used to define universal coverage, single payer, and other innovative systems;*
- b) *Compare the characteristics of up to ten universal or single payer models available in the United States or elsewhere; and*
- c) *Summarize any available research literature that examines the effect of these models on outcomes such as overall cost, quality of care, health outcomes, or the uninsured.*

Engrossed Substitute Senate Bill 6032, Section 606(15), Chapter 299, Laws of 2018.

*Due to prior research commitments, the WSIPP Board of Directors voted to move the final deadline of this study to June 30, 2019.

In order to promote universal coverage, some states have considered insurance mandates, extending Medicaid and Marketplace coverage to undocumented immigrants, state-funded subsidies to lower the cost of coverage in the individual market, and a public plan for individuals and small groups.

Single-Payer Health Care

Under single-payer, all residents are automatically enrolled in a single, publicly financed insurance plan that provides comprehensive health care. If recent US single-payer proposals were adopted, individuals with Medicaid, Medicare, employer-sponsored insurance, individual coverage, and those without insurance would all be enrolled in a single public plan. These other types of public and private insurance would cease to exist. Private insurance would be limited to supplemental coverage for services not covered in the public plan.

In our current system, provider payment rates vary substantially across payers. Under a single-payer system, there would be a single set of payment rates. In our current system, premiums and cost-sharing requirements differ dramatically across plan sponsors. Under most single-payer proposals, cost sharing is reduced or eliminated across the board and enrollee premiums would be eliminated.

Potential Effects of Single-Payer

Advocates argue that single-payer would provide a more equal and universal provision of health care at a lower cost.⁵

Critics cite potential disadvantages, including public concerns over higher taxes, government control, and rationing of care; disruption to employment in the insurance market and lost jobs among administrative staff in hospitals and clinics; and adverse effects on medical and pharmaceutical innovation.⁶

⁵ Blewett, L. (2014). *Single payer health care systems*. State Health Access Data Assistance Center (Presentation to Minnesota Medical Association, August 19, 2014).

⁶ Ibid.

In the national debate over single-payer health care, controlling costs has received the most attention. Adopting single-payer, as specified under current US proposals, would increase health care expenditures by extending coverage to the previously uninsured, reducing or eliminating cost-sharing among enrollees, and providing more comprehensive benefits (e.g., dental and vision).

On the other hand, a single-payer system would likely reduce health expenditures by reducing insurer and provider administrative costs and facilitating negotiated reductions in pharmaceutical prices and medical provider fees. Single-payer may also promote the use of cost-effective medicine through more effective payment incentives, firmer budget constraints, or system-wide quality of care guidelines.

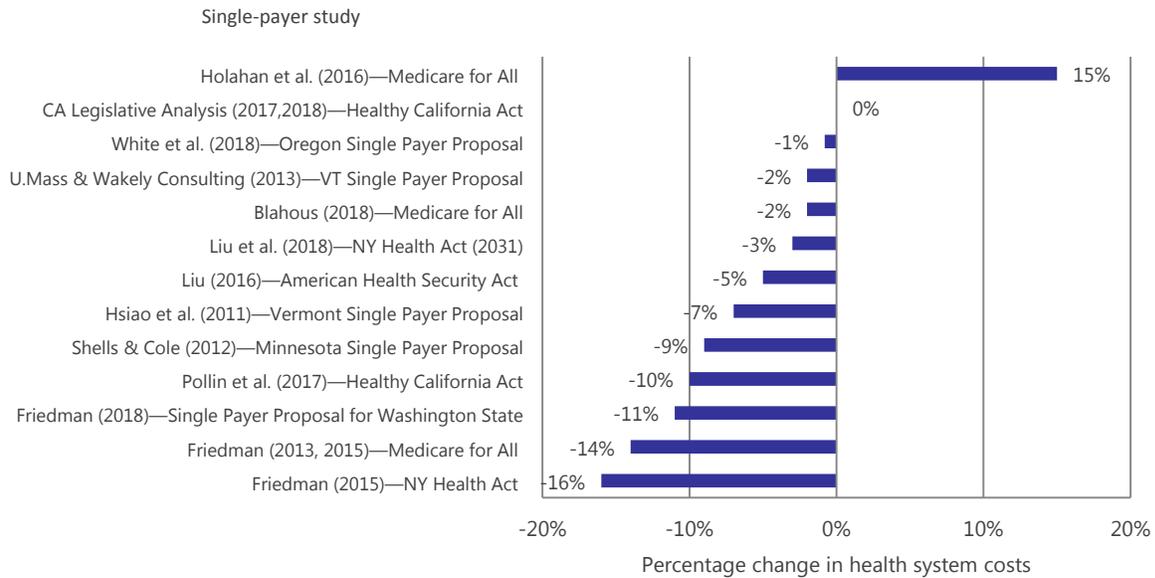
We reviewed studies that estimate the effects of single-payer proposals on health care costs. The studies make different assumptions regarding the size of feasible reductions in administrative costs, pharmaceutical prices, and provider payments. As a result, estimates for the overall impact of single-payer on health care costs vary ([Exhibit 1](#)).⁷ There is also uncertainty over the timing of these effects.⁸

⁷ Note that Exhibit 1 is an updated from our interim report to include additional studies. The citations for these studies are included in Appendix I to this report.

⁸ Another source of uncertainty for implementation at the state-level is the extent of potential migration of patients and providers in response to single-payer implementation. Medical migration is discussed in Appendix II. The magnitude of any effect from provider migration on single-payer fee setting is uncertain. For a discussion, see Liu, J.L., White, C., Nowak, S.A., Wilks, A., Ryan, J., & Eibner, C., (2018). *An assessment of the New York Health Act*. RAND and Glied, S. (2009). Single payer as a financing mechanism. *Journal of Health Politics, Policy, and Law*, 34(4), 593-615.

Exhibit 1

Single-Payer Effects on Health Care Costs: Percentage Change in Costs Relative to Status Quo



Note:

A 5% reduction in expenditures, given health care costs in Washington, would save roughly \$2.75 billion per year. No change (0%) implies that costs associated with insuring additional residents and increased utilization among the insured would be offset by single-payer cost savings.

The citations for these studies are included in Appendix I to this report.

The specific characteristics of single-payer proposals would impact potential cost savings. A plan that completely eliminated cost sharing, relied on fee-for-service provider payments, covered any service deemed appropriate by a physician, and did not require primary care physician referrals for specialty care would tend to have higher costs than single-payer plans specified differently.

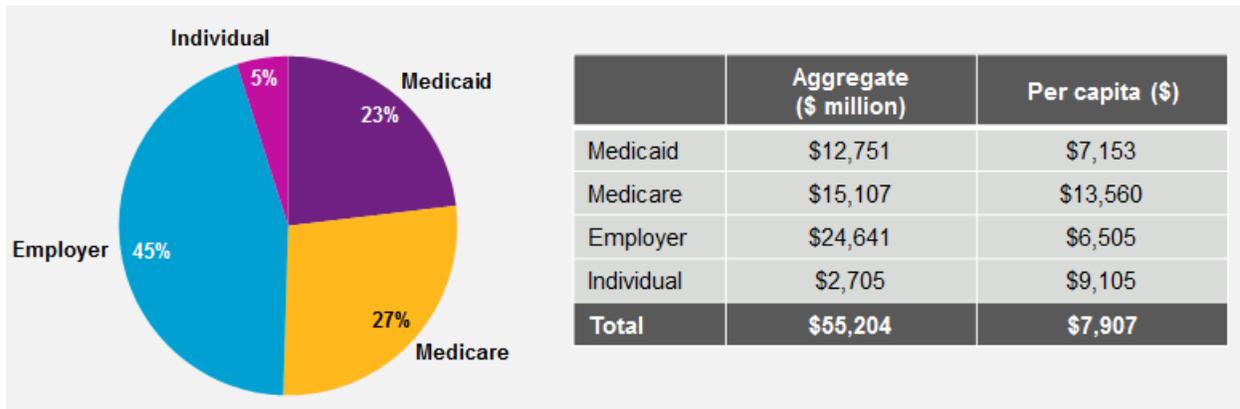
Single-Payer Financing

Single-payer would likely reduce overall spending on health care but financing it would require large new taxes as the system shifts from employer-sponsored to public coverage.

We estimate that roughly \$55.2 billion was spent on medical care in 2018 for Washington residents ([Exhibit 2](#)). About half of this spending is covered by Medicare and Medicaid. The rest comes from employer-sponsored insurance (almost \$25 billion) and individual coverage (\$2.7 billion).

Exhibit 2

Health Care Expenditures in Washington in 2018



Notes:

Source: Willis Towers Watson. The Washington State Legislature directed the Washington State Office of the State Actuary to provide actuarial support for this study. See ESSB 6032, Section 106, Chapter 299, Laws of 2018. This support was provided by actuaries at Willis Towers Watson, under contract with the Office of the State Actuary.

Totals include claims/premiums; payer administration costs and individual out-of-pocket costs (deductibles, copays, etc.); hospitalization; physician and nursing care; prescription drugs; medical equipment; and supplies.

These figures do not include the cost of care for uninsured individuals. It is likely that care cost for uninsured individuals adds another \$2-\$4 billion to the aggregate annual spending in Washington.

Data sources: The Washington State Office of the Insurance Commissioner (OIC), additional data statement forms; Centers for Medicare and Medicaid Services (CMS) state health expenditures data; Willis Towers Watson 2018 Financial Benchmarks Survey; and the Washington Health Benefit Exchange monthly enrollment reports.

Single-payer funding proposals assume that federal and state health care spending would be pooled to help finance state single-payer plans. Employer and employee premiums, individual premiums, and cost-sharing payments would be replaced by additional tax revenue. New revenues would also be needed to cover the additional costs of covering those who are currently uninsured, the cost of additional benefits (e.g., dental, vision), and the cost of increased utilization among the insured due to reduced cost sharing.

The required revenues, even after netting out potential single-payer cost savings, would be substantial. Friedman (2018) estimates that \$28 billion in additional revenues would be needed to implement single-payer in Washington, and this is after

factoring in estimated cost savings which reduce overall system spending by 11%.⁹

Households ultimately pay for health care through taxes, premiums, out-of-pocket expenses, and foregone earnings.¹⁰ Several of the studies we reviewed estimate that household payments for health care decline on average under single payer.

This is not to say that all residents gain equally. Premiums and out-of-pocket costs are replaced by some form of taxes, and the specific nature of these taxes and prior

⁹ Friedman, G. (2018). *Economic analysis of single payer health care in Washington State: Context, savings, costs, financing*. Report prepared for Whole Washington.

¹⁰ In a competitive labor market, payments by employers for health benefits will be offset by reductions in average wages or other benefits.

benefit levels determine which households will pay more or less under single-payer.¹¹ Under proposals which call for financing through progressive taxes, studies predict relatively large reductions in health care costs among lower-income households and higher costs for the highest income households.

Single-Payer Implementation Challenges

Single-payer funding proposals rely on pooling federal health care spending to help pay for state plans. Gaining federal approval to do so would be a major challenge. It's unlikely that current Medicaid, Medicare, or Affordable Care Act waivers would allow for federal funds to be used to finance state plans.

State single-payer initiatives also have to address the federal law regulating employee benefits, the Employee Retirement Income Security Act of 1974 (ERISA). ERISA has generally proved an obstacle to health reform because it bars states from regulating self-insured, employer-sponsored health plans.

If confronted with a single-payer plan and the need to increase payroll taxes to fund coverage, some employers would likely challenge single-payer implementation under ERISA.

¹¹ Proposals specify a variety of taxes to provide these funds—payroll taxes, gross receipts tax on businesses, sales taxes, income taxes, and taxes on non-payroll income (dividends, interest, and capital gains).

[Summary of Final Report Findings](#)

Next, we summarize findings drawn from our international comparisons of health care costs, access, and outcomes. Please see [Sections II through V](#) in this report for more detailed discussions along with citations of the research we referenced.

Health Care Systems

The US is unusual among high-income countries in that the main source of coverage is voluntary, employer-based insurance.

The other countries examined in this report have each achieved universal coverage and lower health care expenditures than the US; some have done so with single-payer health care and others with regulated multi-payer systems.

Some single-payer systems (e.g., the United Kingdom and many Scandinavian countries) have national health services where many hospitals and clinics are government-owned, and many physicians are government employees. Other single-payer countries (e.g., Canada and Australia) have national health insurance systems in which providers are typically private and are reimbursed through a tax-financed government plan. Of the single-payer countries, we profile the Canadian system in this report.

Multi-payer countries have mandatory (or statutory) health insurance systems (e.g., Germany, France, the Netherlands, and Switzerland). Coverage is administered through multiple, mostly nonprofit, insurers.

Enrollment in health insurance is compulsory in these countries, but people are free to choose among insurers and can change plans. Premiums for mandatory coverage are community-rated (i.e., insurers cannot charge different premiums based on health status), and insurers are required to accept all applicants for coverage. Of the multi-payer countries, we profile the German, Swiss, and Dutch systems in the report.

Importantly, the governments in both the single-payer and multi-payer countries play very active roles in health care markets. They regulate insurers (which are typically non-profit), subsidize coverage for residents with low incomes, determine standardized benefit packages, establish prices for procedures and drugs, and influence negotiations between insurers and providers.

Some governments set global budgets (i.e., a fixed amount of funding per year for hospitals) to control health expenditures, and some broker collective agreements with insurers and providers to limit cost growth rates.

In some of these countries, fees are determined through negotiations between insurer and provider associations at the national or regional level rather than through negotiations between individual insurers, hospitals, and physicians.

Health Care Cost Comparisons

This report compares health care spending in the US and ten other high-income countries.¹² The US spends about 18% of Gross Domestic Product (GDP) on health care. The other countries, on average, spend 11%. In 2016, the US spent \$9,400 per person on health care; average spending in the other countries was \$5,000.¹³

What drives this higher spending? Studies have identified the following as important factors:

- Higher administrative costs,
- Higher prices of medical services and goods (with pharmaceutical costs playing an especially important role),
- Higher utilization of high-margin¹⁴ procedures and advanced imaging (CTs, MRIs), and
- More extensive diffusion of newer medical technologies and drugs with modest or uncertain effectiveness.

Insurer Administrative Costs. In single-payer countries (e.g., the UK, Canada, Sweden), 2% to 3% of total health expenditures go to insurance administration. In multi-payer countries such as Germany, the Netherlands, and Switzerland, 4% to 5% of total spending is for administration. In the US, public and private insurer administration account for 8% of the total health care costs.

¹² These include the United States, Japan, Germany, the United Kingdom, France, Canada, Australia, the Netherlands, Sweden, Switzerland, and Denmark.

¹³ Papanicolas, I., Woskie, L.R., & Jha, A.K. (2018). Health care spending in the United States and other high-income countries. *Jama*, 319(10), 1024-1039.

¹⁴ High-margin procedures generate large provider revenues relative to the costs of supplying them.

We estimate that differences in insurance administration costs account for roughly 15% of the overall difference in per capita health expenditures between the US and these other countries.¹⁵

This estimate does not account for the additional administrative burden and cost placed on medical providers from interacting with multiple payers.

Provider Administrative Costs. American physicians report spending a lot of time on administrative issues related to insurance claims, disputes related to medical bills, and reporting clinical or quality data to the government.

Physicians in countries with mandatory health insurance systems (e.g., Germany, the Netherlands, Switzerland) also report spending a lot of time on issues related to insurance and clinical quality reporting but somewhat less time on billing disputes than in the US. Physicians in single-payer countries (e.g., UK, Canada, Sweden) report less time on these administrative issues.

Studies have concluded that provider (both physicians and hospitals) administrative costs related to billing and insurance-related activities (e.g., filing claims and obtaining prior authorizations) contribute substantially to the higher health care costs in the US relative to Canada.

Pharmaceuticals. Pharmaceutical expenditures are substantially higher in the US than in other high-income countries. The

US spends \$1,440 per person per year on pharmaceuticals versus an average of \$670 for the comparison countries.¹⁶ We estimate that higher pharmaceutical spending accounts for 21% of the difference in per capita total health care spending between the US and other countries.

The comparison countries have achieved lower spending through centralized price negotiations with pharmaceutical companies, establishing national drug formularies (i.e. a list of drugs covered by insurance), and using cost-effectiveness research to set price ceilings for new and existing drugs. The use of reference pricing for pharmaceuticals has also been found to be effective in lowering drug prices in some countries. Under reference pricing, drugs are grouped into classes. The insurer reimbursement rate is pegged to a single price per group (the reference price). Consumers who opt for drugs priced above the reference price must pay the difference.¹⁷

Physician Compensation. Physicians and nurses earn substantially more on average in the US than in other high-income countries. However, this does not appear to be a major driver of high costs in the US.

We estimate that levels of per capita spending on physicians account for roughly 4% of the difference in overall health care expenditures between the US and other countries.¹⁸

¹⁵ We decompose the difference in spending across countries using a methodology proposed by Emanuel (described in the text). Emanuel, E. (2018). The real cost of the US health care system. *JAMA*, 319(10), 983-985.

¹⁶ Estimate based on data presented by Papanicolas et al. (2018).

¹⁷ Weinberg, M., & Chen, L. (2017). International health care systems and the US health reform debate. *Bay Area Council Economic Institute*.

¹⁸ We applied a decomposition method suggested by Emanuel to derive this estimate. See Exhibit 13 for details.

High-Margin, High-Volume Procedures and Imaging. The US has relatively high utilization of some high-margin procedures and tests—knee replacements, hysterectomies, cesarean deliveries, cataract surgery, coronary artery bypass, coronary angioplasty, and advanced imaging (MRIs and CTs). The prices of these high-margin procedures, which generate large provider revenues, are typically much higher in the US.¹⁹

Emanuel (2018) estimates that the pricing and volume of 25 high-margin, high-volume procedures could explain approximately 20% of the per capita health care cost difference between the US and other high-income countries. Emanuel also estimates that higher spending on MRI and CT scans accounts for 7% of the difference in health expenditures between the US and the Netherlands.

Technological Innovation. In the early 1970s, US health care spending as a share of GDP was roughly comparable to that in other high-income countries. After the mid-1970s, costs grew more rapidly in the US than in other countries. Economists attribute much of the long-term growth in health care costs to technological change, and they attribute the higher cost escalation in the US to more rapid, and less discriminating, diffusion of medical technology, including pharmaceuticals and devices.²⁰

¹⁹ See Papanicolas et al. (2018).

²⁰ Cutler, D., & Ly, D. (2011). The (paper) work of medicine: understanding international medical costs. *Journal of Economic Perspectives*, 25(2), 3-25; Chandra, A., & Skinner, J. (2012). Technology growth and expenditure growth in health care. *Journal of Economic Literature*, 50(3), 645-680; and Fuchs, V. (2012). Major trends in the U.S. health economy since 1950. *New England Journal of Medicine*, 366(11), 973-977.

Other countries have been able to discourage the use of technologies with modest or uncertain effectiveness. Regulatory boards use efficacy and cost standards to control the adoption of technologies. Health technology assessment informs coverage decisions and guides clinical practice. Health technology assessment refers to the systematic evaluation of the effects and costs of a given medical technology, procedure or drug.

There have been efforts in Washington State to promote cost-effective medicine. For example, the Health Technology Assessment (HTA) program at the Washington State Health Care Authority makes decisions regarding which medical devices, procedures, and tests to pay for with state health care dollars. Washington's BREE Collaborative, a partnership among public and private stakeholders, has developed guidelines for different surgical procedures, treatments, and end-of-life care. The Washington Pharmacy and Therapeutics Committee evaluates evidence regarding the relative safety, efficacy, and effectiveness of drugs and makes recommendations to state agencies regarding the state's Preferred Drug List.

Access to Health Care—Wait Times

The US has relatively short wait times for specialist visits and elective surgeries. The percentages reporting long wait times for these services are especially high in Canada. In general, wait times for seeing specialists and elective surgery are longer in single-payer systems and shorter in insurance-based systems.

Access to Health Care—Financial Barriers

Health care costs can cause people to not fill a prescription, visit a doctor for a medical problem, and/or obtain recommended treatments or tests. The percentage of people reporting these financial barriers to access is highest in the US (33%) followed by Switzerland (22%). The percentages reporting cost as a barrier were lowest in the UK (7%), followed by Germany (7%), Sweden (8%) and the Netherlands (8%). Higher perceived financial barriers in the US and Switzerland are due to relatively high out-of-pocket costs, and in the case of the US, to a sizable uninsured population.²¹

Other countries cap out-of-pocket payments at relatively low amounts and reduce cost-sharing requirements for low-income persons, children, people with chronic diseases, and older adults.

Access to Health Care—Equity

In most countries, people with higher incomes are more likely to visit a doctor, go to the dentist, and be screened for breast or cervical cancer.²² Income inequity in care is relatively high in the US, with more substantial differences in utilization of these services across income groups. In general, universal coverage systems provide more access to those with lower incomes than does the voluntary insurance system in the US.²³

²¹ Rice, T., Quentin, W., Anell, A., Barnes, A., Rosenau, P., Unruh, L., & van Ginneken, E. (2018). Revisiting out-of-pocket requirements: trend in spending, financial access barriers, and policy in ten high-income countries. *BMC Health Services Research, 18*, 371.

²² Devaux, M. (2015). Income-related inequalities and inequities in health care services utilization in 18 selected OECD countries. *European Journal of Health Economics, 16*, 21-33.

²³ Blewett, L. (2009). Persistent disparities in access to care across health care systems. *Journal of Health Politics and Law, 34*(4), 635-647.

Health Outcomes and Quality of Care

A key question is whether higher US health spending translates to better health outcomes for its population and/or a higher quality of care. The US performs poorly on measures of population health often cited in rankings, such as life expectancy at birth.²⁴ However, the usefulness of these and other crude measures of health is questionable. This is because such measures are confounded by underlying issues, such as social determinants of health (e.g., education and income) and behavioral choices (e.g., exercise and diet).

The US does perform well on some measures of the quality of its care (e.g., mortality rates following a heart attack), but it performs poorly on others (e.g., child immunization rates and hospital admission rates).²⁵ Mortality amenable to health care, or avoidable mortality, is a measure of mortality from certain conditions (like tuberculosis or appendicitis) that are not considered fatal in the presence of an effective health care system. On this measure, the US ranks below high-income countries with universal health care. This evidence suggests that higher US health expenditures do not translate to better health outcomes and quality of care for the entire population.

²⁴ Papanicolas et al. (2018).

²⁵ Papanicolas et al. (2018) and Organisation for Economic Co-operation and Development (OECD).stat.

II. Health Care Systems in Selected Countries

The US has a hybrid health care system, with a mix of private and public insurance plans. It is unusual, among high-income countries, in that the main source of coverage is voluntary, employer-based insurance.

In this section, we describe systems in other high-income countries. These countries have all achieved universal coverage and have lower health care expenditures than the US; some have done so with single-payer health care and others with regulated multi-payer systems. [Exhibit 3](#) summarizes various categories for grouping health care systems and describes different variations of single-payer and multi-payer systems and identifies how each country is classified.

Some single-payer systems (e.g., the United Kingdom and many Scandinavian countries) have national health services where many hospitals and clinics are government-owned, and many physicians are government employees. Other single-payer countries (e.g., Canada and Australia) have national health insurance systems in which providers are typically private and are reimbursed through a tax-financed government plan.

The multi-payer countries have statutory (or mandatory) health insurance systems (e.g., Germany, France, the Netherlands, and Switzerland). Enrollment in health insurance is compulsory. Coverage is administered through multiple, mostly nonprofit insurers. Germany has 113 “sickness funds” (insurance plans); France has three noncompeting insurance schemes; the

The Netherlands has 60 insurance plans, and Switzerland has 52.²⁶

Governments play an active role in these multi-payer systems, subsidizing coverage for residents with low incomes, determining benefit packages, and establishing prices for procedures and drugs. The extent of government fee setting and reliance on competition among insurers varies across countries. In all these countries, however, governments have intervened to help control costs.

