

Mirror, Mirror 2017:

International Comparison Reflects Flaws and Opportunities for Better U.S. Health Care

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International Comparison Reflects Flaws and Opportunities for Better U.S. Health Care

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ABSTRACT

ISSUE: The United States health care system spends far more than other high-income countries, yet has previously documented gaps in the quality of care.

GOAL: This report compares health care system performance in Australia, Canada, France, Germany, the Netherlands, New Zealand, Norway, Sweden, Switzerland, the United Kingdom, and the United States.

METHODS: Seventy-two indicators were selected in five domains: Care Process, Access, Administrative Efficiency, Equity, and Health Care Outcomes. Data sources included Commonwealth Fund international surveys of patients and physicians and selected measures from OECD, WHO, and the European Observatory on Health Systems and Policies. We calculated performance scores for each domain, as well as an overall score for each country.

KEY FINDINGS: The U.S. ranked last on performance overall, and ranked last or near last on the Access, Administrative Efficiency, Equity, and Health Care Outcomes domains. The top-ranked countries overall were the U.K., Australia, and the Netherlands. Based on a broad range of indicators, the U.S. health system is an outlier, spending far more but falling short of the performance achieved by other high-income countries. The results suggest the U.S. health care system should look at other countries' approaches if it wants to achieve an affordable high-performing health care system that serves all Americans.



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THE UNITED STATES HEALTH SYSTEM FALLS SHORT

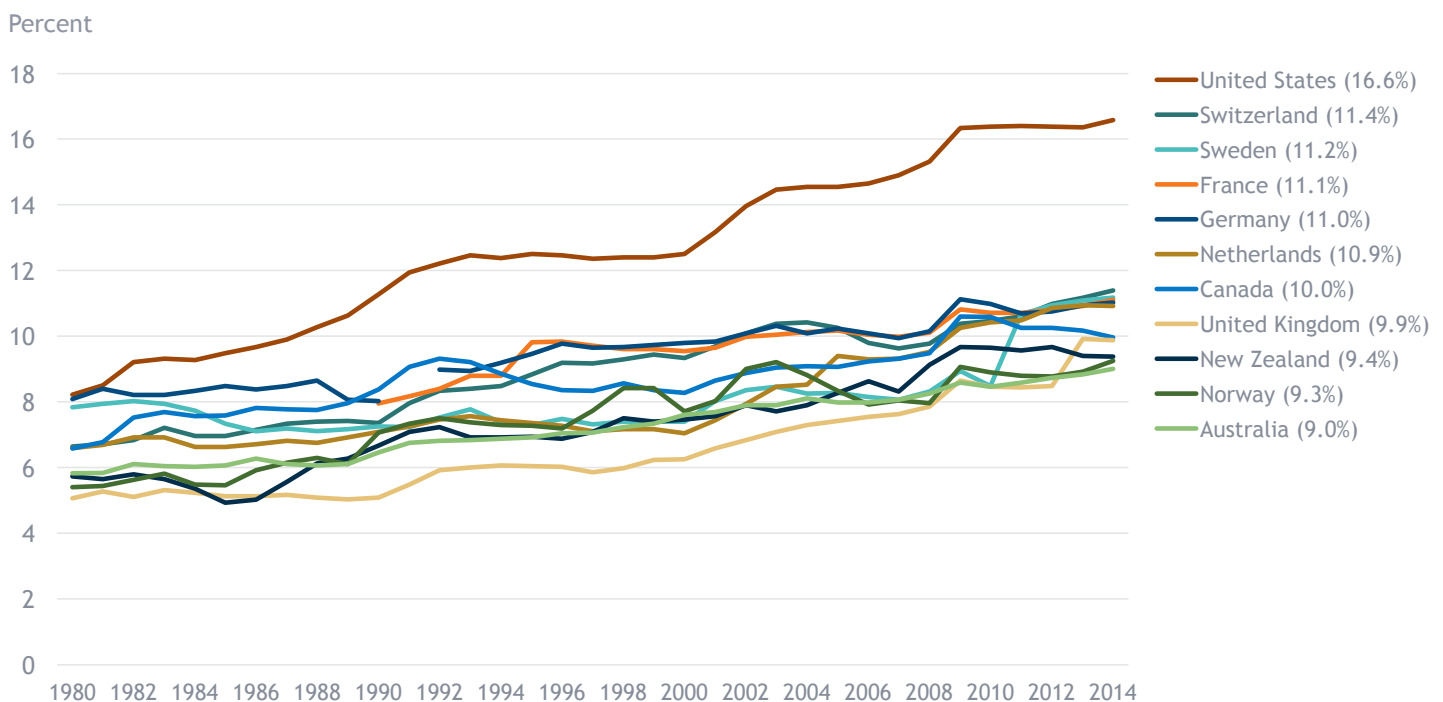
The United States spends far more on health care than other high-income countries, with spending levels that rose continuously over the past three decades (Exhibit 1). Yet the U.S. population has poorer health than other countries.¹ Life expectancy, after improving for several decades, worsened in recent years for some populations, aggravated by the opioid crisis.² In addition, as the baby boom population ages, more people in the U.S.—and all over the world—are living with age-related disabilities and chronic disease, placing pressure on health care systems to respond.

Timely and accessible health care could mitigate many of these challenges, but the U.S. health care system falls short, failing to deliver indicated services reliably to all who could benefit.³ In particular, poor access to primary care has contributed to inadequate prevention and management of chronic diseases, delayed diagnoses, incomplete adherence to treatments, wasteful overuse of drugs and technologies, and coordination and safety problems.

This report uses recent data to compare health care system performance in the U.S. with that of 10 other high-income countries and considers the different approaches to health care organization and delivery that can contribute to top performance. We based our analysis on 72 indicators that measure performance in five domains important to policymakers, providers, patients, and the public: Care Process, Access, Administrative Efficiency, Equity, and Health Care Outcomes.

Our data come from a variety of sources. One is comparative survey research. Since 1998, The Commonwealth Fund, in collaboration with international partners, has supported surveys of patients and primary care physicians in advanced countries, collecting information for a standardized set of metrics on health system performance. Other comparative data are drawn from the most recent reports of the Organization for Economic Cooperation and Development (OECD), the European Observatory on Health Systems and Policies, and the World Health Organization (WHO).

Exhibit 1. Health Care Spending as a Percentage of GDP, 1980–2014



Notes: GDP refers to gross domestic product. Data in legend are for 2014.

Source: OECD Health Data 2016. Data are for current spending only, and exclude spending on capital formation of health care providers.

PERFORMANCE VARIES AMONG HEALTH SYSTEMS

The United States ranks last in health care system performance among the 11 countries included in this study (Exhibit 2). The U.S. ranks last in Access, Equity, and Health Care Outcomes, and next to last in Administrative Efficiency, as reported by patients and providers. Only in Care Process does the U.S. perform better, ranking fifth among the 11 countries. Other countries that rank near the bottom on overall performance include France (10th) and Canada (9th).

This analysis reveals striking variations in performance across the domains. No country ranks first consistently across all domains or measures, suggesting that all countries have room to improve. The U.S., France, and Canada score lower than the 11-country average across most of the five domains, but all three achieve above-average performance on at least one domain: France on Health Care Outcomes, Canada on Care Process and Administrative Efficiency, and the U.S. on Care Process (Appendix 1).

Top Performers

The top-ranked countries overall are the United Kingdom, Australia, and the Netherlands. In general, the U.K. achieves superior performance compared to other countries in all areas except Health Care Outcomes, where it ranks 10th despite experiencing the fastest reduction in deaths amenable to health care in the past decade. Australia ranks highest on Administrative Efficiency and Health Care Outcomes, is among the top-ranked countries on Care Process and Access, but ranks low on Equity. The Netherlands is among the top performers on Care Process, Access, and Equity; its performance on Administrative Efficiency stands out as an area for improvement.

New Zealand performs well on measures of Care Process and Administrative Efficiency, but below the 11-country average on other indicators. Norway and Sweden did better on Health Care Outcomes compared to the other countries, despite having relatively low rankings on Care Process. Switzerland performs well on measures of Equity and Health Care Outcomes, while Germany achieves a high rank only on measures of Access.

Exhibit 2. Health Care System Performance Rankings

	AUS	CAN	FRA	GER	NETH	NZ	NOR	SWE	SWIZ	UK	US
OVERALL RANKING	2	9	10	8	3	4	4	6	6	1	11
Care Process	2	6	9	8	4	3	10	11	7	1	5
Access	4	10	9	2	1	7	5	6	8	3	11
Administrative Efficiency	1	6	11	6	9	2	4	5	8	3	10
Equity	7	9	10	6	2	8	5	3	4	1	11
Health Care Outcomes	1	9	5	8	6	7	3	2	4	10	11

Source: Commonwealth Fund analysis.

Exhibit 3 illustrates the countries' overall performance score (as opposed to their overall performance rank). (See [How This Study Was Conducted](#) for a detailed explanation of how these performance scores are calculated). This exhibit makes evident the markedly lower performance of Canada (9), France (10), and the United States (11) compared to the other countries, which all group relatively closely above the 11-country average performance score.

Care Process

The United Kingdom ranks first and Sweden last on Care Process (Exhibit 2) based on the performance across the four subdomains of prevention, safe care, coordination, and patient engagement ([Appendix 2](#)). The United States ranks in the middle on Care Process (5th), with stronger performance on the subdomains of prevention, safety, and engagement. The U.S. performs slightly below the 11-country average in the coordination subdomain.

The U.S. tends to excel on measures that involve the doctor–patient relationship, performing relatively better on wellness counseling related to healthy behaviors, shared decision-making with primary care and specialist providers, chronic disease management, and end-of-life discussions ([Appendices 2A–2D](#)). The U.S. also performs above the 11-country average on preventive measures like mammography screening and older adult influenza immunization rates. However, the U.S. performs poorly on several coordination measures, including information flows between primary care providers and specialist and social service providers. The U.S. also lags other countries on avoidable hospital admissions.

The U.K., Australia, and New Zealand are the top performers in the Care Process domain. These three countries consistently perform above the 11-country average across all subdomains (except for Australia on

Exhibit 3. Health Care System Performance Scores

Higher performing



Lower performing

Note: See [How This Study Was Conducted](#) for a description of how the performance scores are calculated.
Source: Commonwealth Fund analysis.

coordinated care). The U.K. excels in safety, while Australia is the top performer in patient engagement. On the other end of the spectrum, Norway and Sweden's performance is below average on each of the Care Process subdomains.

Access

Overall, the United States ranks last on Access (Exhibit 2). The U.S. has the poorest performance of all countries on the affordability subdomain, scoring much lower than even the second-to-last country, Switzerland (Appendix 3). The U.S. ranks ninth on the subdomain of timeliness (Appendix 3).