We selected four countries to profile: Canada, Germany, the Netherlands, and Switzerland. These countries provide a mix of single- and multi-payer systems, with varying degrees of reliance on market incentives and competition.

Detailed descriptions of their systems are provided in [Appendix III](#)—the profiles examine government and insurer roles in health care markets, covered benefits and cost sharing, supplemental health insurance, system financing, provider organization and payments, and cost containment strategies. We briefly summarize system characteristics in [Exhibit 4](#).

²⁶ Papanicolas et al. (2018).

Exhibit 3

Health Care System Characteristics

Model	Characteristics	US Analogy	Countries
Single-payer: National health service (Beveridge model)	<ul style="list-style-type: none"> Publicly financed health care; System funded with general taxes rather than premiums; Mostly free care at point of service; Many hospitals and clinics government owned; and Some doctors are government employees, some private. 	Veteran's Affairs system or the public education system	United Kingdom, New Zealand, Norway, Sweden, & Denmark
Single-payer: National health insurance	<ul style="list-style-type: none"> Insurance-based models; Providers reimbursed through tax-financed government plan; All citizens pay an earmarked tax, usually on earned income; Little cost sharing for covered benefits; Government decides which benefits are covered; Private insurance may "top up" the single-payer plan; and Providers are typically private. 	Medicare	Canada, Australia, & Taiwan
Multi-payer: Statutory health insurance, strong regulation (Bismarck model)	<ul style="list-style-type: none"> Utilizes an insurance system; Multiple nonprofit or private insurance plans (with compulsory coverage); Largely financed with payroll taxes; Funds pooled and distributed to insurers; Providers and hospitals largely private; Strong government regulation; Subsidies for vulnerable populations; Government may establish price list for procedures, drugs, devices; and Government sets standard benefit package. 	Regulated public utilities	Germany, France, Japan, & Belgium
Multi-payer: Statutory/mandatory health insurance with market incentives	<p>Very similar to Bismarck model, except:</p> <ul style="list-style-type: none"> Insurers can compete on price; Strong insurance mandate; and More reliance on premiums for financing 	Expanded version of the Affordable Care Act insurance marketplaces	Netherlands & Switzerland

Notes:

Bolded countries are profiled in this report.

Sources: Fox, A., & Poirier, R. (2018). How single-payer stacks up: Evaluating different models of universal health coverage on cost, access, and quality. *International Journal of Health Services*, 48(3), 568-585; Weinberg & Chen (2017); Schneider, E., Sarnak, D., Squires, D, Shah, A., Doty, M. (2017). *Mirror, mirror 2017. The Commonwealth Fund.*

Exhibit 4

Health Care Systems in Profiled Countries

	Canada	Germany	Switzerland	Netherlands
System category	Single payer; Regionally administered plans with benefits varying across provinces.	Multi-payer; Statutory health insurance.	Multi-payer; Mandatory health insurance.	Multi-payer; Statutory health insurance.
Universal coverage	All residents covered by universal public insurance.	Mandatory health insurance administered by competing, private non-profit insurers ("sickness funds"); Insurers cannot deny coverage.	All residents required to purchase health insurance; Plans offered by competing, non-profit insurers; Insurers cannot deny coverage.	All residents required to purchase health insurance; Plans offered by competing, non-profit insurers; Insurers cannot deny coverage.
Financing	Public insurance financed through provincial and federal tax revenue.	Financed through payroll tax, split by employers and employees.	Financed through premiums, taxes, and out-of-pocket spending.	Financed through premiums, payroll taxes, and general tax revenues.
Benefits	Medically necessary hospital and physician services are free at point of service; Plan does not include prescription drug coverage.	Standardized benefit package of covered services; Caps on cost-sharing; Protections for unemployed and other populations.	Standardized benefit package of covered services; Government subsidizes premiums for people with low incomes.	Standardized benefit package of covered services; Government subsidizes premiums for people with low incomes.
Supplementary/complementary/substitutive coverage*	Two-thirds also purchase private supplemental coverage.	High-income residents may purchase substitutive coverage; Complementary and supplementary insurance also offered.	People can purchase supplementary health insurance for uncovered benefits.	People can purchase supplementary health insurance for uncovered benefits.
Cost controls	Global budgeting for hospitals; Negotiated physician fee schedules; Health technology assessment used to inform benefit decisions; Low administrative costs.	Fees set through regional negotiations between provider associations and sickness funds; Reference pricing for pharmaceuticals; Health technology assessment used.	Prices negotiated by associations of insurers and providers in each canton; Government sets fees if associations cannot reach agreement.	Government sets prices for general practitioner care, some hospital services, and pharmaceuticals; Government-brokered agreements with insurers and providers specifying annual expenditure growth targets.
Other characteristics	Relatively long wait times for specialists and elective surgeries.	A federal price list prevents insurers from competing on premiums; People may change plans after a minimum period.	Insurers compete on price; People may change plans each year.	Insurers compete on price; People may change plans each year.

Notes:

*Supplementary private insurance provides for health services not covered by the government plan, such as pharmaceuticals or dental care, or access to different providers (e.g., private hospitals) or levels of service (e.g., faster access to care). Complementary private insurance covers all or part of the residual costs not otherwise reimbursed by the public plan. Substitutive private insurance replaces public insurance for those able to opt out of public insurance entirely.

III. International Health Care Cost Comparisons

In this section, we examine health care expenditures across high-income countries and summarize studies which analyze the factors responsible for differences in costs.

We examine data reported for 11 high-income countries—the United States, Japan, Germany, the United Kingdom, France, Canada, Australia, the Netherlands, Sweden, Switzerland, and Denmark.²⁷ These countries represent a range of health care systems.

Scholars typically categorize Canada, the UK, Australia, Sweden, and Denmark as some variant of a single-payer system. Japan, France, and Germany have multi-payer systems with strong government regulation. The Netherlands and Switzerland are also multi-payer and have strong government regulation, but they also rely more on market competition than do the other European multi-payer systems.

Health Expenditures

Spending as a Share of Gross Domestic Product (GDP)

The US spends almost 18% of Gross Domestic Product (GDP) on health care. The other countries spend 11% on average ([Exhibit 5](#)).²⁸ Moreover, among these countries, only the US did not have universal coverage. The US spends more without covering everyone.

²⁷ Much of the data used in this section are taken from Papanicolas et al. (2018).

²⁸ Estimate based on data provided by Papanicolas et al. (2018).

Why is this higher spending of concern?

According to Cutler (2018), there are three main concerns.²⁹ First, the higher spending is wasteful.³⁰ Rather than resulting in better health outcomes, the higher costs are largely driven by higher prices for services and pharmaceuticals, excessive administrative costs, and spending on care with questionable clinical value.³¹ Second, the higher costs result in fewer people being covered by private insurance and care being rationed in public programs. Third, higher spending on health care leaves fewer funds available for other social programs.

Per Capita Spending

Average income varies across countries, and income is an important determinant of health care spending. So, it is useful to control for GDP per capita when examining health expenditures, even among high-income countries ([Exhibit 6](#)).

The US spent about \$9,400 per person on health care in 2016; average spending in the other countries was \$5,000. (Per capita spending in Washington State was roughly \$8,000.)³²

Spending among countries increases with GDP per capita (along the trend line in [Exhibit 6](#)). Expenditures in the US would have to decrease by 30% in order to be in line with the other three countries with per capita GDPs above \$50,000 (Switzerland, Sweden, and Denmark).

²⁹ Cutler, D. (2018). What is the US health spending problem? *Health Affairs*, 37(3), 493-497.

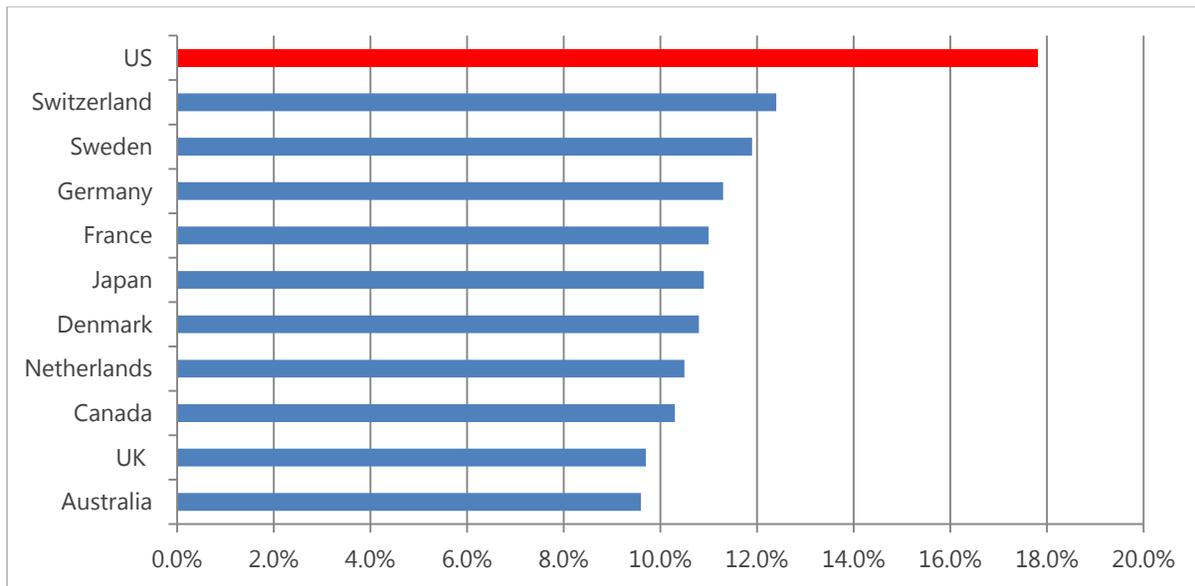
³⁰ See Berwick, D., & Hackbarth, A. (2012). Eliminating waste in US health care. *JAMA*, 307(14), 1513-1516.

³¹ Cutler (2018).

³² Estimate by Willis Towers Watson presented in Exhibit 2. This estimate does not include the costs of care incurred by uninsured individuals. Including these costs would increase spending to the \$8,200–\$8,500 range.

Exhibit 5

Health Care Expenditures as a Share of Gross Domestic Product (2016)

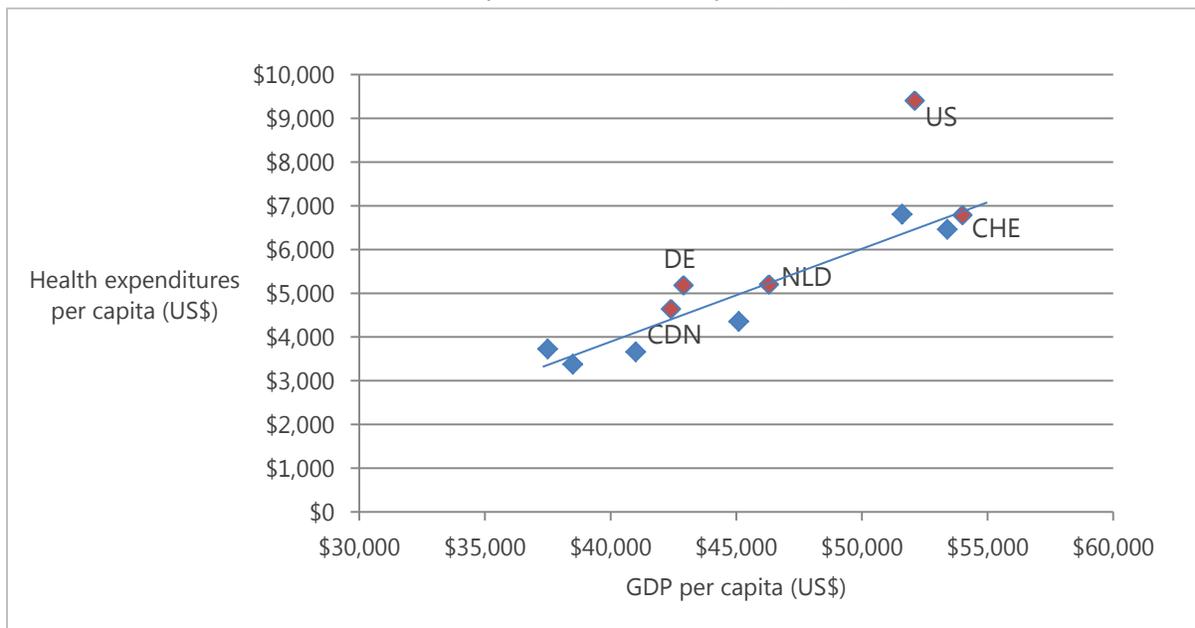


Notes:

Exhibit constructed using data reported in Papanicolas et al. (2018). Papanicolas et al. (2018) collected data from international organizations including the Organization for Economic Co-operation and Development (OECD). When more accurate country-level estimates were available from sources other than the OECD, country-specific data were used.

Exhibit 6

Health Expenditures Per Capita (2016)



Notes:

CHE indicates Switzerland, CDN Canada, DE Germany, and NLD the Netherlands. These countries are profiled in depth in Appendix III.

Source: Exhibit constructed using data reported in Papanicolas et al. (2018).

Factors Driving Higher US Spending

Why is spending higher in the US?

Papanicolas and colleagues (2018) conclude that the “prices of labor and goods, including pharmaceuticals and devices, and administrative costs appeared to be the major drivers of the differences in overall costs between the US and other high-income countries.”

Papanicolas et al. argue, for example, that utilization of health care services (e.g., physician visits, hospital admissions) is not generally higher in the US and provides evidence of substantially higher prices for pharmaceuticals, medical devices, and procedures in the US.³³

Earlier studies have also emphasized the role played by higher prices in the US in explaining differences in spending levels across countries.³⁴ One reason for high prices in the US is market concentration among providers (see [Exhibit 8](#) on the next page).

However, other factors also play important roles in higher US costs. Papanicolas and colleagues (2018) report that utilization of some high-margin services—advanced imaging (MRIs and CTs), knee replacements, hysterectomies, cesarean deliveries, cataract

³³ For example, the average cost in 2013 for a coronary artery bypass was \$75,345 in the US versus \$15,742 in the Netherlands and \$36,509 in Switzerland. A computed tomography (CT) scan in the US costs on average \$896 versus \$97 in Canada, \$279 in the Netherlands, and \$432 in Switzerland. An MRI in the United States cost \$1,145 compared with \$350 in Australia and \$461 in the Netherlands. Papanicolas et al. (2018).

³⁴ Anderson, G., Reinhardt, U. Hussey P., & Petrosyan, V. (2003). It's the prices, stupid: Why the United States is so different from other countries. *Health Affairs*, 22(3), 89-105. For a discussion, see Bauchner, H., & Fontanarosa, P. (2018). Health care spending in the United States compared with 10 other high-income countries. *JAMA*, 319(10), 990-991.

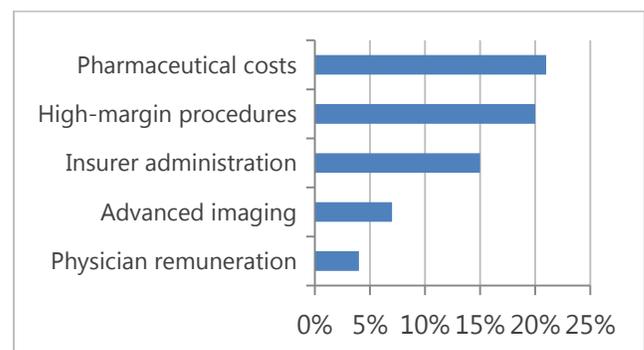
surgery, coronary artery bypass, and coronary angioplasty—is higher in the United States than other countries.

Emanuel (2018) emphasizes the importance of these and other high-margin services.³⁵ Using data provided by Papanicolas and colleagues, Emanuel decomposes the differences in per capita health care spending across countries into spending components. He finds that four areas—pharmaceutical costs, high-margin procedures, advanced imaging, and administration—may explain two-thirds of the overall difference in spending between the US and other high-income countries (see [Exhibit 7](#)).

Physician incomes are higher in the US, but Emanuel does not find them to be the major driver in costs.

We examine each of these factors below.

Exhibit 7
Factors Explaining Higher US Health Spending (Percentage of Spending Difference Due to Category)



Note:
Emanuel (2018) and WSIPP estimates.

³⁵ Emanuel (2018).

Exhibit 8

US Hospital Market Concentration

Dieleman and colleagues (2017) examined the growth in US health care costs between 1996 and 2013, estimating the effects of five factors—population size, aging, disease prevalence, service utilization, and service price and intensity.^a Population growth accounted for 23% of the increase in costs and aging contributed 12%. Changes in utilization and disease prevalence played almost no role. The primary factor, accounting for 50% of cost growth, was an increase in service price and intensity (i.e., increased spending per visit, per-hospital-day, per-prescription filled). The increase in service intensity was especially strong for inpatient care.

Increasing hospital market concentration is one factor that contributed to higher hospital prices in the U.S. Higher concentration has taken three forms: hospital mergers within a geographic market, mergers across markets, and hospital acquisition of physician practices (vertical integration).

There is substantial evidence that within-market hospital mergers and acquisitions have increased inpatient and hospital-outpatient prices. Consolidation is believed to have increased hospital bargaining power vis-à-vis private insurers.^b There is also evidence that hospital mergers across distinct geographic markets (cross-market mergers) also increase prices, possibly by reducing competition among the merging hospitals for inclusion in insurer networks.^c

U.S. hospitals have also been acquiring a large number of physician practices. Studies have found that this vertical integration is associated with higher hospital prices and spending. It also appears to increase the prices for the services provided by acquired physicians.^d These consolidated health systems may facilitate coordination of care. However, they also increase provider bargaining power with insurers.^e

Antitrust actions have not been widely used to stop hospital mergers and acquisitions. Cutler and Morton (2013) suggest that local governments should consider additional policies to protect consumers, such as “insurance products that charge consumers more for high-priced clinicians and health care centers, bundling payments to clinicians and health care organizations to eliminate the incentives of big institutions to simply provide more care, and establishing area-specific price or spending targets.”^f

Notes:

^a Dieleman, J., Squires, E., Bui, A., Campbell, M., Chapin, A., Hamavid, H . . . Murray, C., (2017). Factors associated with increases in US health care spending, 1996-2013. *JAMA*, 318(17), 1668-1678.

^b Gowrisankaran, G., Nevo, A., & Town, R. (2015). Mergers when prices are negotiated: evidence from the hospital industry. *American Economic Review*, 105(1), 172–203; Cooper, Z., Craig, S., Gaynor, M., & Van Reenen, J. (2019). The price ain't right? Hospital prices and health spending on the privately insured. *The Quarterly Journal of Economics*, 134(1), 51-107; Cooper, Z., Craig, S., Gaynor, M., Harish, N., Krumholz, M., & Van Reenen, J. (2019). Hospital prices grew substantially faster than physician prices for hospital-based care in 2007-14. *Health Affairs*, 38(2), 184-189; Gaynor, M., Ho, K., & Town, R. (2015). The industrial organization of health-care markets. *Journal of Economic Literature*, 53(2), 235-284.

^c Dafny, L., Ho, K., & Lee, R. (2016). The price effects of cross-market hospital mergers. *NBER Working Paper Series*, Working Paper 22106.

^d Capps, C., Dranove, D., & Ody, C. (2018). The effect of hospital acquisitions of physician practices on prices and spending. *Journal of Health Economics*, 59, 139-152; Baker, L., Bundorf, M., & Kessler, D. (2016). The effect of hospital/physician integration on hospital choice. *Journal of Health Economics*, 50, 1-8; Baker, L., Bundorf, M., & Kessler, D. (2014). Vertical Integration: Hospital Ownership of Physician Practices is Associated with Higher Prices and Spending *Health Affairs*, 33(5), 756-63.

^e Cutler, D., & Morton, F. (2013). Hospitals, Market Share, and Consolidation. *JAMA*, 310(18), 1964-1970.

^f Ibid

Administrative Costs

The costs of administering health insurance systems vary across countries. Plan administration tasks include eligibility determination, enrollment, developing and maintaining health care provider networks, billing, claims payment, benefits management, and compliance with government regulations. Private insurer administration also includes sales and marketing, care management, and profits or surplus.³⁶

Single-payer systems have lower administrative costs than multi-payer systems, where insurers duplicate many of the same activities. Multi-payer systems with free choice of insurers tend to have higher administrative costs than systems with an automatic assignment. Private insurance plans have higher costs than public ones.³⁷

In single-payer countries (e.g., the UK, Canada, Sweden), about 2% to 3% of total health expenditures go to insurance administration. In multi-payer countries such as Germany, the Netherlands, and Switzerland, 4% to 5% of total spending is for administration. In the US, government and private insurer administration account for 8% of total health care costs.³⁸

Applying a methodology proposed by Emanuel (2018), we estimate that differences in insurance administration costs could account for 15% of the overall

difference in per capita health expenditures between the US and these other countries.³⁹

This estimate does not account for the additional administrative burden and cost placed on medical providers from interacting with multiple payers. Studies have found physician and hospital administrative costs to be higher in the US, due in part to the greater time required managing claims, billing, and other interactions with insurers, such as prior authorizations for services.⁴⁰

American physicians report spending a lot of time on administrative issues related to insurance claims, disputes related to medical bills, and reporting clinical or quality data to the government (see [Exhibit 9](#)).

Physicians in countries with mandatory health insurance systems (e.g., Germany, the Netherlands, and Switzerland) also report spending a lot of time on issues related to insurance and quality reporting but somewhat less time on billing disputes.

Physicians in single-payer countries (e.g., the UK, Canada, Sweden) report less time on these administrative issues.

³⁶ Please see [Bauer et al. \(2018\)](#) for a discussion of payer administration costs in the US.

³⁷ Organisation for Economic Co-operation and Development (OECD). (2017). *Tackling wasteful spending on health*.

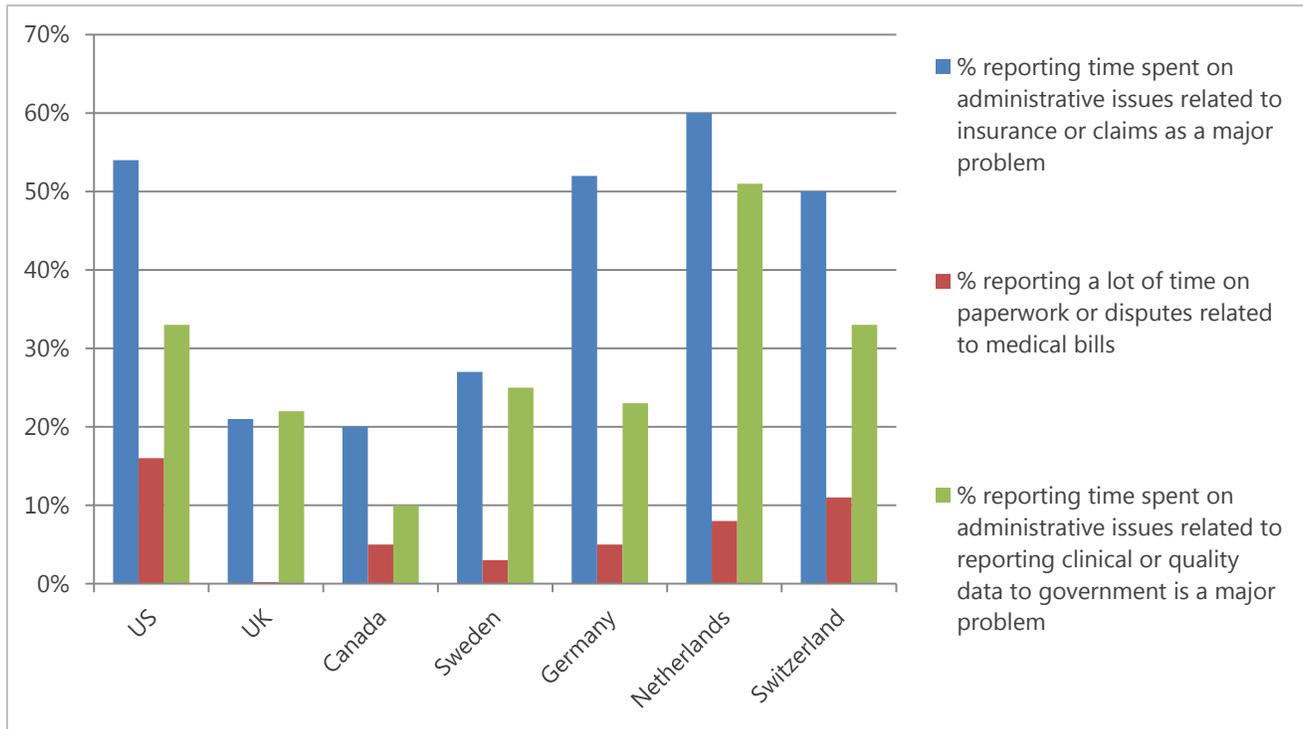
³⁸ Administration cost estimates taken from data in Papanicolas et al. (2018).

³⁹ Emanuel (2018) estimated how much of the difference in per capita health expenditures could be explained by differences in administration and governance rates in the US versus Germany, the Netherlands, and Sweden. We used his method and also included Canada, the UK, and Switzerland to derive the estimate presented above. Here is a sample calculation for the US versus Canada. Per capita health expenditure is \$9,403 in the US and \$4,641 in Canada, a difference of \$4,762. The administration cost rates (8% in the US and 3% in Canada) imply per capita administration costs of \$752 and \$139, respectively. The difference in administration costs per capita (\$619) amounts to 13% of the overall difference in health expenditures between these two countries.

⁴⁰ OECD (2017).

Exhibit 9

Administrative Burden Reported by Primary Care Physicians across Countries (2015)



Notes:

The figure for UK physicians reporting a lot of time spent on disputes related to bills is zero.

Source: The Commonwealth Fund. International Health Policy Survey of Primary Care Physicians. (2015). Reported in Papanicolas et al. (2018).

Some studies have concluded that provider administrative costs related to billing and insurance-related activities (e.g., filing claims and obtaining prior authorizations) contribute substantially to the higher health care costs in the US relative to Canada.

Morra and colleagues (2011), for example, estimate that the cost per physician of interacting with payers is almost four times higher in the US than in Ontario.⁴¹

Himmelstein and colleagues (2014) find that hospital administrative costs in Canada are half that of the US.⁴² Jiwani and colleagues (2014), based on provider survey data, attribute about three-quarters of the higher billing and insurance costs in the US to the multi-payer system.⁴³

⁴¹ Morra, D., Nicholson, S., Levinson, W., Gans, D., Hammons, T., & Casalino, L. (2011). US physician practices versus Canadians: Spending nearly four times as much money interacting with payers. *Health Affairs*, 30(8), 1443-1450.

⁴² Himmelstein, D., Jun, M., Busse, R., Chevreur, K. Geissler, A., Jeurissen, P., . . . Woolhandler, S. (2014). A comparison of hospital administrative costs in eight nations: US costs exceed all others by far. *Health Affairs*, 33(9), 1586-1594.

⁴³ Jiwani, A., Himmelstein, D., Woolhandler, S., & Kahn, J. (2014). Billing and insurance-related administrative costs in United States' health care: synthesis of micro-costing evidence. *BMC Health Services Research*, 14, 556.

The study by Himmelstein and colleagues (2014) extended the comparison beyond Canada, examining hospital administration costs in European countries.⁴⁴ Costs varied across countries; Canada had the lowest costs and the US had the highest. Hospital administrative costs vary not only by single-versus multi-payer status but also by payment methodology. Administrative costs are higher in countries with case-based (DRG⁴⁵) payments (England, France, Germany, and the Netherlands) than those where hospitals receive global budgets (Canada, Scotland, and Wales).

In the single-payer studies we reviewed, assumptions varied regarding how much administrative savings would accrue from implementing a single-payer system in the US.⁴⁶

We believe these savings would be large, but some scholars have argued they may be moderate, for several reasons. First, it is difficult to compare administrative costs across countries. Isolating purely administrative costs is difficult because some functions have both administrative and clinical purposes.⁴⁷

Second, other factors, in addition to single-versus multiple-payer status, cause administrative costs to vary across countries. These factors include hospital financing methods (discussed above), the scope of services covered, extent of cost sharing, degree of market competition, the extent of

medical underwriting, and public regulation and compliance costs.⁴⁸

Third, health care spending varies substantially across states in the US.⁴⁹ Some states have spending levels (as a percentage of income) similar to other comparison countries. Yet, all states operate within the same multi-payer system. Newhouse and Sinaiko (2008) argue that this suggests the main driver of higher health care spending in the US may not be due to administrative costs associated with multi-payer financing.⁵⁰

Fourth, some components of higher administrative costs, such as those supporting pay-for-performance initiatives or care coordination, may not be wasteful.⁵¹

Pharmaceuticals

Pharmaceutical expenditures are substantially higher in the US than in other high-income countries ([Exhibit 10](#)). The US spends \$1,440 per person per year on pharmaceuticals versus an average of \$670 for the other countries listed in the exhibit.

When we include retail prescription drug spending and the cost of drugs administered in hospitals, physician offices, and other facilities, pharmaceutical spending in the US accounts for about 17% of total health care spending.⁵² We estimate

⁴⁴ France, Germany, Netherlands, England, Scotland, and Wales.

⁴⁵ In a diagnosis-related group (DRG) payment system, hospitals receive fixed payments for different categories of admissions (based on patient diagnosis and other factors).

⁴⁶ Bauer et al. (2018).

⁴⁷ OECD (2017).

⁴⁸ Thorpe, K. (1992). Inside the black box of administrative costs. *Health Affairs*. Summer 1992.

⁴⁹ Spending in Washington State, according to CMS data, is slightly below average. In 2014, the last year for which estimates are available, 29 states had higher per capita health care spending than Washington.

⁵⁰ Newhouse, J., & Sinaiko, A. (2008). Can multi-payer financing achieve single-payer spending levels? *Forum for Health Economics & Policy*, 10(1).

⁵¹ OECD (2017) and Thorpe (1992).

⁵² Kesselheim, A., Avorn, J., & Sarpatwari, A. (2016). The high cost of prescription drugs in the United States: Origins and

that higher pharmaceutical spending accounts for 21% of the difference in health care spending between the US and these other seven countries.⁵³

The main drivers of larger pharmaceutical spending in the US are the much higher prices of brand-name drugs in this country and the greater use of newer, more expensive drugs.⁵⁴ We spend more despite having a very high generic share of total prescriptions. Over 80% of the pharmaceuticals used in the US are generics but they account for less than 30% of total pharmaceutical spending.⁵⁵

Other countries have achieved lower spending through centralized price negotiations with pharmaceutical companies, establishing national drug formularies and using cost-effectiveness research to set price ceilings.⁵⁶ The use of reference pricing for pharmaceuticals has also been found to be effective in lowering drug prices in some countries.⁵⁷

prospects for reform. *Journal of the American Medical Association*, 316(8), 858-871.

⁵³ Emanuel (2018) estimates that per capita pharmaceutical expenditures accounts for 18% of the difference in overall health care spending between the US and Germany, 23% of the difference with the Netherlands, and 34% of the difference with Sweden. We applied his methodology to also estimate the effects for the other countries in Exhibit 10.

⁵⁴ Sarnak, D., Squires, D., Kuzmak, G., & Bishop, S. (2017). *Paying for prescription drugs around the world: Why is the U.S. an outlier?* The Commonwealth Fund. Issue Brief. October 2017; Kesselheim et al. (2016); Morgan, S., Good, C., Leopold, C., Kaltenboeck, A., Bach, P., & Wagner, A. (2018). An analysis of expenditures of primary care prescription drugs in the United States versus ten comparable countries. *Health Policy*, 122, 1012-1017; Papanicolas et al. (2018).

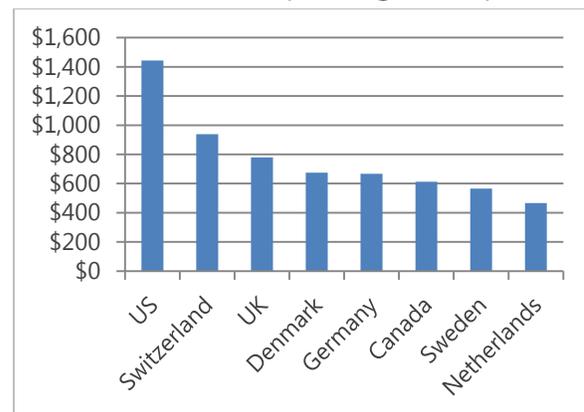
⁵⁵ Papanicolas et al. (2018).

⁵⁶ Sarnak et al. (2017); Kesselheim et al. (2016); Stabile, M., Thomson, S., Allin, S., Boyle, S., Busse, R., Chevreul, K., . . . Mossialos, E. (2013). Health care cost containment strategies used in four other high-income countries hold lessons for the United States. *Health Affairs*, 4, 643-652.

⁵⁷ Under reference pricing, a reimbursement level is set for a group of therapeutically equivalent drugs based on the lowest cost drug in the class. Patients may choose more

Exhibit 10

Pharmaceutical Spending Per Capita



Note:

Based on data reported by Papanicolas et al. (2018).

There is debate over the extent to which higher drug prices in the US reflect pharmaceutical company research and development costs. Kesselheim and colleagues (2016) conclude that there is little evidence of an association between research and development costs and drug prices. In any case, it is not clear why patients in the US should bear more of any development costs (through higher drug prices) than do patients in other countries.

Physician Compensation

Physicians and nurses earn substantially more on average in the US than in other high-income countries (Exhibit 11). Average overall wage levels across occupations vary between countries.

Exhibit 12 controls for this by presenting physician and nurse remuneration relative to the mean wages in various countries. Earnings of generalist and specialist physicians are also higher in the US according to this metric.⁵⁸

expensive drugs but they would be responsible for additional costs over the reference price. Lee, J., Fischer, M. Shrank, W., Polinski, J., & Choudhry, N. (2012). A systematic review of reference pricing: Implications for US prescription drug spending. *American Journal of Managed Care*, 18(11), e429-e437.

⁵⁸ Generalist refers to physicians registered as generalist, family medicine, pediatrics, geriatrics, or internal medicine.

Laugesen and Glied (2011) examined spending on primary care physicians and orthopedic surgeons in the US and other high-income countries. They concluded higher spending in the US is not explained by higher practice costs, a higher volume of services, or medical tuition expenses. The higher spending is due to higher physician fees.⁵⁹

Emanuel (2018) used data reported by Papanicolas to gauge the extent to which physician earnings account for the higher per capita health care expenditures in the US relative to other countries. Emanuel concludes that higher physician incomes are not the major cause of higher health care spending in the US. Other countries tend to have more doctors per 1,000 residents and this tends to moderate differences in per capita spending across countries.

We applied the decomposition method suggested by Emanuel to each of the countries in [Exhibit 12](#). The importance of physician earnings to overall health costs varies across countries ([Exhibit 13](#)). On average, variation in physician remuneration accounts for 4% of the difference in overall health care spending between the US and these other countries.

High-Margin, High-Volume Procedures and Imaging

The US has relatively high utilization of some high-margin procedures and tests—knee replacements, hysterectomies, cesarean deliveries, cataract surgery, coronary artery bypass, coronary angioplasty, and advanced imaging (MRIs and CTs). The prices of these procedures are typically much higher in the US.⁶⁰

Emanuel (2018) estimates that the pricing and volume of 25 high-margin, high-volume procedures could explain approximately 20% of the per capita health care cost difference between the US and other high-income countries. He also estimates that higher spending on MRI and CT scans account for 7% of the difference in health expenditures between the US and the Netherlands.

In summary, the higher per capita health care expenditures in the US relative to other high-income countries are largely driven by higher prices, utilization of high-margin procedures and imaging, and administrative costs.

Next, we take a longer-term perspective and examine why health care costs in the US diverged from health care costs in other countries starting in the mid-1970s.

⁵⁹ Laugesen, M., & Glied, S. (2011). Higher fees paid to US physicians drive higher spending for physician services compared to other countries. *Health Affairs*, 30(9), 1647-1656.

⁶⁰ Papanicolas et al. (2018).

Exhibit 11

Physician and Nurse Compensation in High-Income Countries (USD 2017)

	US	Mean
Generalist physicians	\$218,173	\$133,726
Specialist physicians	\$316,000	\$182,657
Nurses	\$74,160	\$51,795

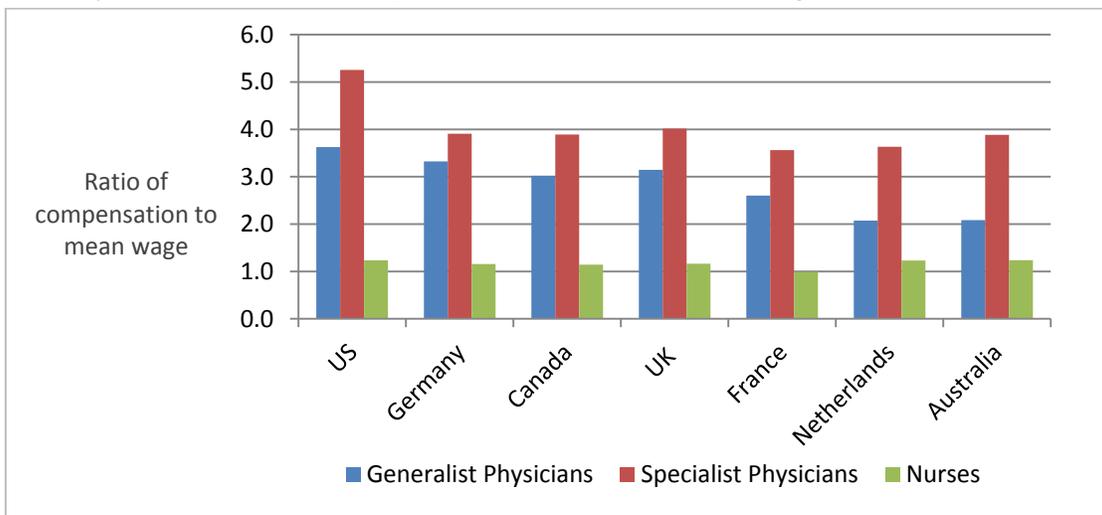
Notes:

Estimates are based on data from nine high-income countries.

Source: Papanicolas et al. (2018). Papanicolas et al. notes that remuneration estimates in some of these countries (e.g., Canada) do not account for practice expense of self-employed physicians.

Exhibit 12

Physician and Nurse Compensation Relative to Mean Wage across Countries



Notes:

Nurse compensation is not reported for Sweden. The bars represent the ratio of physician or nurse compensation relative to non-health-specific mean annual wages in each country.

Source: Papanicolas et al. (2018).

Exhibit 13

Physician Compensation and Health Care Spending Differences across Countries

	US	Canada	Germany	Netherlands	UK	France	Australia
Per capita health care expenditures (USD)	9,403	4,641	5,182	5,202	3,377	3,661	4,357
Physicians per 1,000 population	2.6	2.6	4.1	3.5	2.1	3.1	3.5
Average physician remuneration (USD) ^a	273,934	168,112	169,040	153,263	155,195	130,818	160,114
Per capita spending on physicians (USD)	712	437	693	536	326	406	560
Percentage of overall spending difference due to physician compensation ^b	---	5.8%	0.5%	4.2%	6.4%	5.3%	3.0%

Notes:

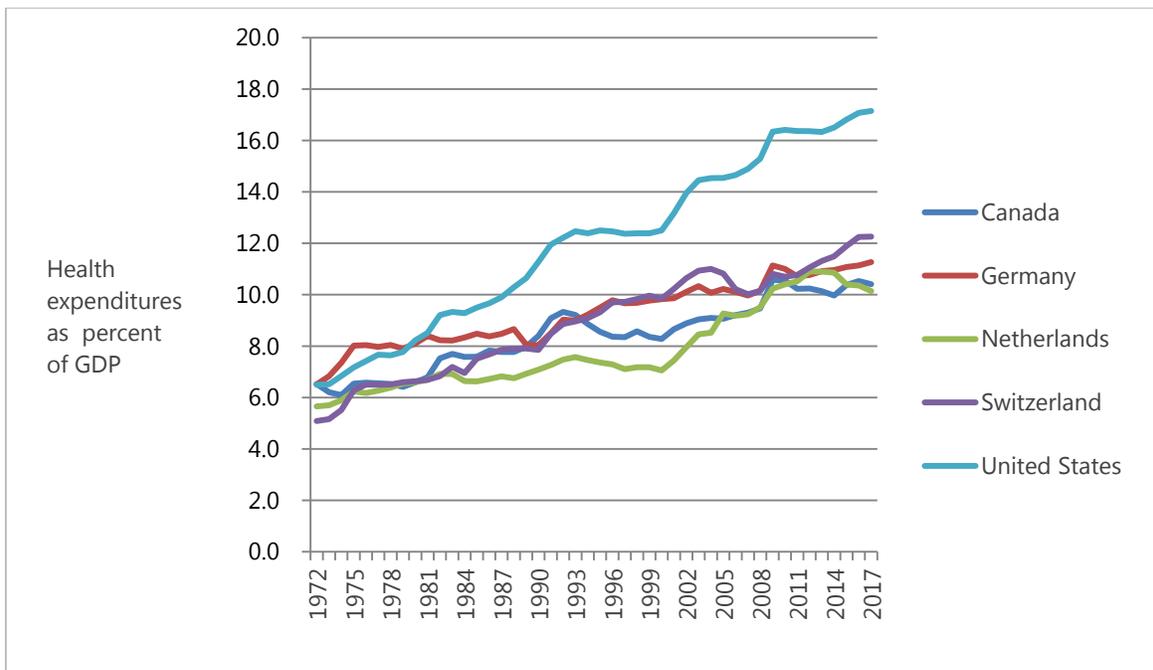
^a Physician compensation is a weighted average for generalists and specialists in the country.

^b For example, the estimate for Canada is calculated as the difference in per capita spending on physicians (\$275), divided by the difference in per capita health expenditures (\$4,762).

Source: Estimates based on data provided by Papanicolaos et al. (2008) using methodology suggested by Emanuel (2018).

Exhibit 14

Health Care Expenditures as a Share of Gross Domestic Product (1972-2017)



Note:

Based on data from OECD.STAT.

Technological Innovation

In the early 1970s, US health care spending as a share of GDP was roughly comparable to that in other high-income countries (Exhibit 14). After the mid-1970s, cost escalation was more moderate in other countries.

Economists attribute much of the long-term growth in health care costs to technological change, and they attribute the higher cost escalation in the US to more rapid, and less discriminating, diffusion of medical technology, including pharmaceuticals and devices.⁶¹

The primary driver of health care costs in the long term is the availability of new medical technology.⁶² Medical technological innovation accelerated in the 1970s. For example, the number of US patents for pharmaceuticals and surgical innovations increased by a factor of six between 1974 and 2010.⁶³

Chandra and Skinner (2012) distinguish between three categories of medical technologies: 1) cost-effective technologies that are beneficial to all relevant patients (e.g., blood-thinning drugs, anti-hypertensives), 2) potentially cost-effective innovations that benefit some patients but not others (e.g., angioplasties), and 3) technologies with modest or uncertain effectiveness (e.g., arthroscopic surgery for osteoarthritis).

They argue that cost growth relative to GDP has been more moderate in other countries because they have been able to promote the first group of innovations and discourage the third: "It's not technology per se that causes growth in health care expenditures—it's the patients with full insurance coverage who demand the latest prosthetic hip. It's the urologist who installs the latest 64-slice CT scanner in his office."⁶⁴

Kyle and Williams (2017) examine the diffusion of drugs over time in the US relative to Australia, Switzerland, and the UK. They use a classification scheme that measures a drug's improvement over existing therapies, ranking new drugs from (I) major improvement to (V) no improvement. They find that lower quality drugs diffuse more quickly compared to high-quality drugs in the US versus the other countries.

Economists claim that fee-for-service reimbursement coupled with few supply-side constraints in the US promotes rapid adoption of medical technologies that have little or uncertain benefit.⁶⁵ Corporate and state laws in the US also make it difficult to constrain the diffusion of technologies.

⁶¹ Cutler & Ly (2011) and Chandra & Skinner (2012).

⁶² Cutler & Ly (2011).

⁶³ Fuchs (2012).

⁶⁴ Chandra & Skinner (2012).

⁶⁵ Garber, A., & Skinner, J. (2008). Is American health care uniquely inefficient? *Journal of Economic Perspectives*, 22(4), 27-50 and Chandra & Skinner (2012).

Baicker and Chandra (2008) note that a single-payer system does not automatically provide high-quality care, citing the provision of low-value care in the US Medicare system.⁶⁶ In the other high-income countries, regulatory boards use efficacy and cost standards to control the adoption of technologies.⁶⁷ There is a greater use of health technology assessment to inform coverage decisions and guide clinical practice.⁶⁸

Cutler (2011) argues that significant technology regulation seems unlikely in the US but that payment reforms that promote it are possible.⁶⁹ For example, moving away from fee-for-service to bundled payments for episodes of care may provide better incentives for more efficient care.

Cost Containment Policies in High-Income Countries

The comparison countries use a variety of strategies to control costs. In addition to pharmaceutical pricing policies and health technology assessment, they have adopted broader measures to control prices and budgets.

Stabile and colleagues (2013) examined policies in four single-payer (Canada and England) and multi-payer (Germany and France) health care systems. These countries use budget setting and price controls to contain health care costs. England and France have budget caps to control public health expenditures. Germany uses sectoral budgets for hospitals and ambulatory care. Canada has generally “soft” budget caps at the regional and hospital levels.⁷⁰

In order to promote efficiency, increase service volumes, and reduce wait times, these four countries have moved toward activity-based hospital payments (DRGs). This will likely soften budget constraints since total payments cannot be known ahead of time.⁷¹

Stabile and colleagues (2013) note that all four countries have mechanisms to set prices for health care services. Fees are determined or agreed on through negotiation at the national or regional level, rather than through negotiations between individual purchasers and providers.

⁶⁶ Baicker, K., & Chandra, A. (2008). Myths and misconceptions about US health insurance: Health care reform is hindered by confusion about how health insurance works. *Health Affairs*, 27(6), w533-v543.

⁶⁷ Chandra & Skinner (2012).

⁶⁸ Stabile et al. (2013).

⁶⁹ Cutler & Ly (2011).

⁷⁰ Stabile et al. (2013).

⁷¹ Ibid.