The Netherlands performs the best of the 11 countries on Access, ranking first on timeliness and in the middle on affordability (Appendix 3). Germany ranks second on Access, and is among the top-ranked countries on both subdomains. The United Kingdom, Sweden, and Norway are the other top-ranked performers on affordability.

Administrative Efficiency

The United States ranks 10th on Administrative Efficiency (Exhibit 2). Compared to the other countries, more U.S. doctors reported problems related to coverage restrictions (Appendix 4). Larger percentages of U.S. patients also reported Administrative Efficiency problems compared to those in other countries (except France). The top performers in this domain are Australia, New Zealand, the United Kingdom, and Norway. At the lower end of the range, respondents from France were most likely to report problems in this area among the surveyed countries.

Equity

The United Kingdom, the Netherlands, and Sweden rank highest on measures related to the equity of health systems with respect to access and care process (Exhibit 2). In these three countries, there are relatively small differences between lower- and higher-income adults on the 11 measures related to timeliness, financial barriers to care, and patient-centered care (Appendix 5).

In contrast, the United States, France, and Canada have larger disparities between lower and higher-income adults. These were especially large on measures related to financial barriers, such as skipping needed doctor visits

or dental care, forgoing treatments or tests, and not filling prescriptions because of the cost.

Health Care Outcomes

The United States ranks last overall in Health Care Outcomes (Exhibit 2). However, the pattern of performance across different outcomes measures reveals nuances. Compared to the other countries, the U.S. performs relatively poorly on population health outcomes such as infant mortality and life expectancy at age 60 (Appendix 6). The U.S. has the highest rate of mortality amenable to health care and has experienced the smallest reduction in that measure during the past decade (Exhibit 4). In contrast, the U.S. appears to perform relatively well on 30-day in-hospital mortality after heart attack or stroke. The U.S. also performs as well as several top performers on breast cancer five-year relative survival rate and close to the 11-country average on colorectal cancer five-year relative survival rate.

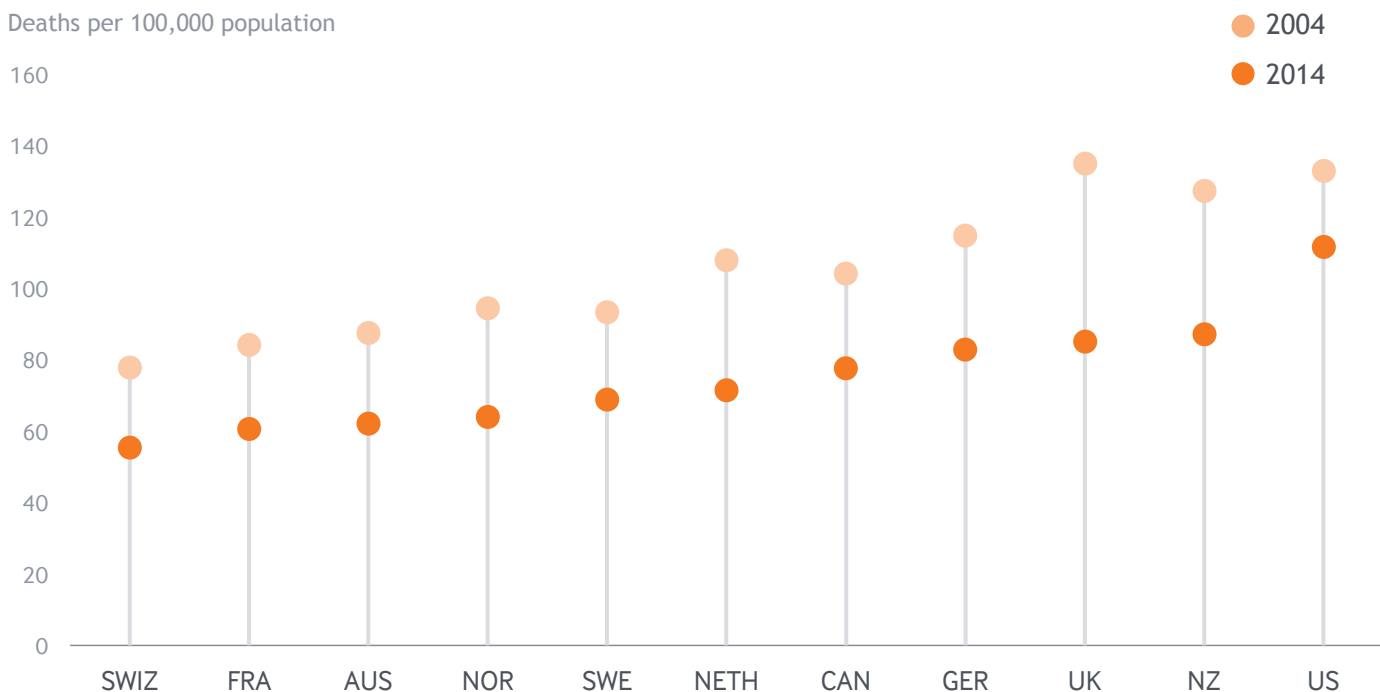
Australia has the best Health Care Outcomes overall. Sweden and Norway rank second and third in the domain. While the United Kingdom ranks 10th in the health care outcomes domain overall, it had the largest reduction in mortality amenable to health care during the past decade.

CAUSES OF POOR PERFORMANCE

Based on a broadly inclusive set of performance metrics, we find that U.S. health care system performance ranks last among 11 high-income countries. The country's performance shortcomings cross several domains of care including Access, Administrative Efficiency, Equity, and Health Care Outcomes. Only within the domain of Care Process is U.S. performance close to the 11-country average. These results are troubling because the U.S. has the highest per capita health expenditures of any country and devotes a larger percentage of its GDP to health care than any other country.

The U.S. health care system is unique in several respects. Most striking: it is the only high-income country lacking universal health insurance coverage. The U.S. has taken an important step to expand coverage through the Affordable Care Act. As a 2017 Commonwealth Fund report showed,

Exhibit 4. Mortality Amenable to Health Care, 2004 and 2014



Source: European Observatory on Health Systems and Policies (2017). Trends in amenable mortality for selected countries, 2004 and 2014. Data for 2014 in all countries except Canada (2011), France (2013), the Netherlands (2013), New Zealand (2012), Switzerland (2013), and the U.K. (2013). Amenable mortality causes based on Nolte and McKee (2004). Mortality and population data derived from WHO mortality files (Sept. 2016); population data for Canada and the U.S. derived from the Human Mortality Database. Age-specific rates standardized to the European Standard Population (2013).

the ACA has catalyzed widespread and historic gains in access to care across the U.S.⁴ More than 20 million Americans gained insurance coverage. Additional actions could extend insurance coverage to those who lack it. Furthermore, Americans with coverage often face far higher deductibles and out-of-pocket costs than citizens of other countries, whose systems offer more financial protection.⁵ Incomplete and fragmented insurance coverage may account for the relatively poor performance of the U.S. on health care outcomes, affordability, administrative efficiency, and equity.

Several new U.S. federal initiatives—notably the Affordable Care Act—have promoted actions to improve U.S. health care system performance.⁶ In addition to extending insurance coverage to millions of Americans, recent legislation includes initiatives to spur innovation in health care delivery by changing payment incentives for providers.

But health systems can be slow to change. Additional legislative and policy reforms may be needed to close the performance gap between the U.S. and other countries.

The U.S. could learn important lessons from other high-income countries (see [Lessons for the United States](#)). For example, the U.S. performs poorly in administrative efficiency mainly because of doctors and patients reporting wasting time on billing and insurance claims. Other countries that rely on private health insurers, like the Netherlands, minimize some of these problems by standardizing basic benefit packages, which can both reduce administrative burden for providers and ensure that patients face predictable copayments.

The U.K. stands out as a top performer in most categories except for health care outcomes, where it ranks with the U.S. near the bottom. In contrast to the U.S., over the past

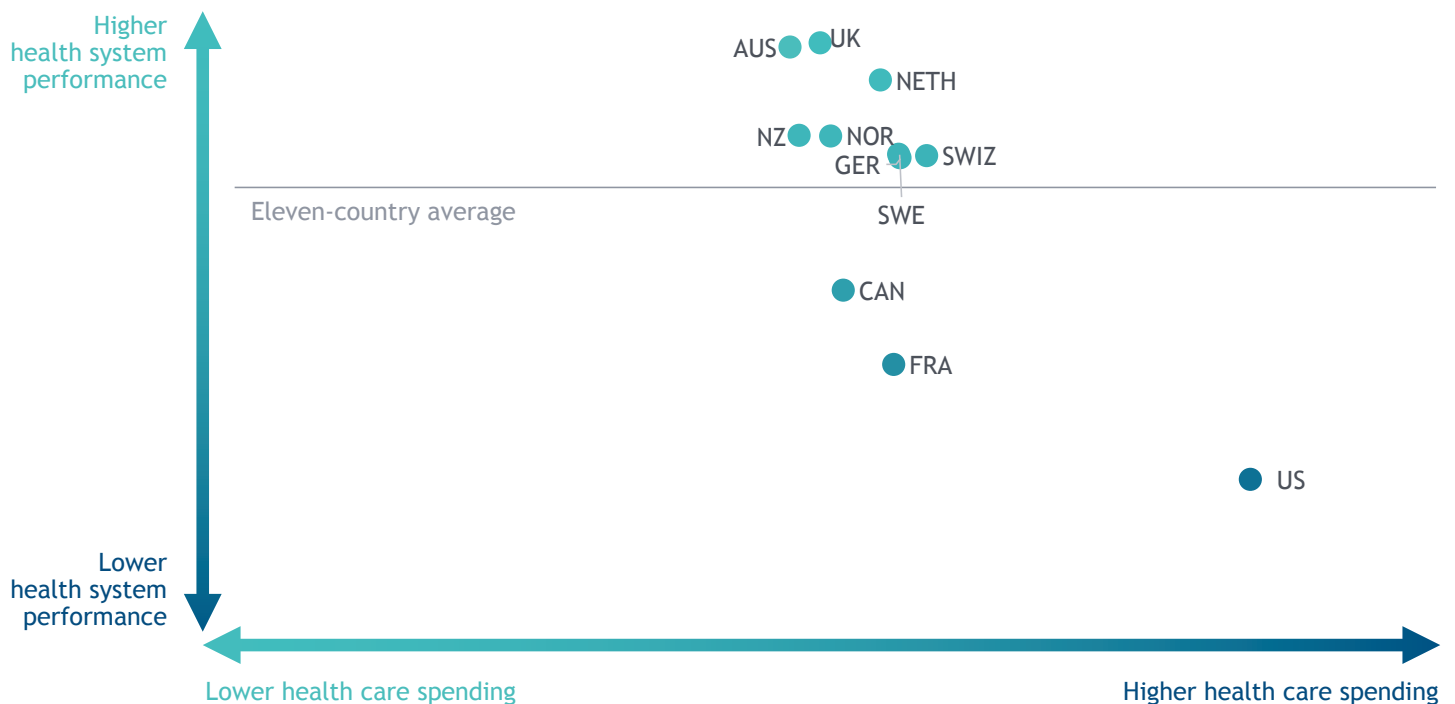
decade the U.K. saw a larger decline in mortality amenable to health care (i.e., a greater improvement in the measure) than the other countries studied. (The U.S. has had the smallest decline, or lowest level of improvement.) In the early 2000s, the U.K. made a major investment in its National Health Service, reforming primary care and cancer care in addition to increasing health care spending from 6.2 percent of GDP in 2000 to 9.9 percent of GDP in 2014 (Exhibit 1).⁷ The reforms and increased spending may have contributed to the rapid decline in mortality amenable to health care in the U.K.