IV. Access, Financial Barriers, and Equity

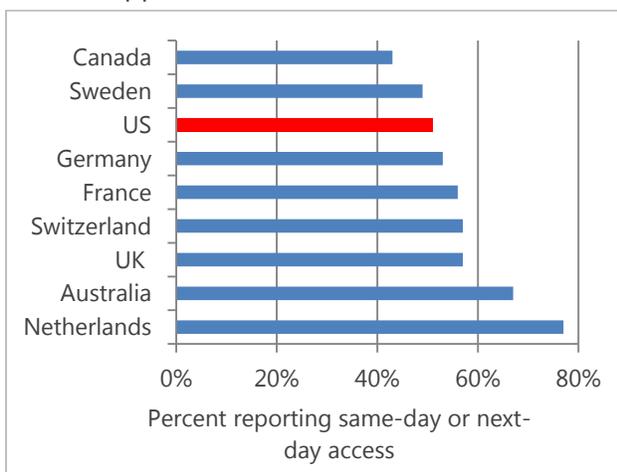
Access to Health Care—Wait Times

The Commonwealth Fund International Health Policy Survey provides information regarding access to primary and specialist care among residents in OECD countries. The reported percentages of patients being able to get same-day appointments when sick varies across the countries we examined (Exhibit 15).⁷² The US is just below average on this metric. Access to same-day appointments is highest in the Netherlands.

The US has relatively short wait times for specialist visits and elective surgeries (Exhibit 16). Wait times for these services are longest in Canada. In general, wait times for seeing specialists and elective surgery are longer in single-payer systems and shorter in insurance-based systems.

Exhibit 15

Able to Get Same-Day/Next-Day Appointments When Sick (%)



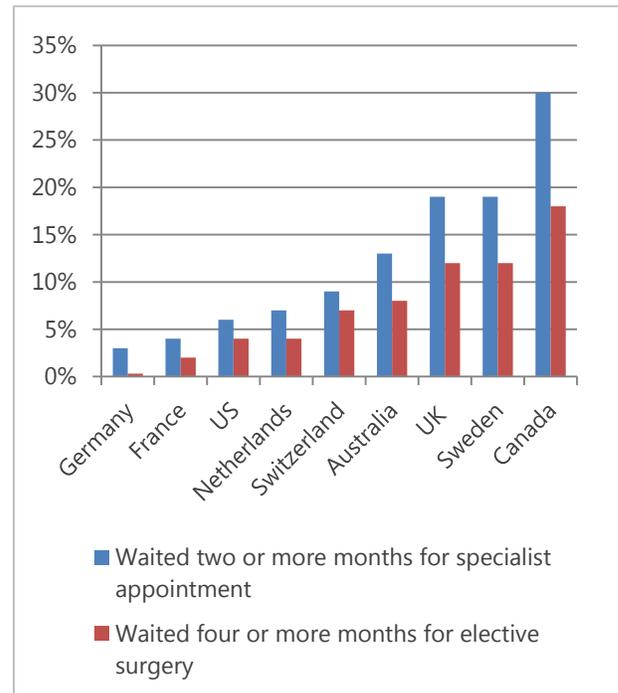
Note:

Source: Commonwealth Fund International Health Policy Survey.

⁷² Reported in The Commonwealth Fund (2017).

Exhibit 16

Wait Times for Specialist Care and Elective Surgery (%)



Note:

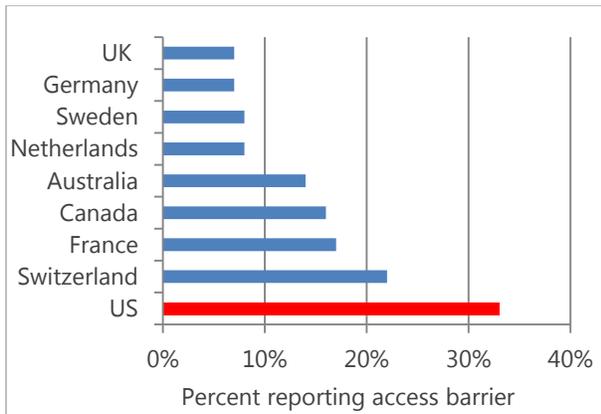
Source: Commonwealth Fund International Health Policy Survey.

Access to Health Care—Financial Barriers

The Commonwealth Fund survey also examines three aspects of access related to cost: 1) failure to fill a prescription, 2) visit a doctor for a medical problem, 3) and obtain recommended treatments or tests. Perceived financial barriers to access were highest in the US, followed by Switzerland (Exhibit 17). The percentages reporting cost as a barrier were lowest in the UK, Germany, Sweden, and the Netherlands.

Exhibit 17

Experienced Access Barriers Because of Cost in Past Year (%)



Notes:

Access barrier due to cost defined as at least one of the following: did not fill a prescription, did not visit a doctor with a medical problem, and/or did not get recommended care. Source: Commonwealth Fund International Health Policy Survey, Reported in The Commonwealth Fund. 2017.

The high perceived financial barriers in the US and Switzerland are in part due to relatively high out-of-pocket costs.⁷³ Out-of-pocket (OOP) costs include the cost-sharing (copays, deductibles, and coinsurance) for services covered by insurance, payments for services not covered by insurance (e.g., dental, vision), and payments to providers by the uninsured. In particular, both of these countries rely heavily on deductibles, which may cause people to avoid care (see Exhibit 19).⁷⁴

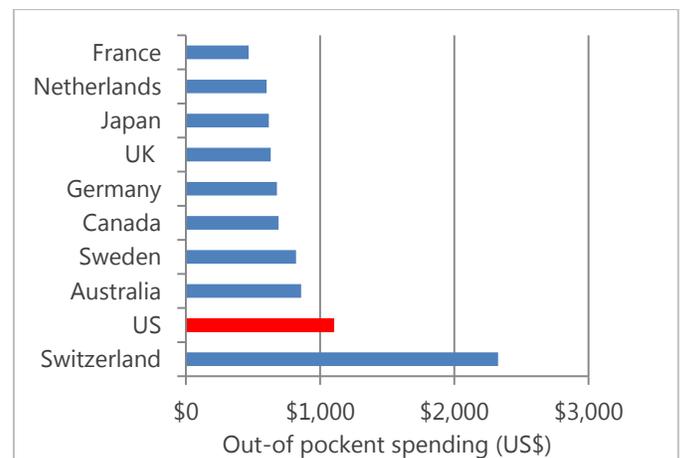
⁷³ Rice et al. (2018).

⁷⁴ Ibid. The percentages reporting financial access barriers in Switzerland increased from 10% in 2010 to 22% in 2016. Rice and colleagues suspect that this is in part due to Swiss residents increasingly opting for higher deductible plans in exchange for lower premiums.

OOP costs are relatively high in the US but they are even higher in Switzerland (Exhibit 18).⁷⁵ Despite this, US residents report higher perceived financial barriers. There are two potential reasons for this.⁷⁶ First, the US does not have universal coverage. Among the countries in the exhibit, only the US has a large percentage (10%) of residents without health care coverage. Second, the Swiss government has adopted measures to limit the effects of cost-sharing; health care for children and maternity services, for example, are not subject to cost-sharing.

Exhibit 18

Average Out-Of-Pocket Health Spending Per Capita (US\$, 2016)



Note:

Spending values in purchasing power parity equivalents. Source: Kaiser Family Foundation analysis of the WHO Global Health Expenditure Database.

Other countries cap out-of-pocket payments at relatively low amounts and reduce cost-sharing requirements for low-income persons, children, people with chronic diseases, and older adults.⁷⁷

⁷⁵ Out-of-pocket costs account for 11% of total expenditures in the US compared to an average of 13% for the OECD countries reported by Papanicolas et al. (2018). However, because of the very high per capita health care spending in the US, the absolute size of out-of-pocket costs is relatively high.

⁷⁶ Rice et al. (2018).

⁷⁷ Rice et al. (2018) and Stabile et al. (2013).

Exhibit 19

Out-of-Pocket Expenses and Access to Care

Out-of-pocket spending among the insured is determined by the extent of cost-sharing for covered services (copays, coinsurance, and deductibles) and required spending for uncovered services (e.g., dental and vision care). Premiums are not included in out-of-pocket costs.

Out-of-pocket spending is an important component of health care financing in all of the high-income countries in this report.^a Moreover, other high-income OECD countries have at some point increased out-of-pocket requirements in order to contain health care system costs. Some have reduced coverage for selected services (e.g., dental). Some have refused to cover services for which there was no evidence of effectiveness. Some have increased user charges and increased cost-sharing levels for pharmaceuticals.^b

Insurance coverage, by lowering the out-of-pocket price of care, increases health care utilization (economists refer to this as “moral hazard”). Requiring enrollees to pay for some of their medical expenses can help to reduce the moral hazard associated with insurance. Very low-cost-sharing encourages the use of care with lower marginal benefit.^c

The problem is that high out-of-pocket costs can cause patients to forgo needed medical care, tests, and medications. These potentially adverse consequences are more common among people with low incomes, chronic illnesses, and older adults.^d High deductibles may be especially problematic for those with low incomes. When people do not believe they will reach their deductible, they tend to act as if they were uninsured.^e

Studies have found that higher coinsurance rates and high-deductible health plans reduce both “low-severity” and “high-severity” emergency department visits. Prescription drug copays reduce adherence to medications used to treat high blood pressure and cholesterol. Enrollment in high-deductible health plans reduces cancer screening rates, preventive office visits, and tests.^f

Notes:

^a Rice et al. (2018).

^b Stabile et al. (2013).

^c Baird, K. (2016). High out-of-pocket medical spending among the poor and elderly in nine developed countries. *Health Services Research, 51*(4), 1467-1488; Baicker & Chandra (2008).

^d Baird (2016); Baicker & Chandra (2008).

^e Rice et al. (2018).

^f For a review of these studies, see: Bauer, J., & Barch, M. (2015). *Interventions to promote health and increase health care efficiency: Technical appendix*. Olympia: Washington State Institute for Public Policy

Access to Health Care—Equity

Blewett (2009) examined the evidence regarding income inequities and access to care and found the following:

- Universal coverage, in general, assures better access to those with lower incomes than does the voluntary US system;
- Results are mixed regarding equity in access across single-payer versus multi-payer systems in other countries;
- Many factors contribute to equitable access to care, such as type and availability of primary care providers, the level of cost-sharing, and the health status of different populations; and
- Income inequality continues to be a problem in all coverage systems.⁷⁸

Studies have examined differences in health care service utilization across income groups, adjusting for differences in need (higher morbidity among low-income groups). For example, Devaux (2015) analyzed national health surveys in OECD countries to examine how rates of doctor visits, dental visits, and cancer screening vary by income.⁷⁹ In most countries, people with higher incomes are more likely to visit a doctor, go to the dentist, and be screened for breast or cervical cancer; people with lower incomes are less likely to access these services.⁸⁰ Thus, in most countries, there is some level of income inequality in the utilization of medical services.

Among the countries we examined, Devaux finds the following:

- Doctor visits—Income inequality in the probability of a doctor visit is significantly higher in the US than in other countries; inequality is lowest in the UK. Differences among the other countries tend not to be significant, though inequality was lower in Switzerland and Germany than in Canada and France.
- Dental visits—Inequality was significantly higher in the US and Canada than in other high-income countries included in the study. Switzerland had significantly lower inequality than other countries.
- Breast and cervical cancer screening—Inequality was higher in the US and France and lower in the UK and Switzerland. Note that cancer screening rates are high in the US but so too is the inequality index for these screens.

Devaux concludes that inequality in utilization is higher where coverage is not universal, health care financing relies heavily on private insurance and out-of-pocket payments, and primary care providers do not act as gatekeepers, guiding patients to the required care. This suggests that equality would be promoted through universal coverage, firm limits on out-of-pocket expenses, and a strong primary care system.

⁷⁸ Blewett (2009).

⁷⁹ Devaux (2015).

⁸⁰ Ibid.

V. Health Outcomes and Quality of Care

In investigating differences between the US health care system and systems in other high-income countries, several questions emerge.

- Relative to similar countries, does greater US spending on health care translate to better health outcomes and a higher quality of care?
- Alternatively, do countries with single-payer or universal coverage systems experience worse health care outcomes relative to the United States?
- How might health outcomes change if the US were to adopt a universal coverage or single-payer health system?

To address these questions, we compare US health outcomes and quality of care indicators to those of comparable high-income countries with universal coverage systems.

However, international comparison of health outcomes is complicated not only by differences in data, measurement, and reporting but by differences in underlying population health, cultural trends and values, and broad societal trends like the state of the economy.⁸¹ The usability of

⁸¹ National Research Council and Institute of Medicine. (2013). [U.S. health in international perspective: shorter lives, poorer health](#). Panel on understanding cross-national health differences among high-income countries. In: Woolf, Steven H., Aron, Laudan (Eds.), Committee on Population, Division of Behavioral and Social Sciences and Education, and Board on Population Health and Public Health Practice. The National Academies Press, Washington, DC and Papanicolas, I., & Jha, A.K. (2017). Challenges in international comparison of health care systems. *Jama*, 318(6), 515-516.

health system performance indicators and the causal effects of health care systems is the subject of a large body of literature. A comprehensive review of this literature is beyond the scope of this report. We present some frequently used measures of health but urge caution when interpreting these results.

[Health Care Quality](#)

Researchers attempt to assess the quality of care provided by a health system through analysis of performance or process indicators. These measures aim to evaluate the effectiveness of care delivered by health professionals and institutions.⁸²

The US has mixed results in terms of health care quality, performing better than comparable countries on some measures but worse on others. In one recent comparison of international health system performance, the US ranked 5th best out of 11 countries in terms of the care process.⁸³

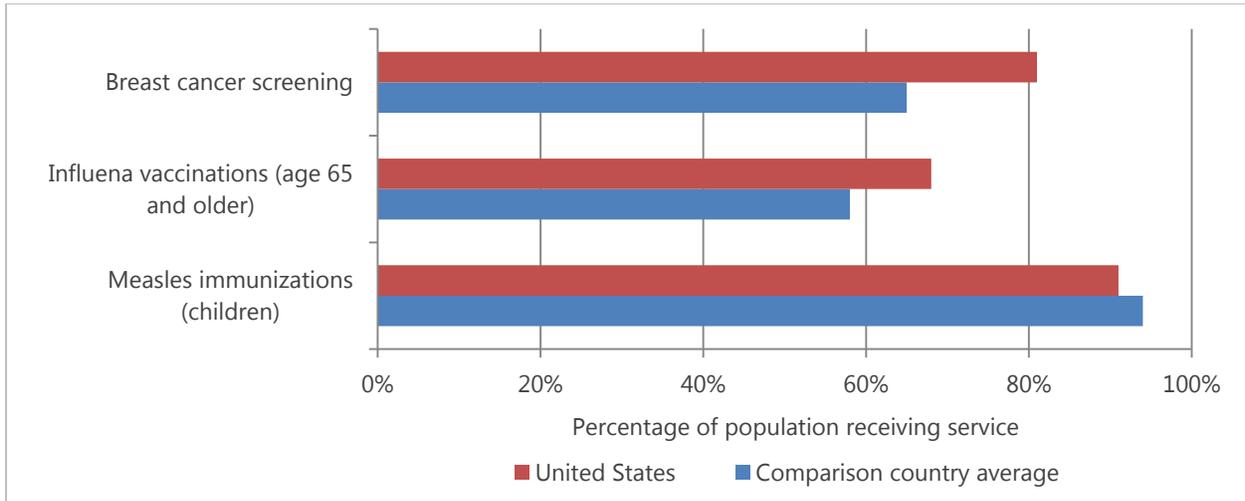
In terms of preventive care, the US outperforms comparable countries on rates of mammography and influenza vaccination for older adults. However, the US tends to have lower rates of vaccinations among children, such as for measles (see [Exhibit 20](#)).⁸⁴

⁸² Giuffrida, A., Gravelle, H., & Roland, M. (1999). Measuring quality of care with routine data: avoiding confusion between performance indicators and health outcomes. *BMJ*, 319(7202), 94-98 and [Types of Health Care Quality Measures](#). (2011). Agency for Healthcare Research and Quality, Rockville, MD.

⁸³ Schneider et al. (2017).

⁸⁴ National Research Council and Institute of Medicine (2013).

Exhibit 20
Performance on Preventative Care

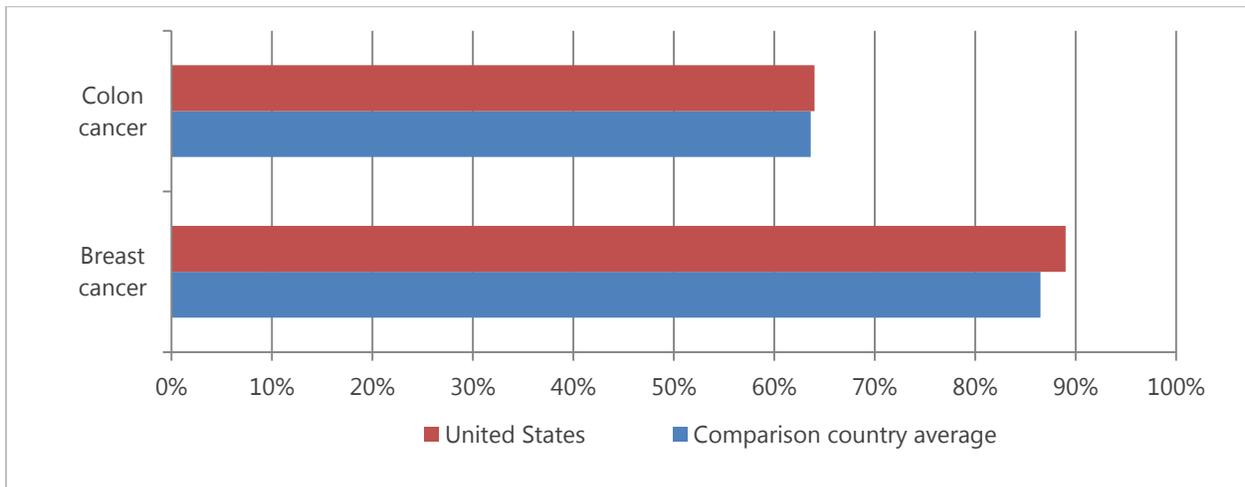


Notes:

Comparison countries include Australia, Canada, Denmark, France, Germany, Japan, the Netherlands, Sweden, Switzerland, and the United Kingdom.

Sources: Papanicolas et al. (2018) and [International Health Care System Profiles](#). (n.d.) (influenza and measles).

Exhibit 21
Cancer Survival Rates

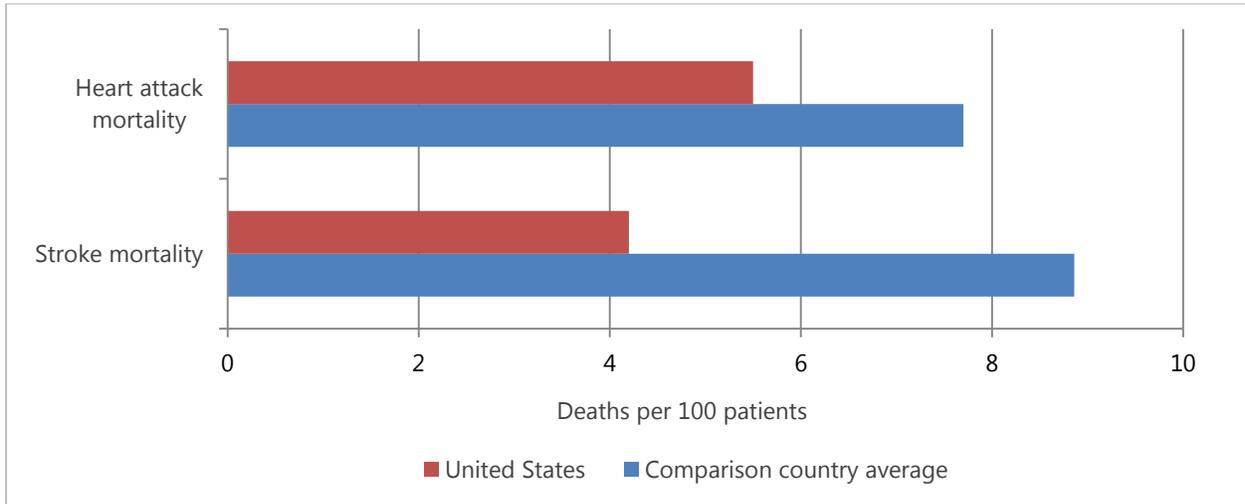


Notes:

Comparison countries include Australia, Canada, Germany, the Netherlands, New Zealand, Norway, Sweden, and the United Kingdom.

Source: OECD data via Schneider et al. (2017).

Exhibit 22
Acute Care Mortality Rates

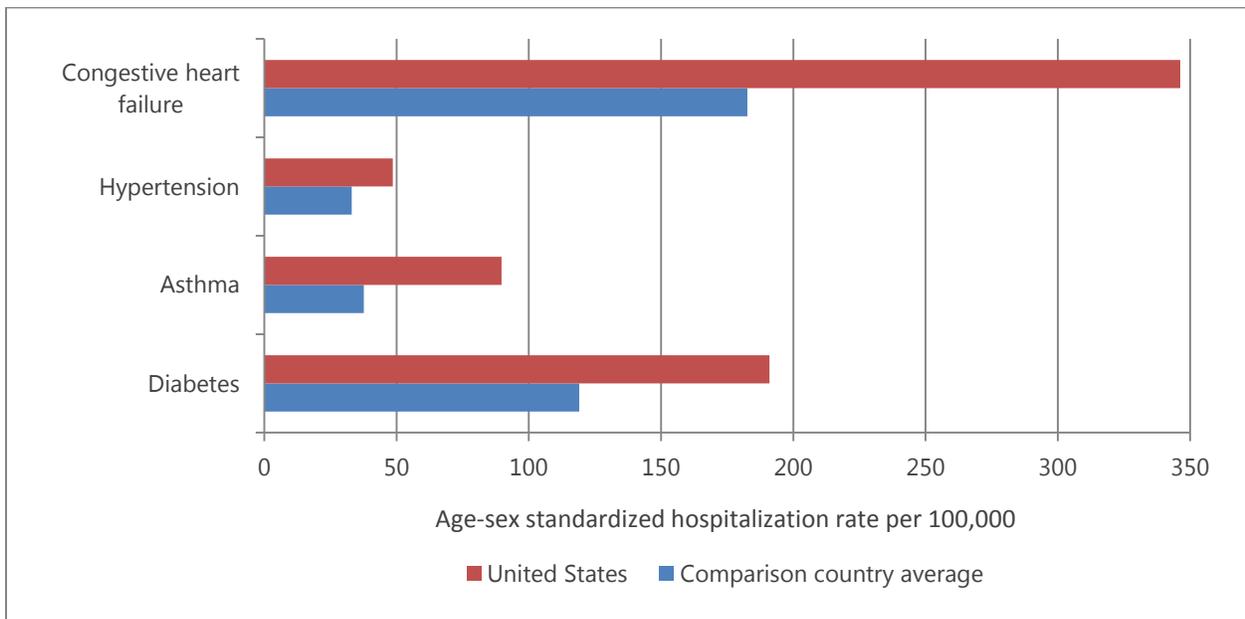


Notes:

A lower rate reflects better quality of care. Comparison countries include Australia, Canada, France, Germany, Sweden, Switzerland, and the United Kingdom.

Source: Papanicolas et al. (2018).

Exhibit 23
Rates of Avoidable Hospitalizations



Notes:

A lower rate reflects better quality of care. Data is from 2015 or nearest year. Where data was available, comparison countries include Australia, Canada, Denmark, France, Germany, Japan, the Netherlands, Sweden, Switzerland, and the United Kingdom. Germany was excluded from the hypertension measure due to it being an extreme outlier.

Source: OECD (2017) and Papanicolas et al. (2018).

Cancer survival rates are very similar to universal coverage countries (Exhibit 21). However, researchers suggest that American cancer survival rates are confounded by the high rates of screening, a phenomenon known as lead-time bias. By this logic, Americans may appear to live longer with cancer because the disease was detected earlier rather than because of more effective treatment resulting in prolonged life.⁸⁵

Another measure of health care quality is case-fatality rates, which measure death rates following treatment.⁸⁶ The US has low rates of 30-day in-hospital mortality for ischemic stroke and acute myocardial infarction (heart attack) (Exhibit 22).