There is a striking contrast between the U.S.'s poor performance on infant mortality, life expectancy, and amenable mortality and its relatively better performance on in-hospital mortality after heart attack or stroke. Researchers have noted that the only modest decline in the rate of amenable mortality in the U.S. may be attributable

to better management, once diagnosed, of hypertension and cerebrovascular disease that lead to cardiovascular mortality.⁸ These findings highlight the combined impact of a lack of universal insurance coverage and barriers to accessing primary care, and suggest that the U.S. could make gains by investing more in preventing chronic disease. The high level of inequity in the U.S. health care system intensifies the problem. For the first time in decades, midlife mortality for less-educated Americans is rapidly increasing.⁹

In conclusion, the performance of the U.S. health care system ranks last compared to other high-income countries. Exhibit 5 shows how the U.S. health system is a substantial outlier when it comes to achieving value. Despite spending nearly twice as much as several other countries, the country's performance is lackluster. This report points to several areas that the U.S. could improve,

Exhibit 5. Health Care System Performance Compared to Spending



Note: Health care spending as a percent of GDP.

Sources: Spending data are from OECD for the year 2014, and exclude spending on capital formation of health care providers; Commonwealth Fund analysis.

building on recent health reforms, to achieve better performance. The success of U.S. initiatives to reduce readmissions and hospital-acquired conditions suggest the country's health care can be improved. To gain more than incremental improvement, however, the U.S. may need to pursue different approaches to organizing and financing the delivery system. These could include strengthening primary care, supporting organizations that excel at care coordination and moving away from fee-for-service payment to other types of purchasing that create incentives to better coordinate care. These steps should ensure early diagnosis and treatment, improve the affordability of care, and ultimately improve the health of all Americans.

LESSONS FOR THE UNITED STATES

Comparing countries' health care system performance using standardized performance data can offer benchmarks and other useful insights about how to improve care. Among the 11 countries we studied, the U.S. was ranked last in overall health system performance, while spending the most per capita on health care. The insurance, payment, and delivery system of the ACA have improved some aspects of health care system performance, but the U.S. still greatly lags countries with universal health insurance coverage. The top performing countries—the U.K., Australia, and the Netherlands—could offer important lessons to the U.S. and other countries.

THE HEALTH SYSTEMS ACHIEVING TOP MARKS DO SO IN DIVERSE WAYS

The three countries with the best overall health system performance scores have strikingly different health care systems. All three provide universal coverage and access, but do so in different ways, suggesting that high performance can be achieved through a variety of payment and organizational approaches.

Experts generally group universal coverage systems into three categories: Beveridge systems, single-payer systems, and multipayer systems. These three systems are represented among our highest performers.

The U.K.'s National Health Service

The Beveridge model takes its name after the creator of Britain's National Health Service, William Beveridge. In the NHS, health services are paid for through general tax revenue, as opposed to insurance premiums. Furthermore, the government plays a significant role in organizing and operating the delivery of health care. For example, most hospitals are publicly owned, and the specialists who work in them are often government employees. This is not true of all providers. Most general practitioner practices are privately owned. Health care in the U.K. and other Beveridge countries is centrally directed and has more direct management accountability to the government than in other health systems.

Australia's Single-Payer Insurance Program

In Australia, everyone is covered under the public insurance plan, Medicare. Much like the NHS, Australia's Medicare is funded through tax revenue. Medicare is distinguished, though, by lesser public involvement in care delivery. Many Australian hospitals are private, and roughly half the population purchases private health insurance to access care outside the public system. To put into an American context, Australia's Medicare resembles Medicare in the U.S.

The Netherlands' Competing Private Insurers

Unlike Australia and the U.K., the Dutch health system relies on private insurers to fund health services for its population. Dutch insurers are mainly financed through community-rated premiums and payroll taxes, which are pooled and then distributed to insurers based on the risk profile of their enrollees. All plans include a standard basic benefit package; subsidies are available for people with low incomes; adults are required to enroll in a plan or must pay a fine. Dutch health care providers are predominantly private. This multipayer system—partly inspired by the managed competition model—shares many similarities with the insurance marketplaces created under the Affordable Care Act.¹⁰

HOW WE MEASURED PERFORMANCE

CARE PROCESS Care Process encompasses four subdomains relevant to health care for the general population: *preventive care*, *safe care*, *coordinated care*, and *engagement and patient preferences*.

The *preventive care* measures include four survey items related to counseling by health professionals on healthy behaviors, two OECD measures of mammography screening and influenza vaccination, and three OECD measures of rates (age- and sex-standardized) of avoidable hospital admissions for three prevalent chronic conditions: diabetes, asthma, and congestive heart failure.

Safe care includes three survey items: two indicators of safe care based on patient reports of experiencing medical, medication, or laboratory mistakes, and failure to receive effective prescription medication management, as well as one measure indicating whether primary care doctors use electronic clinical decision supports in their practice to improve safety.

Coordinated care uses seven measures to summarize timely sharing of information among primary care clinicians, specialists, emergency departments, and hospitals. It includes three physician-reported measures of effective communication among primary care clinicians and home care and social service providers.

Engagement and patient preferences represents 10 measures that evaluate the degree to which doctors and other health professionals deliver patient-centered care, which includes effective and respectful clinician–patient communication and care planning that reflects the patient’s goals and preferences.

ACCESS Access encompasses two subdomains: *affordability* and *timeliness*. The six measures of affordability include patient reports of avoiding medical care or dental care because of cost, having high out-of-pocket expenses, facing insurance shortfalls, or having problems paying medical bills. One measure reflects primary care doctors’ views of the difficulty patients face in paying for care.

Timeliness includes nine measures (three of which are reported by primary care clinicians) summarizing how quickly patients can obtain information, make appointments, and obtain urgent care after hours. It also addresses the length of time needed to obtain specialty and elective nonemergency surgery.

ADMINISTRATIVE EFFICIENCY Administrative Efficiency includes seven measures. Four measures evaluate barriers to care experienced by patients, such as limited availability of the regular doctor, medical records, or test results. Three indicators measure patients’ and primary care clinicians’ reports of time and effort spent dealing with paperwork, as well as disputes related to documentation requirements of insurance plans and government agencies.

EQUITY Equity compares performance for higher- and lower-income individuals within each country, using 11 selected survey measures from the Care Process and Access domains. The analysis stratifies the surveyed populations based on reported income (above-average vs. below-average relative to the country’s median income) and calculates a percentage-point difference in performance between the two groups. A higher percentage-point difference—that is, a bigger gap—is interpreted as a measure of lower equity among income groups in that country.

HEALTH CARE OUTCOMES The Health Care Outcomes domain includes nine measures of the health of populations. Taken together, they are intended to reflect outcomes that are attributable to the performance of the countries’ health care delivery systems. The measures fall into three categories: population health outcomes (i.e., those that reflect the chronic disease and mortality of populations, regardless of whether they have received health care), mortality amenable to health care (i.e., deaths under age 75 from specific causes that are considered preventable in the presence of timely and effective health care), and disease-specific health outcomes measures (i.e., mortality rates following stroke or heart attack and the duration of survival after a cancer diagnosis).

In the population health outcomes category, two measures compare countries on the mortality of populations defined by age (infant mortality and life expectancy after age 60) and one measure focuses on the proportion of surveyed nonelderly adults who report at least two of five common chronic conditions. For each country, mortality amenable to health care includes both the current rate of deaths amenable to care and the 10-year trend. In the disease-specific health outcomes category, two measures focus on 30-day in-hospital mortality following myocardial infarction and stroke, and two measures examine five-year relative survival for breast cancer and colon cancer.

HOW THIS STUDY WAS CONDUCTED

This edition of *Mirror, Mirror* reflects refinements to methods used in past reports. No report can claim to capture every aspect of the performance of health care systems. Health care systems are complex. Even if a report included thousands of measures, nuances would remain. In that spirit, the report underwent a thorough review by an advisory panel of international, independent performance measurement experts.¹¹ The framework for *Mirror, Mirror* 2017 was developed in consultation with the advisory panel from January through December 2016.

Using data available from Commonwealth Fund international surveys of the public and physicians and other sources of standardized data on quality and health care outcomes, we identified 72 measures relevant to health care system performance, organizing them into five performance domains: Care Process, Access, Administrative Efficiency, Equity, and Health Care Outcomes. The criteria for selecting measures and grouping within domains included: that the measure be important, that the data to support the measure be standardized across the countries, and that the results be salient to policymakers and relevant to performance improvement efforts. Most of the measures are based on surveys designed to elicit the public's experience of its health care system.

The indicators were carefully selected from among the best-available measures with comparable data across the included countries. The selected measures cover a wide range of

performance domains. *Mirror, Mirror* is unique in its use of survey measures designed to gather the perspectives of patients and professionals—the people who experience health care directly in each country every day.

DATA The data for this report were derived from several sources. Survey data are drawn from the 2014, 2015, and 2016 Commonwealth Fund International Health Policy Surveys. Since 1998, in collaboration with international partners, the Commonwealth Fund has supported these surveys of the public's and primary care physicians' experiences of their health care systems. Each year, in collaboration with researchers in the 11 countries, a common questionnaire is developed, translated, adapted, and pretested. The 2016 survey was of the general population; the 2014 survey surveyed adults age 65 and older. The 2016 and 2014 surveys examined patients' views of the health care system, quality of care, care coordination, medical errors, patient-physician communication, waiting times, and access problems. The 2015 survey was administered to primary care physicians, and examined their experiences providing care to patients, the use of information technology, and the use of teams to provide care.