Hospital admission rates for certain chronic diseases considered manageable in outpatient care, such as diabetes and high blood pressure (hypertension), are used in health care research as a proxy for the quality of primary care.⁸⁷ The US generally has higher rates of these preventable hospitalizations than comparable countries (Exhibit 23). However, studies suggest these results may be confounded by factors outside the scope of outpatient care, such as socioeconomic status, patient preference, or hospital admission policy.⁸⁸

Health outcomes can be compared country to country by using mortality rates from conditions that are considered preventable within an effective health care system. Known as mortality amenable to health care,

or avoidable mortality, this measure includes conditions like tuberculosis, appendicitis, and certain cancers all of which are considered treatable by effective health care systems.⁸⁹ The Global Burden of Diseases (GBD), Injuries, and Risk Factors Study further improved upon this measure by adjusting for risk of mortality given factors like exposure, age, and gender. The resulting Healthcare Access and Quality (HAQ) index is a comparable summary measure of a country's avoidable mortality.⁹⁰ This measure is broadly used in health care research as a proxy for a country's quality of care.

Exhibit 24 compares HAQ scores with those of ten other high-income countries with universal coverage.⁹¹ In 2016, with a score of 88.7 out of 100, the US ranked 29th.

The US performed worst (index scores in 50s or 60s out of 100) on measures of lower respiratory infections, neonatal disorders, hypertensive heart disease, rheumatic heart disease, diabetes, and chronic kidney disease. It performed best (index scores of 90 to 100) on measures of communicable disease such as tuberculosis and tetanus; most measures of cancer, such as breast and Hodgkin's lymphoma; all measured digestive diseases, such as appendicitis; and epilepsy.

⁸⁵ National Research Council (2013).

⁸⁶ Ibid.

⁸⁷ Agency for Healthcare Research and Quality. (2018). *Potentially avoidable hospitalizations*. Rockville, MD.

⁸⁸ Institute of Medicine. (2009). *State of the USA health indicators: Letter report*. Committee on the State of the USA Health Indicators. Washington, DC: The National Academies Press, p. 46 and Giuffrida & Gravelle (1999).

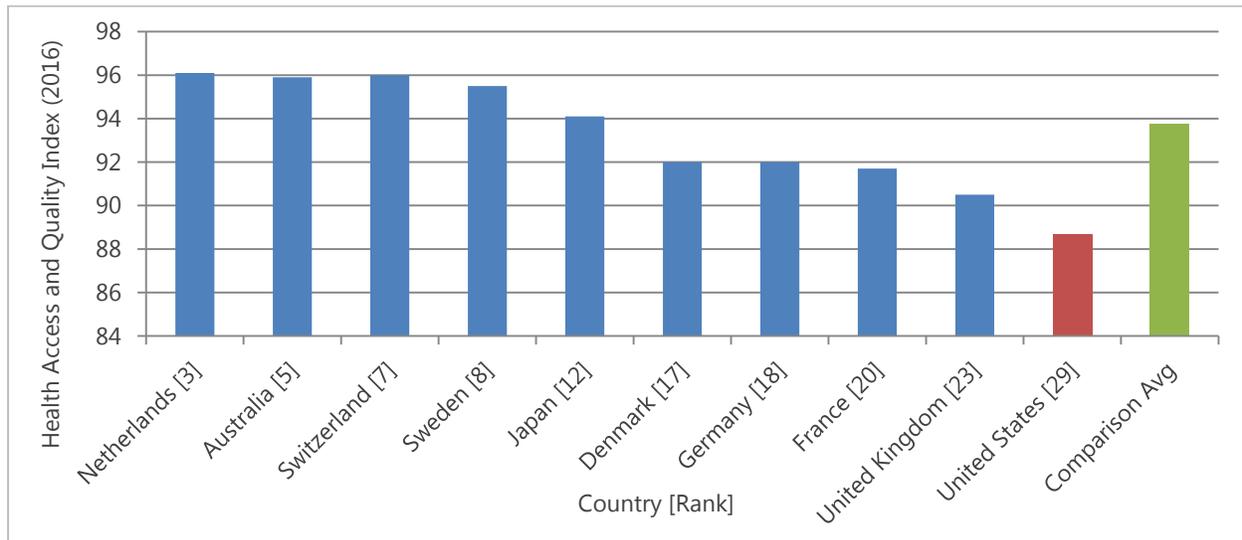
⁸⁹ Nolte, E., & McKee, C.M. (2008). Measuring the health of nations: updating an earlier analysis. *Health affairs*, 27(1), 58-71.

⁹⁰ Fullman, N., Yearwood, J., Abay, S.M., Abbafati, C., Abd-Allah, F., Abdela, J., . . . & Abraha, H.N. (2018). Measuring performance on the Healthcare Access and Quality Index for 195 countries and territories and selected subnational locations: A systematic analysis from the Global Burden of Disease Study 2016. *The Lancet*, 391(10136), 2236-2271.

⁹¹ These countries were profiled in an international comparison of health systems. They were selected on the basis of having high health care spending as well as similar demographics and burden of disease relative to the United States. See Papanicolas et al. (2018).

Exhibit 24

Health Access and Quality Index (Avoidable Mortality)



Notes:

A higher score reflects better quality of care. Data from 2016. "Comparison Avg" is the average of countries excluding the US. Source: Fullman et al. (2018).

Health Outcomes

The US also fares poorly on avoidable mortality when looking at historical trends. One international comparison finds that the US had the lowest 10-year decline in avoidable mortality, with a 16% reduction. Of the included countries, the Netherlands had the greatest decline with a 34% reduction.⁹²

In summary, the US health care system appears to provide a similar quality of care relative to high-income countries with universal coverage systems. On some measures, notably avoidable mortality, it performs much worse. Greater US spending on health care does not appear to produce superior health care quality as a whole.

The US can also be compared to similar high-income countries on crude measures of health outcomes, often referred to as population health. On many of these measures, such as life expectancy, adverse birth outcomes, and rates of chronic disease, the US appears to have exceptionally poor outcomes relative to high-income, universal coverage countries.⁹³

For example, among ten similar countries, the US had the lowest life expectancy (LE) (78.8 years, compared to a mean of 81.7 years).⁹⁴ However, LE varies regionally. While Mississippi, the state with the lowest average LE of 75 years, is well below comparable countries, states with above-average LEs like Hawaii at 81.3 years and

⁹² Comparison countries included Australia, Canada, France, Germany, the Netherlands, New Zealand, Norway, Sweden, Switzerland, and the UK. Schneider et al. (2017).

⁹³ National Research Council and Institute of Medicine (2013).

⁹⁴ Papanicolas et al. (2018). The US also performed worst on health-adjusted life expectancy (69.1 years compared to a mean of 72.0 years.)

Minnesota at 81.1 years are comparable to other high-income countries. In 2016, Washington State had an average life expectancy of 80.2, the 9th highest in the US.⁹⁵

The US has long had the highest rates of infant mortality (death before age one) among comparable countries. In 2014, this rate was 4.4 deaths per 1,000 live births.⁹⁶ The US also has one of the highest percentages of low birth weight (LBW) births (8.1% of total live births in 2015).⁹⁷ Exhibit 25 shows infant and mortality rates for the US and comparable countries. Washington State has the 8th lowest rates⁹⁸ of infant mortality in the country.⁹⁹

The US has one of the highest maternal mortality rates (MMR) in the developed world (26.4 per 100,000 live births). This represents an increase of nearly ten deaths per 100,000 live births since 1990. All other comparison countries saw a decline in their MMR over the same time period.¹⁰⁰

⁹⁵ Mokdad, A. H., Ballestros, K., Echko, M., Glenn, S., Olsen, H. E., Mullany, E. . . . & Kasaeian, A. (2018). The state of US health, 1990-2016: Burden of diseases, injuries, and risk factors among US states. *Jama*, 319(14), 1444-1472.

⁹⁶ OECD.stat. Accessed March 26, 2019. International comparisons of infant mortality may be subject to reporting issues because countries have their own thresholds of viability (i.e., the US is more likely to report deaths that occur around 22 weeks as live births, while other countries may count this as a still birth). To diminish the impact of reporting differences, we report infant mortality with a minimum threshold of 22 weeks gestation period or 500 grams birthweight. Without this restriction, the US appears to perform even more poorly (5.8 deaths per 1,000 live births).

⁹⁷ OECD.stat. Accessed March 26, 2019.

⁹⁸ Washington State Department of Health. (2017). [Infant mortality reduction report](#).

⁹⁹ In 2015, this rate was 4.8 per 1,000 live births. However, this figure does not have the minimum gestation period and birth weight threshold that the national figure (4.4 per 1,000 live births) has. Washington State's rate can be compared to the national rate without these reporting restrictions (5.8 per 1,000 live births).

¹⁰⁰ Kassebaum, N.J., Barber, R.M., Bhutta, Z.A., Dandona, L., Gething, P.W., Hay, S.I., . . . Lopez, A.D. (2016). Global,

Washington State has a lower MMR than the national average, and the rate has not increased over time.¹⁰¹

Obesity is another important measure of population health; it is a risk factor for cardiovascular disease, among other conditions, and is a leading cause of death and disability throughout the world.¹⁰² The US has the highest prevalence of adult obesity in the OECD (38% compared to an average of 19.4%)¹⁰³ and has a higher than average disease burden due to cardiovascular disease.¹⁰⁴ The US is also an outlier on childhood obesity. In 2015, the US had the highest rate of age-adjusted childhood obesity (12.7%) among the 20 most populous countries.¹⁰⁵

The US does perform comparably well on measures of alcohol consumption and smoking rates. Yet, paradoxically, the US has a higher than average disease burden¹⁰⁶ from alcohol use disorders and lung cancer.¹⁰⁷

In summary, the US generally has worse performance on health outcomes compared to high-income countries.

regional, and national levels of maternal mortality, 1990–2015: a systematic analysis for the Global Burden of Disease Study 2015. *The Lancet*, 388(10053), 1775-1812.

¹⁰¹ In 2014-15, the state pregnancy-related MMR was 9.0 per 100,000 births. Washington State Department of Health. (2017). [Maternal mortality review: A report on maternal deaths in Washington 2014–2015](#).

¹⁰² GBD 2015 Obesity Collaborators. (2017). Health effects of overweight and obesity in 195 countries over 25 years. *New England Journal of Medicine*, 377(1), 13-27.

¹⁰³ [Health at a glance 2017: OECD indicators](#). (2017).

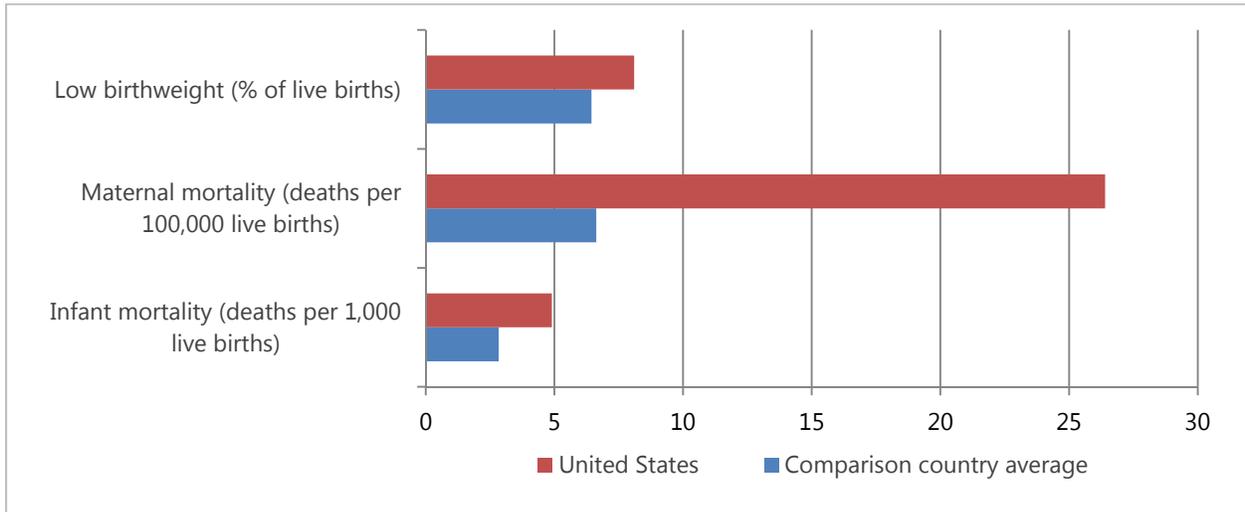
¹⁰⁴ Kamal, R., Cox, C., & Blumenkranz, E. (2017). [What do we know about social determinants of health in the U.S. and comparable countries?](#) Kaiser Family Foundation.

¹⁰⁵ GBD 2015 Obesity Collaborators (2017).

¹⁰⁶ Per the World Health Organization, disease burden measures the amount of productive life lost due to disease. It is the sum of years of life lost due to premature death and years of life lived with a disability.

¹⁰⁷ Kamal et al. (2017).

Exhibit 25 Infant and Maternal Health



Notes:

Data from 2016 or nearest year (up to 2014). Germany was excluded from the infant mortality comparison group because the most recent data was from 2012. The infant mortality measure uses a minimum threshold of 22 weeks (or 500 grams birthweight). Sources: OECD.stat and Papanicolas et al. (2018).

Determinants of Health

Research suggests that a country’s health status is the product of many interacting factors, not simply the quality of its health care system.¹⁰⁸ There are many nonclinical considerations that affect observable health outcomes. These include genetics and individual behaviors, such as physical activity, drug use, and diet. Also important are broader economic and social trends like poverty, employment status, education—so-called social determinants of health.¹⁰⁹

Not only do these determinants impact health outcomes directly, but they also affect other determinants, acting on observable health outcomes through multiple causal pathways.¹¹⁰ It is important to consider the effect of these determinants for two reasons:

- 1) Their variation across countries makes it difficult to find meaning in international comparisons of health outcomes, and
- 2) A country’s health care system is not the only driver of health outcomes. Research suggests there are many, interacting health determinants at play. Consequently, health outcomes may not be responsive to a health system change alone.

¹⁰⁸ Papanicolas, I., & Jha, A.K. (2017). Challenges in international comparison of health care systems. *Jama*, 318(6), 515-516 and McGovern, L., Miller, G., & Hughes-Cromwick, P. (2014). Health policy brief: The relative contribution of multiple determinants to health outcomes. *Health Affairs*.

¹⁰⁹ McGovern et al. (2014); National Research Council (2013); McGinnis, J.M., Williams-Russo, P., Knickman, J.R., 2002. The case for more active policy attention to health promotion. *Health Aff.* 21, 78–93; and [Frequently Asked Questions](#). (2014). Centers for Disease Control and Prevention.

¹¹⁰ McGovern et al. (2014).

For example, both race and income are known determinants of life expectancy in the US. African Americans consistently have lower life expectancy than Caucasian, Latino, and Asian Americans.¹¹¹ One study found that individuals in the top 1% of the income distribution lived, on average, almost 15 years longer than those in the lowest 1%.¹¹² Additional non-medical conditions, like the US's higher rates of homicide and death due to traffic accidents, also influence average life expectancy.¹¹³

Similarly, studies suggest that the US infant mortality is driven by social determinants, including educational disparities and levels of disposable income.¹¹⁴ The high rate of teenage pregnancy in the US may be at least partially responsible for the high rates of LBW births, which may, in turn, contribute to the high infant mortality rate.¹¹⁵

A large body of research finds that countries with greater economic inequality experience worse overall health outcomes.¹¹⁶ The US has a higher relative poverty rate and scores higher on measures of income inequality compared to the OECD average.¹¹⁷ The impact of low socioeconomic status has been observed across many health outcomes in the US. For example, while the US has lower overall rates of smoking relative to other high-income countries (11.4% of the population compared to a mean of 16.6%),¹¹⁸ research shows that American smoking rates are higher among adults with lower incomes and lower educational attainment.¹¹⁹ Similarly, obesity is more prevalent among lower-income¹²⁰ and low-educational attainment groups.¹²¹

In summary, it is not clear to what extent a country's health outcomes are products of medical care, non-medical determinants, or a combination of both. Adopting a single-payer or universal coverage system of health care without addressing underlying risk factors may not allow the US to achieve the health outcomes attained in other high-income countries.

¹¹¹ See eTables 3 and 4 in supplementary content for Papanicolas et al. (2018).

¹¹² Chetty, R., Stepner, M., Abraham, S., Lin, S., Scuderi, B., Turner, N., . . . Cutler, D. (2016). The association between income and life expectancy in the United States, 2001-2014. *JAMA*, 315(16), 1750-1766.

¹¹³ O'Neill, J.E., & O'Neill, D.M. (2007). Health status, health care and inequality: Canada vs. the US. *Forum for Health Economics & Policy De Gruyter*, 10(1).

¹¹⁴ Muennig, P., Reynolds, M.M., Jiao, B., & Pabayo, R. (2018). Why Is Infant Mortality in the United States So Comparatively High? Some Possible Answers. *Journal of Health Politics, Policy and Law*, 43(5), 877-895.

¹¹⁵ O'Neill & O'Neill (2007).

¹¹⁶ Dorling, D. (2015). The mother of underlying causes—economic ranking and health inequality. *Social Science & Medicine*, 128, 327-330.

¹¹⁷ Organization for Economic Development (2019). *Society at a glance*. See Figure 6.1

¹¹⁸ Papanicolas et al. (2018).

¹¹⁹ Case, A., & Deaton, A. (2017). Mortality and morbidity in the 21st century. *Brookings papers on economic activity*, 2017, 397 and Dorling (2015).

¹²⁰ Kamal et al. (2017).

¹²¹ [Health at a glance 2017: OECD indicators](#) (2017).

Report Conclusions

Other countries, both single- and multi-payer, have achieved universal coverage and have substantially lower health care spending than the US. These countries have lower administrative costs and mechanisms to control the prices of medical services and pharmaceuticals. They have to varying degrees limited utilization of some high-margin procedures and advanced imaging, and they have been better able to discourage the diffusion of medical technologies and drugs that have modest or uncertain effectiveness.

These countries have also been more successful than the US in limiting financial barriers to care and promoting more equitable access across income groups.

Finally, the higher US health expenditures do not translate to better health outcomes and quality of care for the entire population.

It is clear that these countries provide potentially valuable lessons for health care reform in the US. However, it is less clear to what extent their single-payer systems and universal coverage policies, governmental controls, taxation systems, and benefit designs are translatable to the US.

Appendices

Single-Payer and Universal Coverage Health Systems: *Final Report*

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I. References for Single-Payer Effects on Health Care Costs

See Exhibit 1 of Main Report

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II. Medical Migration

To what extent might migration of high-cost individuals into a state in response to single payer adoption affect health care costs?

(1) There is little evidence suggesting this would occur, but we have not seen such a dramatic health care system change.

Three analyses of state single-payer proposals considered the issue of medical in-migration. A study conducted for the Vermont single-payer initiative, by well-known economists at Harvard and MIT, concluded that there would be “virtually no in-migration as a result of the changes in the health insurance market implemented under this option.”¹²² Researchers at RAND considered migration in their analyses of single-payer proposals in New York and Oregon.¹²³ Although public coverage could induce some to move into a state, these studies argued that “there is slim evidence to suggest that such in-migration would be common.” However, this conclusion is based largely on evidence for how low-income populations responded to state Medicaid/CHIP expansions. The researchers note that these results may not generalize to the more comprehensive coverage changes that would occur under single payer.

(2) Some state single-payer proposals have attempted to mitigate potential exposure to medical migration.

For example, proposed legislation in Washington State, SB 5701¹²⁴ (2018) and SB 5747¹²⁵ (2017) mandated monitoring population migration related to the availability of universal health care and defined residency to exclude those who “enter the state for the primary purpose of obtaining health services.” These two bills were not passed by the Legislature. Proposals in New Mexico and Arizona also mandated studying single-payer migration effects.

The Lewin Group recommended implementing three-month residency requirements for eligibility in their studies for California and Minnesota in order to discourage medical migration. However, durational residency requirements may be unconstitutional. Vermont considered, but did not adopt, durational residency requirements due to legal issues.¹²⁶

¹²² Hsiao, W., Kappel, S., & Gruber, J. (2011). *ACT 128: Health system reform design. Achieving affordable universal health care in Vermont.*

¹²³ Liu et al. (2018).

¹²⁴ [Senate Bill 5701.](#)

¹²⁵ [Senate Bill 5747.](#)

¹²⁶ State of Vermont. (2014). *Green Mountain Care: A comprehensive model for building Vermont's universal health care system.*

III. Selected Health Care System Profiles

The Netherlands: Health Care System Profile

Highlights

The Netherlands does not have single-payer health care. The Dutch achieved universal coverage through a mandatory health insurance system. Their health care expenditures, although high relative to most other European countries are considerably lower than in the US ([Exhibit A1](#)). On a per capita basis, they spend roughly half as much as the US.

The Dutch report high levels of satisfaction with their system and good access to care.¹²⁷ They enjoy a high quality of care. The Netherlands ranks 3rd in the world in terms of low amenable mortality (an index based on mortality rates from causes that should not be fatal in the presence of effective medical care).¹²⁸ The Dutch also have a low number of avoidable hospitalizations, indicating that primary care is effective.¹²⁹

Key elements of the Netherlands' health system include the following:¹³⁰

- All residents are required to purchase health insurance that covers a standardized benefit package.
- People can purchase supplementary health insurance for uncovered benefits (e.g., dental and vision).
- Insurers are required to accept all applicants for coverage.
- Premiums for mandatory coverage are community rated (i.e., insurers cannot charge different premiums based on health status).
- The government subsidizes coverage for individuals with lower incomes.
- People may change health plans each year.
- A risk-adjustment scheme compensates insurers for enrolling higher-cost individuals.
- The Dutch government sets prices for general practitioner care, some hospital services, and pharmaceuticals. It also has brokered national agreements with insurers and providers specifying annual expenditure growth targets.

¹²⁷ The Commonwealth Fund. (2017). *International profiles of health care systems*. Edited by Mossialos, E., Djordjevic, A., Osborn, R., & Sarnak, D.; OECD/European Observatory on Health Systems and Policies (2017). *Netherlands: Country health profile 2017*. OECD Publishing, Paris/European Observatory on Health Systems and Policies, Brussels.

¹²⁸ *GBD 2016 Healthcare Access and Quality Collaborators*. (2018). Measuring performance on the Healthcare Access and Quality Index for 195 countries and territories and selected subnational locations: a systematic analysis from the Global Burden of Disease Study 2016. *Lancet*, 391, 2236–71. The US ranked 29th on this index.

¹²⁹ OECD/European Observatory on Health Systems and Policies (2017).

¹³⁰ Commonwealth Fund (2017); OECD/European Observatory on Health Systems and Policies (2017); van Ginneken, E., Swartz, K., & Van der Wees, P. (2013). Health insurance exchanges in Switzerland and The Netherlands offer five key lessons for the operations of US exchanges. *Health Affairs*, 32(4), 744-752; Schut, F. & Varkevisser, M. (2017). Competition policy for health care provision in the Netherlands. *Health Policy*, 121, 126-133; Maarse, H., Jeurissen, P., & Ruwaard, D. (2015). Results of the market-oriented reform in the Netherlands: a review. *Health Economics, Policy and Law*, (11)2, 1-18; Kroneman, M., Boerma, W., van den Berg, M., Groenewegen, P., de Jong, J., & van Ginneken, E. (2016). The Netherlands: Health system review. *Health Systems in Transition*, 18(2), 1-239.