The Commonwealth Fund International Health Policy Surveys (2014, 2015, 2016) are nationally representative samples drawn at random from the populations surveyed. The 2014 and 2016 surveys sampling frames were generated using probability-based overlapping landline and mobile phone sampling designs and in some countries, federal registries; the

2015 survey was drawn from government or private company lists of practicing primary care doctors in each country. [Appendix 7](#) presents the number of respondents and response rates for each survey, and further details of the survey methods are described elsewhere.¹²

In addition to the surveys, other standardized comparative data were drawn from the most recent reports of the Organization for Economic Cooperation and Development (OECD), the European Observatory on Health Systems and Policies, and the World Health Organization (WHO). Our study included data from the OECD on screening, immunization, preventable hospital admissions, population health, and disease-specific outcomes. The WHO and European Observatory data were used to measure population health.

ANALYSIS We used the following approach to calculate performance scores and rankings for comparison:

Measure performance scores: For each measure, we converted each country's result (e.g., the percentage of survey respondents giving a certain response or a mortality rate) to a measure-specific performance score. This score was calculated as the difference between the country result and the 11-country mean, measured in standard deviations. Normalizing the results based on the standard deviation accounts for differences between measures in the range of variation among country-specific results. A positive performance score indicates the country performs above the 11-country

average; a negative score indicates the country performs below the 11-country average.

The 11 measures in the equity domain were derived from the 2016 population survey and calculated by stratifying the population samples based on reported income (above-average vs. below-average relative to the country's median income). Performance scores were based on the difference between the two groups, with a wider difference interpreted as a measure of lower equity between the two income strata in each country.

Domain performance scores and ranking: For each country, we calculated the mean of the measure performance scores in that domain. Then we ranked each country from 1 to 11 based on the mean domain performance score, with 1 representing the highest performance score and 11 representing the lowest performance score.

Overall performance scores and ranking: For each country, we calculated the mean of the five domain-specific performance scores. Then, we ranked each country from 1 to 11 based on this summary mean score, again with 1 representing the highest overall performance score and rank 11 representing the lowest overall performance score.

SENSITIVITY ANALYSES We tested the stability of this ranking method by running two tests based on Monte Carlo simulation to observe how changes in the measure set or changes in the results on some measures would affect the overall rankings. For the first test, we removed three measure results from

the analysis at random, and then calculated the overall rankings on the remaining 69 measure results, repeating this procedure for 1,000 combinations selected at random. For the second test, we reassigned at random the survey measure results derived from the Commonwealth Fund international surveys across a range of plus or minus 3 percentage points (approximately the 95 percent confidence interval for most measures), recalculating the overall rankings based on the adjusted data, and repeating this procedure 1,000 times.

The sensitivity tests showed that the overall performance scores for each country varied, but that the ranks clustered within three groups ([Exhibit 3](#)). Among the simulations, the U.K., Australia, and the Netherlands were nearly always ranked among the three top countries; the U.S., France and Canada were nearly always ranked among the three bottom countries. The other five countries varied order between the 4th and 8th ranks.

LIMITATIONS This report has several limitations. Some are related to the particulars of our analysis and some inherent in any effort to assess overall health system performance.

First, as described above, our sensitivity analyses suggest that the overall country rankings are somewhat sensitive to small changes in the data or indicators included in the analysis.

Second, despite improvements in recent years, the availability of cross-national data on health

system performance remains highly variable. The Commonwealth Fund surveys offer unique and detailed data on the experiences of patients and primary care physicians. However, they do not capture important dimensions that might be obtained from medical records or administrative data. Furthermore, patients' and physicians' assessments might be affected by their expectations, which could differ by country and culture. In this report, we augment our survey data with other international sources, and include several important indicators of population health and disease-specific outcomes. However, in general, the report relies predominantly on patient experience measures. Moreover, there is little cross-national data available on mental health services and on long-term care services.

Third, we base our assessment of overall health system performance on five domains—Care Process, Access, Administrative Efficiency, Equity, and Health Care Outcomes—which we weight equally in calculating each country's overall performance score. In the past some have argued there are other important elements of system performance that should be considered as well, such as innovativeness or value. After consideration, and based on discussions with our advisory panel, we decided not to add new domains to the report. We believe our current five domains capture a sufficiently broad and comprehensive view of health system performance. In addition, there was a lack of meaningful data to assess these new domains.

NOTES

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About The Commonwealth Fund

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APPENDIX 1. Eleven-Country Summary Scores on Health System Performance

	AUS	CAN	FRA	GER	NETH	NZ	NOR	SWE	SWIZ	UK	US
OVERALL PERFORMANCE SCORE	0.36	-0.26	-0.45	0.07	0.27	0.13	0.13	0.08	0.08	0.37	-0.75
Care Process	0.38	0.15	-0.42	-0.12	0.29	0.36	-0.60	-0.82	-0.03	0.56	0.23
Preventive Care	0.06	0.57	-0.38	-0.96	0.43	0.11	-0.34	-0.20	-0.07	0.46	0.25
Safe Care	0.89	0.03	-0.38	0.08	0.18	0.29	-1.08	-0.82	-0.49	1.03	0.29
Coordinated Care	-0.11	-0.23	-0.22	0.37	0.06	0.64	-0.11	-1.07	0.41	0.30	-0.04
Engagement and Patient Preferences	0.69	0.22	-0.71	0.04	0.49	0.40	-0.86	-1.17	0.04	0.45	0.42
Access	0.19	-0.77	-0.14	0.58	0.70	0.02	0.14	0.06	-0.11	0.39	-1.07
Affordability	0.06	-0.31	-0.59	0.67	0.28	0.15	0.46	0.69	-0.52	0.97	-1.87
Timeliness	0.32	-1.23	0.31	0.48	1.13	-0.10	-0.18	-0.56	0.31	-0.19	-0.27
Administrative Efficiency	0.74	0.08	-1.41	0.08	-0.15	0.60	0.54	0.26	-0.12	0.59	-1.21
Equity	-0.14	-0.39	-0.53	0.01	0.46	-0.24	0.14	0.37	0.34	0.93	-0.94
Health Care Outcomes	0.62	-0.35	0.23	-0.18	0.03	-0.12	0.42	0.55	0.32	-0.63	-0.76

Note: "Performance Score" is based on the distance from the 11-country average, measured in standard deviations.