Exhibit A1

Selected Comparisons between the Dutch and US Health Care Systems

	The Netherlands	United States
Health care coverage (2016)^a		
Percentage of the population insured	99.9%	91%
Health expenditures (2016)^b		
Percentage of GDP spent on health care	10.5%	17.8%
Health spending per capita (US\$)	\$5,202	\$9,403
Overall satisfaction (2016)^c		
Percentage responding that system “works well, minor changes needed”	43%	19%
Health care access (2016)^c		
Percentage responding that they experienced access barriers because of cost in the last 12 months	8%	33%
Percentage reporting they are able to get same-day/next-day appointments	77%	51%
Waited two months or more for a specialist appointment	7%	6%
Waited four months or more for elective surgery	4%	4%

Notes:

^a [Organisation for Economic Co-Operation and Development](#). Retrieved from OECD.Stat on February 26, 2019.

^b Papanicolas et al. (2018).

^c The Commonwealth Fund. (2017). *International profiles of health care systems*. Edited by Mossialos, E., Djordjevic, A., Osborn, R., & Sarnak, D.

Government’s Role

Prior to 2006, the Netherlands had a social health insurance scheme that covered two-thirds of the population with lower incomes and private insurance those with higher incomes.¹³¹ Health reforms adopted that year created a single private insurance market that covers everyone. These reforms emphasized the role of competition among health insurers in promoting system efficiency. However, the government continues to play a critical role. It manages competition among insurers; sets health care priorities; and monitors access, quality, and cost.¹³²

Critical government functions, discussed in more detail below, include the following:

- Defining the basic benefit package that insurers are required to cover;
- Subsidizing coverage for low-income residents and children;
- Setting the prices for general practitioner care, some hospital services, and pharmaceuticals;
- Influencing contract negotiations between insurers and providers to achieve overall cost targets; and
- Administering the risk-adjustment mechanism which compensates insurers for enrolling higher-cost individuals.

¹³¹ Kroneman et al. (2016). The social health insurance scheme was similar to that for Germany. The German system is discussed above.

¹³² The Commonwealth Fund (2017).

The Market for Mandatory Insurance

All residents are required to purchase health coverage from private insurers. People may buy coverage individually or as part of “collectives.”¹³³ There is a choice of plans from different companies that are offered on a national exchange. People may change insurers every year and roughly 4% to 6% do so.¹³⁴

The government pays for coverage of children (under age 18) and provides subsidies for premiums of low-income adults. About 40% receive a tax subsidy to purchase insurance.¹³⁵

The government also determines a uniform set of services that the mandatory insurance must cover—including care provided by general practitioners, hospitals, and specialists and mental health, prescription drugs, and dental care for children. Some elective procedures, dental care for adults, and vision are not covered.¹³⁶

Insurers cannot deny mandatory coverage to anyone. Individual insurers are allowed to set their own premiums, but they have to charge the same rate to everyone for a given plan, regardless of health status (community rating). Insurers typically offer a range of plans with different levels of deductible; higher deductible plans have lower premiums. Competition among insurers appears to be robust, and premiums tend to be uniform for the same type of plan.¹³⁷

A risk-adjustment scheme was implemented by the government to encourage insurers to compete on premium costs, rather than by recruiting lower-risk enrollees. Funds collected from payroll taxes are allocated to insurers based on the expected health care costs of their enrollees. Insurers receive more funds with they serve proportionately more elderly, patients with chronic diseases, or individuals with low socioeconomic status.¹³⁸

The insurance market has become highly concentrated with the four largest carriers covering 90% of the population. Most insurers are not-for-profit. Only one large carrier is for profit, and the government has imposed a ban on the distribution of profits to shareholders.¹³⁹

Supplementary Insurance

About 85% of the population purchases supplementary insurance to cover services not included in the mandatory benefit package, such as dental, vision, and physical therapy. Insurers are not required to accept all applicants for supplemental coverage and risk-rated premiums are allowed.¹⁴⁰

¹³³ Collectives are small groups that may receive up to a 10% discount on premiums. Maarse et al. (2015).

¹³⁴ van Ginneken et al. (2013).

¹³⁵ OECD/European Observatory on Health Systems and Policies (2017).

¹³⁶ The Commonwealth Fund (2017).

¹³⁷ van Ginneken et al. (2013).

¹³⁸ The factors considered for risk-adjustment include age, sex, prescription drug costs, chronic conditions, medical spending in the prior year, employment status, region, and socioeconomic status. Kroneman et al. (2016), van Ginneken et al. (2013).

¹³⁹ van Ginneken et al. (2013) and The Commonwealth Fund (2017).

¹⁴⁰ Maarse et al. (2015) and van Ginneken et al. (2013).

Financing

The health care system is funded through insurance premiums, payroll taxes, and general tax revenues. Premiums for mandatory insurance cover about half of the costs for care. Income-related contributions (an earmarked payroll tax) pay for 45% of health expenditures. The remaining costs, including the care for children, are covered through general tax revenues. The income-related contributions and government contributions are channeled into the fund used for risk-adjustment payments to insurers.¹⁴¹

General Practitioners

General practitioners (GPs) play an especially important role in the Dutch health care system. Most people register with a general practitioner who acts as a gatekeeper for secondary care. Access to specialist and hospital care and specialist care requires a GP referral.¹⁴²

Most GPs are in private or group practice. Their remuneration is based on three components—base payments to cover the care of their registered patients, bundled payments for the care of chronic conditions, and pay-for-performance incentives.¹⁴³ The base payments, which account for 80% of GP earnings, include capitation (fixed payment per registered patient) and fee-for-service payments for each visit. The Dutch Health Care Authority sets the capitation and fee-for-service rates. So, the bulk of GP remuneration is determined directly by the government, rather than the result of negotiation between insurers and providers.

The second component, which accounts for 15% of GP earnings, are comprised of bundled payments for coordinated care of chronic diseases, including diabetes, cardiovascular conditions, and chronic obstructive pulmonary disease (COPD). The rates for these bundled payments are negotiated between groups of physicians (“care groups”) and insurers. The formation of care groups has strengthened the bargaining position of physicians, and negotiated rates vary across groups.¹⁴⁴

The third component, pay-for-performance incentives, accounts for 5% of GP remuneration. The incentive payments are also negotiated between insurers and physicians.

Specialists

The majority of specialists (60%) work in partnerships that contract with hospitals to provide inpatient and outpatient services. Of the specialists, 40% are salaried hospital employees.¹⁴⁵ Specialist fees are determined through negotiations with hospitals (as discussed below).

¹⁴¹ van Ginneken et al. (2013). The payroll tax rate is 7.1% of wages up to a maximum of \$4,600 per year.

¹⁴² The Commonwealth Fund (2017) and Schut & Varkevisser (2017).

¹⁴³ The Commonwealth Fund (2017); Schut & Varkevisser (2017); and van Ginneken et al. (2013).

¹⁴⁴ Schut & Varkevisser (2017).

¹⁴⁵ Kroneman et al. (2016).

Hospitals

Hospitals are private and nonprofit.¹⁴⁶ Hospital payments are determined through a system of “Diagnosis Treatment Combinations” (DTCs), which specify bundled payment rates for the services included in different types of cases.¹⁴⁷ All inpatient and outpatient services are rolled into DTCs. The Dutch Health Care Authority designates the DTCs.¹⁴⁸ The Authority also determines the payment rates for 30% of the combinations, including emergency department services and care which delivered by too few providers to have meaningful competition (such as organ transplants).¹⁴⁹

The payment rates for the majority (70%) of DTCs are determined by negotiations between individual insurers and hospitals. DTCs include care provided by specialists. Specialists negotiate their fees with hospitals.¹⁵⁰

Cost Sharing

Patient cost sharing is determined largely by the deductible. The standard annual deductible is \$465, though people may opt for higher-deductible plans with lower premiums. The deductible does not apply to GP visits and maternity care. All care for children is covered by the government.

In addition to the deductible, copays or coinsurance are required for some services (e.g., medical transportation), medical devices, and selected prescription drugs.¹⁵¹

Cost Containment

What explains the lower per capita health expenditures in the Netherlands vis-à-vis the US? Some of the difference appears to be due to medical service utilization rates ([Exhibit A2](#)). On a per capita basis, the Dutch have about the same number of hospital stays and more physician visits. However, they have lower utilization rates for some expensive surgical procedures and for advanced imaging (CTs and MRIs).

The prices of medical services also play a role. In 2013, the average cost for a coronary artery bypass surgery was \$75,345 in the US versus \$15,742 in the Netherlands. The average cost of a CT scan was \$896 in the US versus \$279 in the Netherlands. An MRI in the United States was \$1,145 compared with \$461 in the Netherlands.¹⁵²

Managed Competition and Government Intervention

Why are the prices of medical services lower in The Netherlands? Health care reforms in 2006 emphasized the role of managed competition among insurers to contain costs.¹⁵³ However, government intervention has continued to play a critical role. The government sets most of the fees for general practitioners, determines payment rates for 30% of hospital services, and influences negotiations between insurers and hospitals.

¹⁴⁶ The Commonwealth Fund (2017).

¹⁴⁷ These are combinations are similar to which is similar to the Diagnostic-Related Groups (DRGs) used in the US but are extended to include outpatient specialist care.

¹⁴⁸ Schut & Varkevisser (2017) and OECD/European Observatory on Health Systems and Policies (2017).

¹⁴⁹ Schut & Varkevisser (2017) and OECD/European Observatory on Health Systems and Policies (2017).

¹⁵⁰ Kroneman et al. (2016).

¹⁵¹ The Commonwealth Fund (2017); van Ginnekin et al. (2013), and Schut & Varkevisser (2017).

¹⁵² Pananicolas et al. (2018).

¹⁵³ Commonwealth Fund (2017).

Managed competition among insurers is believed to have played only a limited role in containing costs. The bargaining positions of health insurers vis-à-vis GPs and hospitals appear to be relatively weak. GPs have formed powerful national interest groups and have been successful in mobilizing public support in support of their positions. Hospitals have been consolidating, enhancing their negotiating power.¹⁵⁴

In order to promote control over costs, the government sets a global budget to ensure that the annual expenditure on hospital services does not exceed a certain amount. If costs exceed the budget, the government can require hospitals to repay excess revenues. The government has not yet had to rely on this mechanism. Instead, it has brokered national voluntary agreements between insurers, providers, and the government specifying annual expenditure growth targets.

For example, the Health Minister signed a collective agreement with the associations of insurers and hospitals to limit annual net growth of hospital expenditures to a targeted rate (2.5% during 2012-15 and 1% during 2015-17).¹⁵⁵

Pharmaceuticals Costs

Per capita spending on pharmaceuticals in The Netherlands is only a third of US spending.¹⁵⁶

The government and health insurers have adopted policies to contain prescription drug costs. The government passed the Medicine Prices Act, which mandates that Dutch pharmaceutical prices cannot exceed prices in neighboring countries.¹⁵⁷

Health insurers have preferred medicine policies, where they select a specific brand of pharmaceutical in a class. The policy favors generics, and generic penetration is relatively high in The Netherlands (72% compared to 48% for European Union Countries).

Another strategy adopted by insurers incentivizes pharmacists to control costs. Insurers set maximum prices for a drug class and let pharmacists choose the brand. If a pharmacist buys a drug above the maximum price, they cannot charge patients for the difference. If they are able to purchase the drug below that price, they may keep the difference.¹⁵⁸

Administrative Costs

System-wide administrative costs in 2016 were 3.9% of health expenditures in the Netherlands versus 8.3% in the US.¹⁵⁹ Despite having multiple insurance companies, total administrative costs for mandatory health insurance was only 3.5%. It was higher for voluntary supplemental insurance (12.4%).¹⁶⁰

Efficiency

Government agencies advise the government on evidence-based medicine and decisions regarding benefits to be covered in the mandatory insurance plan. Health technology assessment is gaining importance and is used for decisions concerning the benefits package and appropriate use of medical devices.¹⁶¹

¹⁵⁴ Schut & Varkevisser (2017).

¹⁵⁵ Schut & Varkevisser (2017); The Commonwealth Fund (2017); and Maarse et al. (2015).

¹⁵⁶ The Dutch spend \$466 per capita versus \$1,443 in the US. Papanicolas et al. (2018).

¹⁵⁷ Kroneman et al. (2016).

¹⁵⁸ Kroneman et al. (2016) and OECD/European Observatory on Health Systems and Policies (2017).

¹⁵⁹ OECD.STAT.

¹⁶⁰ Estimates for 2013. Maarse et al. (2015).

¹⁶¹ The Commonwealth Fund (2017).

Exhibit A2

Selected Utilization Rates between the Dutch and US Health Care Systems

	The Netherlands	United States
Hospital discharges and physician visits		
Total hospital discharges per 1,000 population	120	125
Physician visits per capita	8	4
Selected surgeries		
Total hip replacements per 100,000 population	216	204
Total knee replacements per 100,000 population	118	226
Hysterectomies per 100,000 women	167	266
Cesarean delivery per 100 births	16	33
Coronary bypass per 100,000 population	69	79
Coronary angioplasty per 100,000 population	248	248
Advanced imaging		
MRI scans per 1,000 population	52	118
CT scans per 1,000 population	81	245

Notes:

Source: OECD data reported in Papanicolas et al. (2018).

CT refers to computed tomography; MRI refers to magnetic resonance imaging.

Switzerland: Health Care System Profile

Highlights

Switzerland also does not have single-payer health care. The Swiss achieved universal coverage through a mandatory health insurance system. Their health care expenditures, although high relative to most other European countries are considerably lower than in the US (Exhibit A3). The country spends 12% of total Gross Domestic Product (GDP) on health care versus 18% in the US.

The Swiss report high levels of satisfaction with their system and good access to care.¹⁶² Their system provides a high quality of care. For example, the country ranks 7th in the world in terms of low amenable mortality (an index based on mortality rates from causes that should not be fatal in the presence of effective medical care).¹⁶³

Key elements of the Swiss health system include the following.

- All individuals are required to purchase private insurance.
- There is a standardized benefit package of covered services.
- People can choose between plans offered by competing, nonprofit insurers.
- Insurers cannot deny anyone coverage.
- Policies are community rated (i.e., insurers cannot charge different premiums based on health status).
- The government subsidizes premiums for people with low incomes.
- People can purchase supplementary health insurance for uncovered benefits.
- Individual insurers do not typically negotiate fees with individual physicians, clinics, or hospitals. Prices are negotiated by associations of insurers and providers in each canton. If these associations cannot reach an agreement, canton governments set the fees.

Government's Role

The federal government defines a standardized benefit package for mandatory health insurance and regulates the nonprofit insurers. It also oversees health care system financing and the quality and cost of pharmaceuticals and medical devices.

Cantonal (state) governments license providers, coordinate hospital services, and subsidize hospitals. The federal government and cantons provide income-based subsidies for insurance premiums to over a quarter of the population.

The Market for Mandatory Insurance

Individuals purchase mandatory insurance in one of the 26 regional (canton) insurance exchanges. Employers do not play a role in the system and coverage is not linked to employment. Everyone may choose between the plans offered in their region. There are not separate public programs for the poor or the elderly.¹⁶⁴

¹⁶² The Commonwealth Fund (2017); De Petro, C., Camenzind, P., Sturny, I., Crivelli, L., Edwards-Garavoglia, S., Spranger, A., . . . Quentin, W. (2015) Switzerland: Health system review. *Health Systems in Transition*, 17(4), 1-288.

¹⁶³ GBD 2016 Healthcare Access and Quality Collaborators. (2018). Measuring performance on the Healthcare Access and Quality Index for 195 countries and territories and selected subnational locations: a systematic analysis from the Global Burden of Disease Study 2016. *Lancet*, 391, 2236–71. The US ranked 29th on this index.

¹⁶⁴ Cheng, T. (2010). Understanding the 'Swiss Watch' function of Switzerland's health system. (Interview with Thomas Zeltner), *Health Affairs*, 29(8), 1442-1451; Reinhardt, U. (2004). The Swiss health system: Regulated competition without managed care. *JAMA*, 292(10), 1227-1231.

Exhibit A3

Selected Comparisons between the Swiss and US Health Care Systems

	Switzerland	United States
Health care coverage (2016)^a		
Percentage of the population insured	100%	91%
Health expenditures (2016)^b		
Percentage of GDP spent on health care	12.4%	17.8%
Health spending per capita (US\$)	\$6,787	\$9,403
Overall satisfaction (2016)^c		
Percentage responding that system “works well, minor changes needed”	58%	19%
Health care access (2016)^c		
Percentage responding that they experienced access barriers because of cost in the last 12 months	22%	33%
Percentage reporting they are able to get same-day/next-day appointments	57%	51%
Waited two months or more for a specialist appointment	9%	6%
Waited four months or more for elective surgery	7%	4%

Notes:

^a Organisation for Economic Co-Operation and Development. Retrieved from OECD.Stat on February 26, 2019.

^b Papanicolas et al. (2018).

^c The Commonwealth Fund. (2017).

Insurers can set the premium levels for their plans, though their rates are subject to audit and approval by the federal government.¹⁶⁵ Premiums are allowed to vary by age,¹⁶⁶ the level of the deductible,¹⁶⁷ and restrictions on choice of providers. However, an insurer must sell a particular policy for the same price to everyone in a given age group and canton, regardless of health status (i.e., community-rating).¹⁶⁸

People may opt to purchase plans with higher deductibles that have lower premiums. They can also choose between plans with free choice of providers and less expensive plans that restrict the choice of physicians and hospitals. As of 2014, 60% of Swiss residents opted plans with some restriction on the choice of provider or “gatekeeping” requirements.¹⁶⁹

Insurers also must participate in a risk-adjustment mechanism. Some of the premiums, which are collected by insurance companies, are reallocated to insurers with higher proportions of enrollees who are expected to have higher costs, based on their age, gender, prior hospitalization, and pharmaceutical expenditures. The aim of risk-adjustment is to remove incentives for insurers to compete by enrolling low-cost enrollees.¹⁷⁰

¹⁶⁵ Reinhardt (2004).

¹⁶⁶ The allowed age classifications for premium setting are 0-18, 19-26, and 27 and older. De Petro et al. (2015).

¹⁶⁷ The deductible determines how much a person has to spend out-of-pocket before insurance begins to pay for a share of the costs of care.

¹⁶⁸ The Commonwealth Fund (2017); van Ginneken et al. (2013); and De Petro et al. (2015).

¹⁶⁹ In some of these “alternative” plans, patients must register with a general practitioner (GP), who provides referrals for specialist or hospital care. In other plans, people must contact a call center prior to seeking care. In other plans, physician care is limited to certain physician groups or networks. The Commonwealth Fund (2017) and De Petro et al. (2015).

¹⁷⁰ The Commonwealth Fund (2017); De Petro et al. (2015); and van Ginneken et al. (2013).

Supplementary Insurance

In addition to mandatory health coverage, Swiss residents may also purchase voluntary, supplemental insurance to pay for services not covered by mandatory insurance (e.g., dental and vision) and for free choice of hospital or a higher level of hospital accommodation. Roughly 90% of Swiss purchase voluntary insurance. Insurers are permitted to make a profit on voluntary insurance, charge risk-based premiums, and reject applicants.¹⁷¹

Financing

Mandatory health insurance premiums account for roughly a third of total costs, taxes cover another third, and the remainder is covered by private expenditures (out-of-pocket spending for services not covered by mandatory insurance, cost sharing for covered services, and supplemental health insurance premiums).¹⁷²

Provider Organization and Payment

Most Swiss physicians in ambulatory care¹⁷³ are self-employed, though growing shares are in group practices and health maintenance organizations.¹⁷⁴

Physicians are paid mostly on a fee-for-service basis.¹⁷⁵ Fees are determined by a national fee-for-service scale (TARMED), which determines relative cost weights for all services. These weights reflect the estimated physician time required for providing a given service and annual reference incomes for physicians.

The actual remuneration for service is then determined by multiplying the weight by a monetary conversion factor. Conversion factors are negotiated at the canton level between health insurer associations and provider associations. If insurers and providers cannot reach an agreement, a cantonal government may set the rate.

So, fee-for-service rates may vary across cantons. However, within a canton, physicians all receive the same fees for a given service and each insurer pays the same rates.¹⁷⁶

Hospitals are mostly public (65%), with some private for-profit (25%) and private not-for-profit (10%).¹⁷⁷ Hospital payment rates are based on a national diagnosis-related group (DRG) payment system, where there are fixed payments for different categories of admissions (based on patient diagnoses and other factors). Hospitals and insurer associations negotiate DRG base rates, which are then approved by canton governments.

A noteworthy element of the Swiss system is that cantons heavily subsidize hospital care. Hospitals receive about half of their funding from insurers and a half from cantons.¹⁷⁸

¹⁷¹ The Commonwealth Fund (2017) and van Ginneken et al. (2013).

¹⁷² The Commonwealth Fund (2017); De Pietro et al. (2015); and Cheng (2010).

¹⁷³ Ambulatory care refers to medical services not provided in an inpatient hospital setting.

¹⁷⁴ Cheng (2010) and De Pietro et al. (2015).

¹⁷⁵ About 10% of physicians, in managed care plans, receive capitation payments (i.e., a fixed amount per patient per year). De Pietro et al. (2015).

¹⁷⁶ De Pietro et al. (2015); The Commonwealth Fund (2017); and Cheng (2010).

¹⁷⁷ The Commonwealth Fund (2017).

¹⁷⁸ De Pietro et al. (2015) and Commonwealth Fund (2017).

Mandatory Health Insurance Benefit Design

All policies issued by insurers have the same basic benefits package of covered services. Mandatory health insurance covers most physician services, hospital care, pharmaceuticals, and preventive care.

The basic policies do not, however, cover dental, vision, and services of non-physician professionals (unless prescribed by a medical doctor). As a result, out-of-pocket spending is relatively high in Switzerland, accounting for almost 20% of total health expenditures.¹⁷⁹

In addition to out-of-pocket spending for uncovered services, mandatory insurance plans also impose cost sharing for covered services, determined by deductible levels and coinsurance. The standard deductible, available to everyone, is 300 Swiss francs (US\$255).¹⁸⁰ This is the amount that someone pays before insurance will begin to cover the costs of services. People can also choose higher deductible plans with lower premiums.

After deductibles are met, insured persons pay 10% coinsurance for services and drugs (i.e., insurers pay for 90% of the cost of services). If a person uses a brand-name drug that has a generic alternative, the coinsurance rate is 20%. Coinsurance payments are capped at 700 Swiss francs (US\$600) for adults and 350 Swiss francs (US\$300) for children. Moreover, preventive services and maternity care are exempt from any cost-sharing.¹⁸¹

Total out-of-pocket spending, including spending on services and cost-sharing for covered services, account for about 27% of total health expenditures in Switzerland; these account for about only 11% in the US.¹⁸² Relative to many other European countries, the Swiss system provides more limited financial protection.¹⁸³

Cost Containment

Health care costs are determined by the degree to which a population utilizes health care services and the price of these services. Overall utilization does not appear to be lower in Switzerland ([Exhibit A4](#)). On a per capita basis, the Swiss have more hospital stays and about the same number of physician visits. In terms of surgical procedures, their rates of total hip replacements are higher, knee replacements are lower, and Hysterectomy and Cesarean rates are roughly comparable. The Swiss do, however, have substantially lower utilization of advanced imaging (CTs and MRIs).

Studies suggest that lower prices for medical services and pharmaceuticals are the major reason for lower health costs in Switzerland versus the US.¹⁸⁴ Physician fees, hospital costs, and pharmaceutical prices are lower. For example, the average cost per hospital stay was \$14,624 in Switzerland versus \$21,063 in the US.¹⁸⁵ The average cost for a coronary artery bypass graft in the US was \$75,345 versus \$36,509 in Switzerland. A CT scan costs \$896 in the US and \$432 in Switzerland.¹⁸⁶

¹⁷⁹ De Petro et al. (2015) and Commonwealth Fund (2017).

¹⁸⁰ Conversion to US dollars used the 2018 purchasing power parity (PPP) exchange rate, which takes into account cost of living and inflation differences between countries.

¹⁸¹ De Petro et al. (2015) and Commonwealth Fund (2017).

¹⁸² Papanicolas et al. (2018).

¹⁸³ De Petro et al. (2015).

¹⁸⁴ Reinhardt (2004); van Ginneken et al. (2013); and Papanicolas et al. (2018).

¹⁸⁵ The Commonwealth Fund (2018). Estimate for 2014.

¹⁸⁶ Papanicolas et al. (2018).

Managed Competition

How do the Swiss, with a multi-payer system operated by private insurance companies, achieve lower health care prices than the US? Competition among insurers and insurance providers is a possible reason, but the role of market pressures on costs has been called into question.¹⁸⁷

Swiss residents are free to change insurers twice a year, and this should put pressure on insurers to negotiate low fees with providers and compete by offering low premiums.

In fact, premiums for the similar policies vary substantially across insurers in a given canton.¹⁸⁸ Relatively few people switch plans.¹⁸⁹ The premium differences appear to reflect variation in enrollee risk profiles across insurers. Some plans attract more elderly or sick people, and the risk-adjustment scheme does not compensate completely for costs.¹⁹⁰

Exhibit A4

Selected Utilization Rates between the Swiss and US Health Care Systems

	Switzerland	United States
Hospital discharges and physician visits		
Total hospital discharges per 1,000 population	170	125
Physician visits per capita	4	4
Selected surgeries		
Total hip replacements per 100,000 population	292	204
Total knee replacements per 100,000 population	176	226
Hysterectomies per 100,000 women	291	266
Cesarean delivery per 100 births	33	33
Advanced imaging		
MRI scans per 1,000 population	70	118
CT scans per 1,000 population	100	245

Notes:

Source: OECD data reported in Papanicolas et al. (2018).

CT refers to computed tomography; MRI refers to magnetic resonance imaging.

¹⁸⁷ van Ginneken et al. (2013) and The Commonwealth Fund (2017).

¹⁸⁸ Premiums for policies with the same deductible may vary by 20% to 30%. Cheng (2010).

¹⁸⁹ Switching rates are estimated to be between 5% to 10%. De Petro et al. (2015).

¹⁹⁰ OECD/WHO. (2011). *OECD reviews of health systems: Switzerland 2011*. OECD Publishing; Cheng (2010).

Contract Negotiations and Government Regulation

Lower prices for medical services and pharmaceuticals are the major reason for lower health costs in Switzerland versus the US. Prices are lower due to government regulation and the nature of contract negotiations between insurers and providers.¹⁹¹ According to a former Swiss health minister, Thomas Zeltner, “lower spending is due mainly to lower prices that are negotiated between providers and insurers, with strict government oversight.”¹⁹²

It is believed that competition among insurers alone will not contain costs. The insurers need to have bargaining power similar to that of providers.¹⁹³ The nature of contract negotiations in Switzerland promotes this. Individual insurers do not typically negotiate fees with individual physicians, clinics or hospitals. Rather, prices are negotiated by associations of insurers and providers in each canton. If these associations cannot reach an agreement, canton governments set the fees.¹⁹⁴

Pharmaceuticals Spending

On a per capita basis, Switzerland spends about a third less on pharmaceuticals than does the US,¹⁹⁵ and they do so despite having a lower share of generics as a percentage of total pharmaceutical spending.¹⁹⁶

The lower costs are due to government regulation. The government decides which drugs to cover based on effectiveness and sets their maximum prices. The Federal Office of Public Health (FOPH) sets the pharmaceutical prices based on comparisons with the costs of therapeutically-equivalent drugs and manufacturers’ selling prices in other countries.¹⁹⁷

Efficiency

The Federal Office of Public Health makes coverage decisions based in part on health technology assessment (HTA). Studies suggest, however, that the use of HTA to inform coverage decisions has been limited.¹⁹⁸

Administrative Costs

Administrative costs in Switzerland, though higher than in single-payer countries such as Canada and the UK, are lower than the US. System-wide administrative costs as a percentage of total health expenditures are about 3.8% in Switzerland, 8.3% in the US, and 2.7% in Canada.¹⁹⁹

¹⁹¹ Reinhardt (2004).

¹⁹² Cheng (2010).

¹⁹³ van Ginneken et al. (2013).

¹⁹⁴ van Ginneken et al. (2013); Cheng (2010); and Reinhardt (2004).

¹⁹⁵ The Commonwealth Fund (2017).

¹⁹⁶ Generics account for only 14% of pharmaceutical expenditures in Switzerland versus 28% in the US. Papanicolas et al. (2018).

¹⁹⁷ The Commonwealth Fund (2017); C. De Pietro et al. 2015; and OECD/WHO (2011).

¹⁹⁸ De Pietro et al. (2015) and OECD/WHO (2011).

¹⁹⁹ OECD.STAT. Estimate for 2016.

The Swiss Office of Public Health reviews financial records of health insurance companies, and it can require insurers to reduce administrative costs if they are deemed excessive.²⁰⁰ The following factors are likely to contribute to lower insurer administrative costs in Switzerland than the US.

- The benefits package is standardized and set by the government.
- Insurers are not allowed to make a profit on mandatory insurance.
- Insurers must accept all applicants for mandatory insurance.
- Insurers are not allowed to selectively contract with individual providers (except for managed care programs).²⁰¹

Note that these regulations do not apply to the provision of voluntary supplemental insurance, where administrative costs are much higher.²⁰²

²⁰⁰ OECD (2017).

²⁰¹ van Ginneken et al. (2013).

²⁰² De Petro et al. (2015) cite an estimate for the mandatory health insurance sector of 4.9% in 2012. The administration for voluntary insurance was much higher (18%).

Canada: Health Care System Profile

Highlights

Canada has a single-payer health care system that is regionally administered. It achieves universal coverage despite spending a smaller share of GDP on health care compared to the US (~10% vs. ~18%). Their system provides a high quality of care. For example, the country ranks 14th in the world in terms of low amenable mortality (an index based on mortality rates from causes that should not be fatal in the presence of effective medical care).²⁰³ Apart from pharmaceuticals, the cost does not appear to be a barrier to access. Wait times in Canada are longer than in other high-income countries. While few Canadians (9%) believe their health care system should be completely rebuilt, over half (55%) believe fundamental changes are needed.²⁰⁴

Key elements of the Canadian health system include the following:

- All residents are covered by universal public insurance, referred to as Medicare.
- Medicare is free at the point of service.
- Medicare is regionally administered, resulting in variation in benefits across provinces and territories.
- Medicare is financed through provincial/territorial and federal tax revenue.
- Medicare does not include outpatient prescription drug coverage, among other benefits.
- Two-thirds of Canadians also purchase private insurance for uncovered universal benefits like vision, dental, and prescription drugs.
- Compared to similar countries, Canadians wait longer for some services.
- Canada has low administrative costs due to its single-payer organization.

System Structure

In Canada's single-payer system, providers remain in private practice but are reimbursed by a publicly funded insurance plan. Benefit packages are established by government authority. Countries with similar models include Australia, Taiwan, South Korea, and Israel.²⁰⁵ However, unlike those countries, Canada's insurance—referred to as Medicare—is regionally administered and partially funded by Canada's ten provinces and three territories. There is thus not a single payer per se but a collection of regional single-payer plans that are regulated by broad national standards.

Government's Role

The Canadian federal government has a number of "steering" responsibilities.²⁰⁶ To access federal funding, provincial and territorial plans must adhere to the five principles laid out in the Canada Health Act. These principles ensure that residents are covered by their provincial plan throughout all regions of Canada (portability); all residents have equivalent access to covered treatment (universality); there is no cost-sharing for publicly insured services (accessibility); plans cover all "medically necessary" hospital and physician services (comprehensiveness); and plans are administered publicly on a non-profit basis (public administration).²⁰⁷

²⁰³ GBD 2016 Healthcare Access and Quality Collaborators (2018).

²⁰⁴ The Commonwealth Fund (2017).

²⁰⁵ Fox & Poirier (2018) and Weinberg & Chen (2017).

²⁰⁶ Marchildon, G.P. (2013). Canada: Health system review. *Health Systems in Transition*, 15(1), 1 – 179

²⁰⁷ Martin, D., Miller, A.P., Quesnel-Vallée, A., Caron, N.R., Vissandjée, B., & Marchildon, G.P. (2018). Canada's universal health-care system: achieving its potential. *The Lancet* and Reid, T.R. (2010). *The healing of America: A global quest for better, cheaper, and fairer health care*. Penguin.

Exhibit A5

Selected Comparisons between the Canadian and US Health Care Systems

	Canada	United States
Health care coverage (2016)^a		
Percentage of the population insured	100%	91%
Health expenditures (2016)^b		
Percentage of GDP spent on health care	10.3%	17.8%
Health spending per capita (US\$)	\$4,641	\$9,832
Out-of-pocket spending per capita (2010) ^c	\$644	\$1,034
Overall satisfaction (2016)^c		
Percentage responding that system “works well, minor changes needed”	35%	19%
Percentage responding that system “fundamental changes are needed”	55%	53%
Health care access (2016)^c		
Percentage responding that they experienced access barriers because of cost in the last 12 months	16%	33%
Percentage reporting they are able to get same-day/next day appointments	43%	51%
Waited two months or more for a specialist appointment	30%	6%
Waited four months or more for elective surgery	18%	4%

Notes:

^a Organisation for Economic Co-Operation and Development. Retrieved from OECD.Stat on February 26, 2019.

^b Papanicolas et al. (2018).

^c Commonwealth Fund International Health Policy Survey, Reported in The Commonwealth Fund (2017).

^c Organization for Economic Development (2017). *State of health in the EU: Germany: Country health profile 2017*.

The federal government co-finances regional single-payer plans so long as provinces and territories meet these criteria.

In addition to setting terms and conditions of provincial plans, the federal government oversees the regulation and safety of prescription drugs, funds health research and data collection, regulates public health, and administers health benefits to certain populations, including First Nations people and Inuit, the Canadian armed forces, veterans, and federal inmates, among others.²⁰⁸

Regional governments bear primary responsibility for the funding and delivery of hospital care, as well as long-term and mental health care. Most provinces are divided into geographically defined regional health associations (RHAs). These RHAs allocate the funding they receive from the ministries of health. They may do so either by contracting with health care providers (like hospitals) or through direct provision of services.²⁰⁹ In this sense, RHAs act both as purchasers and providers of health care.²¹⁰

²⁰⁸ Marchildon (2013).

²⁰⁹ In Ontario, RHAs are called local health integration networks (LHINs) and do not directly provide services.

²¹⁰ Marchildon (2013).

Benefit Design

The public insurance structure in Canada has been described as “narrow but deep.”²¹¹ The Canada Health Act requires that all provinces and territories universally provide “medically necessary” hospital, diagnostic, and physician-provided health care. These public services are commonly referred to as Medicare, which is free at the point of service.²¹²

Across regions Medicare typically includes any service provided in a hospital. Nearly all outpatient physician services are also included, though specifics are negotiated at the provincial/territorial level between regional government and physician associations.²¹³

Patients are free to choose their own primary care provider. Undocumented immigrants and temporary legal visitors are not eligible for coverage.²¹⁴

Non-Medicare Benefits There are many medical services not covered by public Medicare, including outpatient prescription drugs, dental, and vision care.²¹⁵ To “top up” their Medicare coverage, Canadians either buy private coverage (or receive it through their employer) or receive provincial/territorial insurance if they meet eligibility criteria.

The provincial/territorial coverage is usually limited to certain vulnerable populations only, such as low-income and elderly individuals. These benefits generally include outpatient prescription drugs, long-term care, and home care. Unlike Medicare services, these additional benefits may involve co-payments or other charges at the point of service.²¹⁶

Two-thirds of Canadians are enrolled in a private plan. Private coverage may include prescription drugs (for the non-elderly), medical devices, dental and eye care, as well as outpatient services provided by physiotherapists and psychologists.²¹⁷ Most Canadians with private insurance obtain it from their employer.²¹⁸

All provinces either prohibit or discourage the purchase of private health insurance (PHI) for services that are already publicly insured.²¹⁹

*Prescription Drug Coverage.*²²⁰ Canada differs from other universal coverage countries in that it does not offer broad public insurance for outpatient prescription drugs.²²¹ Rather, there are four possible payers: 1) Medicare, 2) public regional/territorial plans, 3) private plans, or 4) patients paying out-of-pocket. The first two are public payers and the latter two are private payers. These four payers are discussed in more detail below.

²¹¹ Health Canada. (2015). *Unleashing innovation: Excellent healthcare for Canada: Report of the Advisory Panel on Healthcare Innovation*.

²¹² Ibid.

²¹³ Marchildon (2013).

²¹⁴ The Commonwealth Fund (2017).

²¹⁵ Rice et al. (2018).

²¹⁶ Health Canada (2015).

²¹⁷ Ibid.

²¹⁸ Martin et al. (2018).

²¹⁹ Naylor, C.D. (2018). Canada as single-payer exemplar for universal health care in the United States: A borderline option. *JAMA*, 319(1), 17-18.

²²⁰ Office of the Parliamentary Budget Officer (2017). *Federal cost of a national pharmacare program*.

²²¹ Ivers, N., Brown, A.D., & Detsky, A.S. (2018). Lessons from the Canadian experience with single-payer health insurance: just comfortable enough with the status quo. *JAMA internal medicine*, 178(9), 1250-1255.

Medicare. Drugs provided to patients within hospitals are covered by Medicare. Hospital formularies are set either by RHAs or hospital committees, and prices are negotiated independently from provincial and territorial plans. Thus, the cost and availability of a certain drug provided within a hospital may differ from a patient's public or private plan.

Public Regional Plans. All provinces and territories administer their own pharmaceutical plans to certain vulnerable populations. Most plans cover adults over an age threshold (typically either 60 or 65) and low-income individuals and families. Just under a quarter (22.7%) of Canadians belong to a public drug program, which reflects an older share of the population. While about 80% of Canadians aged 65 and older have public drug coverage, just 11% of non-seniors do.²²²

Provinces and territories have their own cost-sharing mechanisms, which may include co-payments, co-insurance, premiums and/or deductibles.²²³ Although provinces/territories determine their own formularies, there is the consistency of drug coverage across jurisdictions. Regional and provincial governments often follow the recommendations of the Canadian Agency for Drugs and Technologies in Health (CADTH),²²⁴ which evaluates new drugs for cost-effectiveness via the Common Drug Review (CDR) process.

Private Plans. Many Canadians and their dependents—about 70% of the population—obtain private drug insurance through their employer, which generally have broader formularies than public plans (nearly all have an open formulary, covering any drug that requires a prescription). Private plans can also be purchased outside of an employer. Like public plans, private plans have their own forms of cost-sharing.

Paying Out-of-Pocket. Patients incur out-of-pocket (OOP) costs when either they or the prescribed drug are uninsured, or through cost-sharing expenses.²²⁵ The absence of broad public prescription drug coverage means that OOP costs vary across provinces and territories. Canada's Office of the Parliamentary Budget Officer indicated that average annual out-of-pocket drug spending in 2015 ranged from a low of \$314 per household in Ontario to a high of \$526 in Quebec.²²⁶

Overall, just under 60% of prescription drug coverage is financed privately.²²⁷ Of that share, private drug plans make up about 36% of expenditures and out-of-pocket costs make up around 22% of expenditures.²²⁸

²²² Canadian Institute for Health Information. (2018). *Prescribed drug spending in Canada, 2018: A focus on public drug programs*.

²²³ For an overview of provincial drug plans and their associated cost-sharing, see Appendix H in Office of the Parliamentary Budget Officer (2017). *Federal cost of a national pharmacare program*.

²²⁴ In Quebec, a different organization, the Quebecois Institute national d'excellence en santé et en services sociaux (INESS), performs this role.

²²⁵ Cost-sharing generally includes co-payments, co-insurance, and deductibles but excludes premiums.

²²⁶ Office of the Parliamentary Budget Officer (2017).

²²⁷ Martin et al. (2018).

²²⁸ Morgan, S.G., Martin, D., Gagnon, M.A., Mintzes, B., Daw, J.R., & Lexchin, J. (2015). *Pharmacare 2020: The future of drug coverage in Canada*. Vancouver, Pharmaceutical Policy Research Collaboration, University of British Columbia.

Access

Relative to other high-income countries, Canadians wait longer for some services, such as elective surgery or specialist appointments.²²⁹ On average, patients wait just over 21 weeks to see a specialist after receiving a referral from a general practitioner, over four weeks for a computed tomography (CT) scan, and nearly 11 weeks for a magnetic resonance imaging scan (MRI).²³⁰ These estimates vary substantially between provinces and territories.

While long wait times are a known issue, research suggests the main barrier to access in Canada is not wait times but the cost of prescription drugs.²³¹ One international comparison finds that retail spending on pharmaceuticals is the third highest in Canada (\$587), following the US (\$1,026) and Switzerland (\$776).²³²

Studies find that the cost of drugs prevents patients from adhering to a treatment regime. In 2016, 10% of Canadians indicated they skipped a dose because of cost. While this is lower than the US rate (14% for insured and 33% for uninsured), it is higher than comparable high-income countries with universal coverage (just 3% of Germans and 4% of the Dutch skipped doses).²³³

A national plan for pharmaceuticals (pharmacare) would lower the cost of prescription drugs.²³⁴ The federal government recently announced funding in the upcoming federal budget for expanding Medicare to include some prescription drug coverage. The scope of the expanded coverage is not yet clear.

Despite these issues, Canada still performs better on broad measures of access (i.e., both timeliness and affordability) than the US.²³⁵

Financing

As discussed, coverage for medically necessary hospital, diagnostic, and physician services are referred to as Medicare and is funded entirely by public taxation, mainly at the provincial or territorial level.²³⁶

Overall, approximately 70% of total health spending comes from public sources.²³⁷ This includes federal as well as provincial, territorial, and municipal levels of government. In alignment with the Canada Health Act, the federal government funds provincial and territorial governments on a per capita basis through the Canada Health Transfer. It was estimated in 2016-17 that these federal funds represented about a quarter of provincial and territorial health budgets.²³⁸

²²⁹ Today's long wait times are generally blamed on measures taken in response to the economic recession of the 1990s. Specifically, physician salaries were capped, causing many to emigrate to the US, and caps were placed on medical school class sizes. This resulted in a short supply of providers. Ivers et al. (2018).

²³⁰ Barua, B. (2017). *Waiting your turn: Wait times for health care in Canada, 2017 report*. Fraser Institute.

²³¹ Office of the Parliamentary Budget Officer. (2017). *Federal cost of a national pharmacare program*.

²³² Papanicolas et al. (2018).

²³³ Sarnak et al. (2017).

²³⁴ In 2016, the Parliamentary Budget Officer (PBO) was directed by the House of Commons Standing Committee on Health to conduct an evaluation of into the cost of implementing national pharmacare. See Office of the Parliamentary Budget Officer (2017).

²³⁵ Schneider et al. (2017).

²³⁶ Marchildon (2013).

²³⁷ Canadian Institute for Health Information (2018). *National Health Expenditure Trends* (see Figure 5) and The Commonwealth Fund (2017).

²³⁸ The Commonwealth Fund (2017).

Provincial and territorial revenues are collected through income, consumption, and corporation taxes as well as royalties on resources in some regions.²³⁹ Two provinces, Ontario and British Columbia, also collect premiums. In B.C., residents are sent a monthly income-based invoice, while in Ontario premiums are deducted from payroll or pensions.²⁴⁰

Provider Organization and Payment

Provider Payment. Most physicians are in private practice and paid on a fee-for-service basis, though this varies among provinces and territories. Hospital-based physicians and specialists are also paid fee-for-service.²⁴¹ Fee schedules are determined regionally, through negotiations between medical associations and provincial/territorial ministries of health.²⁴² More recently, provinces and territories have been shifting away from this funding model towards alternative methods of payment, such as capitation and group practice.

Hospital Ownership. Hospitals are a mixture of public and private ownership, with most being either public sector organizations or non-profit corporations.²⁴³ Historically, hospitals have operated under global budgets negotiated with the regional ministry of health or regional health authority (RHA).²⁴⁴ In this scenario, hospitals receive a fixed sum for a specified duration, typically a year. However, in recent years there has been a shift away from global budgeting towards activity-based and performance-based funding.²⁴⁵

Cost Containment

Canada spends just over 10% of its GDP on health care, compared to nearly 18% in the US (see [Exhibit A5](#)). Health care costs are determined by the degree to which a population utilizes health care services and the price of these services. Canadians appear to use services at lower rates than Americans, with the exception that Canadians see their doctor almost twice as often as Americans do ([Exhibit A6](#)).

Lower utilization rates for costly services may account for some of the difference in health care spending. In general, services in Canada may also cost less than in the US. For example, the average cost per hospital stay was \$14,624 in Canada versus \$21,063 in the US.²⁴⁶

Canada utilizes various cost containment methods to control costs. At the provincial/territorial level, many provinces incentivize primary care physicians to act as gatekeepers by reimbursing non-referred specialist visits at lower rates than referred visits.²⁴⁷ Ontario has linked payment for general practitioners to performance.²⁴⁸

Other cost control measures include global budgeting for RHAs and hospitals as well as negotiated physician fee schedules.²⁴⁹

²³⁹ Marchildon (2013).

²⁴⁰ [Health premiums: 4 things to know](#). (2017, September 13). CBC News.

²⁴¹ The fee-for-service structure is a product of concern on the part of doctors that government insurance would jeopardize their autonomy. Doctors went on strike following the initial 1962 introduction of Medicare in Saskatchewan. The strike ended with the fee-for-service arrangement, allowing physicians to be independent contractors rather than employees of provinces. Marchildon (2013).

²⁴² Ivers et al. (2018).

²⁴³ Health Canada (2015).

²⁴⁴ The Commonwealth Fund (2017).

²⁴⁵ Health Canada (2015).

²⁴⁶ The Commonwealth Fund (2017). Table 2. Estimate for 2016.

²⁴⁷ The Commonwealth Fund (2017).

²⁴⁸ Stabile et al. (2013).

²⁴⁹ Mossialos et al. (2017).

Canada makes use of health technology assessment (HTA) to make decisions about benefit inclusion and technology usage. The Canadian Agency for Drugs and Technologies in Health (CADTH) provides this service at the national level. CADTH evaluates health technologies, such as prescription drugs and surgical devices, and provides information about clinical effectiveness, cost-effectiveness, and other considerations.²⁵⁰ The final decision to implement a given technology is usually left to individual RHAs or hospitals.²⁵¹

The single-payer organization of public insurance keeps administrative overhead low, at just 2.7% of total health expenditures.²⁵² This is not only lower than the US (8.3%) but lower than high-income countries that have universal coverage but do not have a single-payer system, such as Switzerland (3.8%), Germany (4.8%) and the Netherlands (3.9%).²⁵³

Pharmaceutical Prices. Canada spends about 30% less on pharmaceuticals per capita than the United States.²⁵⁴ However, relative to other universal health care OECD countries, Canada has high costs for both generic and patented (brand-name) drugs.²⁵⁵ Whereas other countries comprehensively negotiate drug pricing at the national level, Canada has historically had a more fragmented process.²⁵⁶

²⁵⁰ [About the Health Technology Assessment Service](#). (2015, November 19).

²⁵¹ Health Canada (2015).

²⁵² Martin et al. (2018) and Canadian Institute for Health Information. (2018). *National Health Expenditure Trends* (see Figure 10).

²⁵³ [OECD.stat](#). Governance and health system and financing administration. Data for 2016.

²⁵⁴ The Commonwealth Fund (2017).

²⁵⁵ Morgan, S.G., Leopold, C., & Wagner, A.K. (2017). Drivers of expenditure on primary care prescription drugs in 10 high-income countries with universal health coverage. *CMAJ*, 189(23), E794-E799.

²⁵⁶ Zhang, R., Martin, D., & Naylor, C.D. (2017). Regulator or regulatory shield? The case for reforming Canada's Patented Medicine Prices Review Board. *CMAJ: Canadian Medical Association Journal*, 189(14), E515.

Exhibit A6

Selected Utilization Rates between the Canadian and US Health Care System

	Canada	United States
Hospital discharges and physician visits		
Total hospital discharges per 1,000 population	~80	125
Physician visits per capita	~7.5	4
Selected surgeries		
Total hip replacements per 100,000 population	136	204
Total knee replacements per 100,000 population	166	226
Hysterectomies per 100,000 women	232	266
Cesarean delivery per 100 births	26	33
Advanced imaging		
MRI scans per 1,000 population	56	118
CT scans per 1,000 population	153	245

Notes:

Source: OECD data reported in Papanicolas et al. (2018).

CT refers to computed tomography; MRI refers to magnetic resonance imaging.

Canada has made efforts to combat this fragmentation. As discussed, a national pharmacare plan has been under consideration. In 2010, public plans at the federal, provincial, and territorial levels formed the pan-Canadian Pharmaceutical Alliance (pCPA) to collectively negotiate prices for new brand name and generic drugs. Jurisdictions participate on a voluntary basis. By pooling the market shares of the various government jurisdictions, the pCPA achieves greater bargaining power to lower prices.²⁵⁷

While the pCPA has had success in negotiating lower prices for public plans, individuals with private plans and those paying out-of-pocket do not benefit from those reductions in cost.²⁵⁸

Provincial and territorial governments also have their own pharmaceutical cost control measures for public plans. The policy of reference pricing pegs the reimbursement rate of a given drug to the lowest-cost drug within a class. Relative to private plans, regional governments have greater bargaining power over prices due to their greater market share.²⁵⁹ Provincial/territorial public plans also utilize mandatory drug interchangeability, a policy that requires the substitution of brand-name drugs with generic ones whenever possible. Consequently, generic drugs represent a greater volume of sales in public as compared to private plans.

²⁵⁷ The pan-Canadian Pharmaceutical Alliance. (2019). Council of the Federation Secretariat

²⁵⁸ Norris, S., & Phillips, K. (2016). *Patented drug pricing in Canada*. Library of Parliament.

²⁵⁹ Office of the Parliamentary Budget Officer (2017).

Germany: Health Care System Profile

Highlights

Germany does not have a single-payer health care system. Rather, it claims the world's oldest social health insurance system, created in 1883 by Prussian ruler Otto von Bismarck.²⁶⁰ The basic structure and principles of this model remain in place today.²⁶¹

Despite its early adoption of health insurance, Germany did not achieve (near)²⁶² universal coverage until relatively recently (2009).²⁶³

The country spends about 11% of GDP on health care, compared to nearly 18% in the US. Out-of-pocket costs make up about 13% of total health expenditures in Germany, which is lower than the EU average.²⁶⁴ Germans are generally satisfied with their health care (see [Exhibit A7](#)). They have good access to care²⁶⁵ and the care they receive is of high quality. The latter is based on rankings of mortality amenable to health care, an index that comprises mortality rates from causes that should not be fatal in the presence of effective medical care. Germany has the 17th lowest rate of amenable mortality in the world (the US ranks 29th by comparison).²⁶⁶

Key elements of the German health system include the following:

- The health care system is highly decentralized.
- Public health insurance is mandatory (referred to as statutory health insurance, or SHI).
- SHI is financed through a payroll tax, split equally by employers and employees.
- SHI-insured Germans choose between competing, private nonprofit insurers. A federal price list prevents these insurers from competing on prices. There is a standardized benefit package of SHI-covered services. SHI insurers (sickness funds) cannot deny anyone coverage.
- Private health insurance (PHI) coexists with SHI and can be either substitutive (for high-income Germans or the self-employed), complementary, or supplementary.
- The government contributes insurance payments on behalf of the unemployed.

²⁶⁰ In 1883, Prussian ruler Otto von Bismarck passed through legislation creating mandatory health insurance for workers. This insurance was to be paid jointly by workers and their employers, with the worker share automatically withheld from pay—a format that became the model for contemporary employer-sponsored insurance. The insurance was later expanded, creating the first workers' compensation and social security systems. Reid, T.R. (2010).

²⁶¹ Busse, R., & Blümel, M. (2014). Germany: Health system review. *Health Systems in Transition*, 16(2), 1–296.

²⁶² Estimates of coverage vary between sources, with one finding that a small number of Germans (~0.1%) remain uninsured. These individuals are presumed self-employed or unemployed. Organization for Economic Development (2017). *State of health in the EU: Germany: Country health profile 2017*.

²⁶³ Busse, R., Blümel, M., Knieps, F., & Bärnighausen, T. (2017). Statutory health insurance in Germany: A health system shaped by 135 years of solidarity, self-governance, and competition. *The Lancet*, 390(10097), 882-897.

²⁶⁴ Organization for Economic Development. (2017). *State of health in the EU: Germany: Country health profile 2017*.

²⁶⁵ In a 2017 international comparison of eleven high-income, universal coverage countries, Germany was rated second-best on the criteria of access. Schneider et al. (2017).

²⁶⁶ GBD 2016 Healthcare Access and Quality Collaborators (2018).

System Structure

Germany has a multi-payer, statutory health system subject to strong government regulation. Multiple self-governing, non-profit insurers, called sickness funds, compete for members within a regulatory framework. This model has been characterized as structurally similar to the US multi-payer model but with a greater degree of government regulation.²⁶⁷ This model has also been compared to the American system of regulated public utilities.²⁶⁸

Exhibit A7

Selected Comparisons between the German and US Health Care Systems

	Germany	United States
Health care coverage (2016)^a		
Percentage of the population insured	100%	91%
Health expenditures (2016)^b		
Percentage of GDP spent on health care	11.3%	17.8%
Health spending per capita (US\$)	\$5,182	\$9,832
Out-of-pocket spending per capita (2010) ^c	\$664	\$1,034
Rx spending as a percentage of national health expenditure (2016) ^d	14.3%	12.3%
Rx spending in USD per capita (2016) ^d	\$777	\$1,208
Overall satisfaction (2016)^c		
Percentage responding that system “works well, minor changes needed”	60%	19%
Health care access (2016)^c		
Percentage responding that they experienced access barriers because of cost in the last 12 months	7%	33%
Percentage reporting they are able to get same-day/next day appointments	53%	51%
Waited two months or more for a specialist appointment	3%	6%
Waited four months or more for elective surgery	0%	4%

Notes:

^a [Organisation for Economic Co-Operation and Development](#). Retrieved from OECD.Stat on February 26, 2019.

^b Papanicolas et al. (2018).

^c Commonwealth Fund International Health Policy Survey, Reported in The Commonwealth Fund (2017).

^d [Data.OECD](#)

Government’s Role²⁶⁹

The health care system in Germany is highly decentralized. Within a broad legal framework, self-governing associations of payers and providers negotiate with each other to finance and deliver health care. Governance of the statutory health insurance system is shared between federal, state (*länder*) and “corporatist” powers.

Federal Level. Parliament’s two chambers set a broad legislative framework for health policy. The federal Ministry of Health is also a major actor, managing long-term care and supervising key federal-level corporatist bodies, discussed below.

²⁶⁷ Americans considered implementing a regulated multi-payer model similar to Germany’s with the Clinton administration’s Health Security Act. This legislation ultimately failed in 1994. Fox & Poirier (2018).

²⁶⁸ Weinberg & Chen (2017).

²⁶⁹ Busse et al. (2017).

State Level. There 16 *länder* governments. These state governments oversee hospital capital investments and capacity planning, public health services, and undergraduate medical education.

Corporatist Level. A distinctive feature of German health care governance is the organization of payers and providers into self-governing, quasi-public organizations. These “corporatist bodies” engage horizontally with each other in a number of activities. These include contractual negotiations for provision of services and developing price catalogs for outpatient and inpatient care, among others.

Membership in these bodies is mandatory. They have representation at both the federal and sub-national levels, such that decisions by federal-level corporatist bodies flow vertically to regional bodies.

On the provider side, all SHI-accredited physicians belong to one of 17 regional associations, which are represented in turn by the Federal Association of SHI Physicians. Hospitals and dentists are similarly organized. Physician associations are responsible for the provision of ambulatory medical care to all insured Germans. On the payer side, the 113 sickness funds are represented by the Federal Association of Sickness Funds.

The central organization in payer-provider self-governance is the Federal Joint Committee (FJC), which unites representation from the federal arms of the payer (physician, hospital, and dentist) and provider (sickness fund) associations. The FJC is the highest decision-making body at the corporatist level. Its major responsibility is to issue directives that give detail to broad federal legislation. These directives are treated as “soft” law that is mandatory for constituent bodies. Through directives, the FJC regulates SHI benefits, clarifies rules for access, coordinates care across sectors, and sets the quality of care standards.

The Market for Mandatory Insurance²⁷⁰

Health insurance is mandatory for all German residents. There are two possible sources of coverage: statutory health insurance (SHI) and substitutive private health insurance (PHI). These sources cover approximately 86% and 11% of the population, respectively.²⁷¹ The remainder is covered through special government programs for certain sectors, including military members, police, individuals receiving social welfare, and immigrants seeking asylum.

Statutory health insurance covers employees (and their dependents) earning below an established income threshold, as well as students. In 2019, this income threshold was EUR 60,750.²⁷²

Certain groups can choose to permanently opt out of SHI and purchase PHI. These include Germans who earn above the income threshold as well as the self-employed. Alternatively, PHI-eligible Germans can choose to keep their SHI coverage as “voluntary” members. PHI coverage is mandatory for some groups, including civil servants.

Sickness Funds. Germans are free to choose their non-profit insurer, called a sickness fund and can switch between funds after an initial membership period of 18 months.²⁷³ Sickness funds cannot deny coverage to applicants. This freedom of choice creates competition between the funds. Sickness funds have followed a general trend of consolidation, and in 2017 there were 113.²⁷⁴ A risk-adjustment scheme equalizes the risk profile of each fund. This scheme takes into account the disease risk, age, and gender of members and effectively levels the playing field between funds.²⁷⁵

²⁷⁰ Busse & Blümel (2014).

²⁷¹ The Commonwealth Fund (2017).

²⁷² [The German Social Security System](#). (n.d.). GTAI Germany Trade & Invest.

²⁷³ Esmail, N. (2014). Health care lessons from Germany. *Health care lessons from abroad: A series on health care reform*. Fraser Institute.

²⁷⁴ Between 2000 and 2015, the overall number decreased by 70%. Busse et al. (2017).

²⁷⁵ The Commonwealth Fund (2017).

To differentiate themselves, sickness funds may form selective contractual agreements with providers, often in the form of integrated care arrangements. The funds can also negotiate their own discounts with pharmaceutical companies. Since 2007, sickness funds can offer a choice of tariffs, or overall cost-sharing rates, to beneficiaries. This allows members to better customize their benefits package; for example, members with low service use can select a plan with low premiums and high cost-sharing. This feature of sickness funds can both give them a competitive edge against one another and deter those who are eligible from opting out of SHI into PHI.²⁷⁶

Private Insurance. Unlike SHI, PHI plans are profit-making and tend to attract younger, wealthier Germans seeking lower premiums and greater choice in coverage.²⁷⁷ PHI enrollees pay a risk-rated premium with additional premiums charged for dependents. Risk rating takes place upon entry into the PHI system, and contracts are permanent. This means that premiums for PHI members do not increase with age or the onset of other health risk factors.²⁷⁸

Financing

SHI beneficiaries and their employers share a flat contribution (premium) of 14.6% of gross wages, up to a ceiling.²⁷⁹ This uniform rate is set by the government. These funds are transferred to the Central Reallocation Pool (“Health Fund”), which receives an additional tax subsidy drawn from general revenue, equal to about 7% of the total pool.²⁸⁰ The funds are then distributed to the sickness funds in accordance with the risk-adjustment scheme. This risk-adjustment process removes incentives for sickness funds to prioritize low-risk enrollees.²⁸¹ Apart from the flat wage contribution, each sickness fund charges members an additional fee. These fees vary among funds; in 2019, the average rate is 0.9% of wages.²⁸²

Private health insurance is financed through tax subsidies (about 10%), out-of-pocket copayments for some services, employer payments for some services, as well as several other sources.²⁸³

In terms of the public-private division in spending, SHI accounts for about 58% of health spending, whereas PHI contributes just under 9%.²⁸⁴ Hospitals are dually financed through both the state and the sickness funds.²⁸⁵ Hospital capacity is determined by the state governments.²⁸⁶

Benefit Design

Services covered by SHI include inpatient and outpatient hospital care, preventive services (e.g., check-ups, immunizations, and screenings for cancer and chronic disease), psychiatric care, dental care, optometry (excluding vision products), physical therapy, and hospice and palliative care. With some exceptions, all prescription drugs are covered (though they require a copayment).²⁸⁷

²⁷⁶ The Commonwealth Fund (2017) and Busse et al. (2017).

²⁷⁷ The Commonwealth Fund (2017).

²⁷⁸ Esmail (2014).

²⁷⁹ [The German Social Security System](#) (n.d.).

²⁸⁰ Busse & Blümel (2014).

²⁸¹ Busse et al. (2017).

²⁸² [The German Social Security System](#) (n.d.).

²⁸³ McKinsey & Company (2009). How Germany is reining in health care costs: An interview with Franz Knieps. *Health International* (9).

²⁸⁴ [Based on 2016 data.](#)

²⁸⁵ Busse & Blümel (2014).

²⁸⁶ Mossialos et al. (2017).

²⁸⁷ Busse & Blümel (2014).

These benefits are the same regardless of sickness fund. Patients have free choice of doctor or hospital. Dependents, defined as nonearning spouses and children under 18, also receive these benefits.²⁸⁸ Prior authorization typically is not required, except for preventive spa treatments, rehabilitative services, and home-based, short-term nursing care.²⁸⁹

Although insurance is financed through payroll taxes, Germans do not lose coverage if they lose their job. This is because the unemployed, as well as students and retirees, are covered by SHI and are either exempt from contributions (long-term unemployed) or make reduced payments proportional to their unemployment entitlements.²⁹⁰

Long-term care insurance (LTCI) is mandatory. To access LTCI benefits, Germans must first apply through a gatekeeping agency, the Medical Review Board.

As discussed, certain groups can forgo their SHI and purchase PHI (substitutive PHI). PHI-insured Germans have a greater choice of benefits and levels of coverage, as well as access to different services. For example, PHI members may elect to be treated by senior physicians or receive private rather than shared hospital rooms.²⁹¹

Complementary and Supplementary Insurance. SHI-insured Germans may also elect to purchase PHI in addition to their existing public insurance. This allows Germans access to services not covered by their public plans, such as access to the same superior benefits and services as PHI members, or a benefit not covered by public insurance. For example, because long-term care insurance only covers about half the cost of institutional care, many Germans take out private LTCI.²⁹²

Cost-Sharing. SHI-insured Germans are charged copayments or coinsurance for some goods and services, including the first quarterly outpatient doctor visit, outpatient prescription drugs, inpatient hospital and rehabilitation stays (charged per day), and prescribed medical devices. Copayments do not exceed EUR10.00, and there are maximums and exemptions for most of these expenses.²⁹³ For example, pregnant women do not have any cost-sharing. Annual cost-sharing is capped at 2% of household income annually for adults but is lower for the chronically ill.²⁹⁴

Physicians providing SHI are not allowed to charge above the fee schedule for those services. However, patients can elect to pay out-of-pocket for services outside the scope of SHI.

Whereas SHI premiums are deducted from payroll and flow to a central fund, PHI beneficiaries are exempt from these contributions, instead of paying premiums directly to insurers.²⁹⁵ PHI members must pay providers for services up front and submit an insurance claim for reimbursement.²⁹⁶ In 2014 there were 43 private insurance companies.²⁹⁷

²⁸⁸ Mossialos et al. (2017) and Busse & Blümel (2014).

²⁸⁹ Busse & Blümel (2014).

²⁹⁰ Busse & Blümel (2014).

²⁹¹ Esmail (2014).

²⁹² Busse et al. (2017).

²⁹³ The Commonwealth Fund (2017).

²⁹⁴ Esmail (2014).

²⁹⁵ Ibid.

²⁹⁶ Busse & Blümel (2014) and The Commonwealth Fund (2017).

²⁹⁷ Esmail (2014).

Provider Organization

Ambulatory care²⁹⁸ physicians tend to be private, for-profit, and in solo as opposed to group practice. As discussed, Germans are free to choose their providers. However, some PHI physicians do not participate in the SHI system and are thus inaccessible to SHI members. PHI members have access to both PHI and SHI physicians.²⁹⁹

Hospitals in Germany are a mixture of public and private ownership. About half of beds are public; a third are private non-profit, and the remainder (~17%) are private for-profit.³⁰⁰ However, there is a growing number of for-profit hospitals.³⁰¹ Both SHI and PHI members can choose their hospital, but SHI members are limited to hospitals participating in SHI.³⁰²

Ambulatory vs. Hospital Care. One distinctive feature of provider organization is the historical separation between the ambulatory care and hospital sectors. Some view this division as a source of fragmentation, and there have been efforts to introduce integrated care to increase cooperation.³⁰³ The two sectors are represented by different corporatist bodies, which separately negotiate contracts with sickness funds.³⁰⁴ Hospitalists and ambulatory care physicians/specialists are paid through different pathways.

Provider Payment

Ambulatory Care. Regional associations of physicians and sickness funds negotiate a regional budget for ambulatory care.³⁰⁵ Rather than reimbursing doctors directly, sickness funds make global payments, mainly based on capitation, to the regional associations of SHI physicians for payment of all SHI doctors (with the exception of integrated care contracts). In turn, the regional associations distribute payment on a fee-for-service basis in accordance with the Uniform Value Scale. This scale lists all services eligible for reimbursement, functioning as a benefit catalog or fee schedule.³⁰⁶ The Uniform Value Scale is negotiated at the federal level between physician and sickness fund associations. Physician remuneration is subject to ceilings on the overall number of patients served per practice and number of treatments per patient.³⁰⁷

Hospitals. Hospital services are reimbursed through a diagnosis-related group (DRG) payment system. In this scheme, compensation is delivered on a per-patient basis and aligns with the expected cost to treat each patient, given their diagnosis. The DRG schedule is negotiated between sickness funds and hospital and physician associations. Hospitals negotiate budget caps annually with sickness funds. If a hospital exceeds its budget, it must reimburse part of the difference to sickness funds. Hospitals that are under budget receive additional compensation.³⁰⁸

Private Providers. Like SHI services, physicians providing PHI services are reimbursed on a fee-for-service basis. There is a different fee schedule for SHI versus PHI, with reimbursement rates generally higher for private patients.³⁰⁹

²⁹⁸ Ambulatory care encompasses primary care and specialized outpatient services, like radiology. Busse et al. (2017).

²⁹⁹ Esmail (2014).

³⁰⁰ Mossialos et al. (2017).

³⁰¹ Reid (2010).

³⁰² Esmail (2014).

³⁰³ Busse & Blümel (2014).

³⁰⁴ Mossialos et al. (2017).

³⁰⁵ Esmail (2014).

³⁰⁶ Busse & Blümel (2014).

³⁰⁷ The Commonwealth Fund (2017).

³⁰⁸ Esmail (2014).

³⁰⁹ Mossialos et al. (2017).

Cost Containment

Both inpatient and outpatient sectors provide a high level of activities (Exhibit A8). Germany has a large inpatient hospital sector, with the highest ratio of hospital beds per 100,000 individuals in the EU.³¹⁰ On average, Germans see a physician ten times per year—more than most EU countries.³¹¹ In one study of 11 countries, only the Japanese saw their doctor more frequently than the Germans.³¹² Germany also has a higher rate of MRIs and hip replacements per capita than the other EU countries as well as the United States.³¹³

Despite high rates of utilization, Germany spends less than the US on health care (about 11% of GDP compared to nearly 18% of US GDP). Administrative costs are also lower in Germany (about 4.8% of total health expenditures are spent on administration compared to 8.3% in the US).

In an effort to keep down costs, Germany has implemented various cost containment measures. In general, it has shifted away from budget setting methods, like spending caps for health care sectors, preferring instead policies that enhance efficiency and quality. For example, it has moved towards activity-based provider payment methods, such as the diagnostic-related groups (DRGs) for reimbursement of inpatient services. Germany is also beginning to experiment with pay-for-performance; the Hospital Structure Reform Act of 2016 introduced this method for some areas.³¹⁴

Exhibit A8

Selected Utilization Rates between the German and US Health Care Systems

	Germany	United States
Hospital discharges and physician visits		
Total hospital discharges per 1,000 population	~255	125
Physician visits per capita	~10	4
Selected surgeries		
Total hip replacements per 100,000 population	283	204
Total knee replacements per 100,000 population	190	226
Hysterectomies per 100,000 women	301	266
Cesarean delivery per 100 births	31	33
Advanced imaging		
MRI scans per 1,000 population	131	118
CT scans per 1,000 population	144	245

Notes:

Source: OECD data reported in Papanicolas et al. (2018).

CT refers to computed tomography; MRI refers to magnetic resonance imaging.

³¹⁰ Organization for Economic Development (2017). State of health in the EU: Germany: Country health profile 2017.

³¹¹ Organization for Economic Development (2017).

³¹² Papanicolas et al. (2018).

³¹³ Organization for Economic Development (2017).

³¹⁴ Busse et al. (2017).

Germany controls prices for health care by setting them centrally. Negotiated at the federal level between physician and sickness fund associations, the Uniform Value Scale dictates provider reimbursement rates. In general, prices are much lower in Germany than in the US. For example, the average cost per hospital stay was just \$5,900 in Germany versus \$21,063 in the US.

Health Technology Assessment. The Institute for Quality and Efficiency in Health Care (IQWiG) is an independent scientific institute analogous to the National Institute for Health and Care Excellence (NICE) in England. IQWiG has the responsibility of assessing the effectiveness of medical services and technologies, such as pharmaceuticals. The Federal Joint Committee uses this agency's reports to make decisions about benefit catalogs and reimbursement rates.

Pharmaceuticals. Several cost control measures exist to contain pharmaceutical costs. Reference pricing is used to set reimbursement rates for prescription drugs (both patented and generic) whereby drugs are grouped into classes and reimbursed at a single price. This reference price is set at the top of the bottom third of prices for drugs within a class. Pharmaceutical companies can charge at rates higher than the reference price, but the difference between the charged price and the reimbursed rate falls to patients to pay out-of-pocket. One study found that reference pricing in Germany decreased the price of analyzed drug classes between 7% and 18.7%.

Copayments charged for pharmaceuticals are designed to deter patients from overutilization. Because any drug priced at least 30% below the reference price is not charged a copay, they also discourage the use of expensive drugs. Sickness funds also negotiate rebates with pharmaceutical manufacturers.

Not surprisingly, generics make up a large percentage of pharmaceutical spending in Germany (37% compared to 28% in the US).

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