APPENDIX 2A. Preventive Care

Indicator	Source	Raw Data											Performance Score										
		AUS	CAN	FRA	GER	NETH	NZ	NOR	SWE	SWIZ	UK	US	AUS	CAN	FRA	GER	NETH	NZ	NOR	SWE	SWIZ	UK	US
Talked with provider about things in life that cause worry or stress in the past two years, among those with a history of mental illness	2016 CMWF Survey	74%	63%	--	46%	62%	67%	62%	58%	72%	58%	64%	1.45	0.05	--	-2.11	-0.08	0.56	-0.08	-0.58	1.19	-0.58	0.18
Talked with provider about healthy diet, exercise and physical activity in the past two years	2016 CMWF Survey	38%	41%	16%	17%	24%	37%	20%	21%	28%	33%	59%	0.59	0.82	-1.11	-1.03	-0.49	0.51	-0.80	-0.72	-0.18	0.20	2.22
Talked with provider about health risks of smoking and ways to quit in the past two years, among smokers	2016 CMWF Survey	56%	71%	49%	17%	53%	59%	25%	49%	36%	57%	74%	0.36	1.21	-0.04	-1.85	0.19	0.53	-1.40	-0.04	-0.77	0.42	1.38
Talked with provider about alcohol use in the past two years	2016 CMWF Survey	25%	23%	9%	8%	25%	23%	9%	20%	11%	25%	33%	0.68	0.45	-1.20	-1.32	0.68	0.45	-1.20	0.10	-0.96	0.68	1.63
Women age 50-69 with mammography screening in the past year	OECD 2016	54%	72%	75%	71%	80%	72%	75%	--	47%	75%	81%	-1.47	0.16	0.44	0.07	0.89	0.16	0.44	--	-2.11	0.44	0.98
Older adults (age 65 plus) with influenza vaccination in the past year	OECD 2016	--	63%	49%	59%	72%	69%	27%	50%	46%	73%	68%	--	0.37	-0.59	0.10	0.99	0.78	-2.10	-0.52	-0.79	1.06	0.71
Avoidable hospital admissions for diabetes, age-sex standardized rates per 100,000	OECD 2015	141	95	181	216	68	187	76	111	44	64	198	-0.25	0.49	-0.89	-1.47	0.93	-0.99	0.80	0.24	1.33	1.00	-1.18
Avoidable hospital admissions for asthma, age-sex standardized rates per 100,000	OECD 2015	65	15	30	23	31	72	26	23	13	61	103	-0.79	0.93	0.40	0.67	0.37	-1.05	0.56	0.66	1.01	-0.64	-2.12
Avoidable hospital admissions for congestive heart failure, age-sex standardized rates per 100,000	OECD 2015	240	179	238	382	199	229	175	300	174	99	367	-0.06	0.65	-0.04	-1.72	0.41	0.07	0.70	-0.76	0.70	1.58	-1.54
Subdomain Score for Preventive Care													0.06	0.57	-0.38	-0.96	0.43	0.11	-0.34	-0.20	-0.07	0.46	0.25

Note: "Performance Score" is based on the distance from the 11-country average, measured in standard deviations.

APPENDIX 2B. Safe Care

Indicator	Source	Raw Data											Performance Score										
		AUS	CAN	FRA	GER	NETH	NZ	NOR	SWE	SWIZ	UK	US	AUS	CAN	FRA	GER	NETH	NZ	NOR	SWE	SWIZ	UK	US
Experienced a medical, medication, or lab mistake in the past two years	2016 CMWF Survey	11%	15%	8%	7%	10%	16%	21%	17%	14%	11%	19%	0.56	-0.32	1.23	1.45	0.78	-0.54	-1.65	-0.76	-0.10	0.56	-1.21
Primary care physician reports electronic clinical decision support in practice	2015 CMWF Survey	72%	28%	28%	13%	22%	70%	28%	16%	13%	81%	60%	1.26	-0.43	-0.43	-1.00	-0.66	1.18	-0.43	-0.89	-1.00	1.61	0.80
Health care professional did not review medications in past year, among those taking two or more prescription medications	2016 CMWF Survey	22%	22%	54%	34%	27%	29%	45%	41%	36%	21%	17%	0.83	0.83	-1.94	-0.20	0.40	0.23	-1.16	-0.81	-0.38	0.92	1.27
Subdomain Score for Safe Care													0.89	0.03	-0.38	0.08	0.18	0.29	-1.08	-0.82	-0.49	1.03	0.29

Note: "Performance Score" is based on the distance from the 11-country average, measured in standard deviations.

APPENDIX 2C. Coordinated Care

Indicator	Source	Raw Data											Performance Score										
		AUS	CAN	FRA	GER	NETH	NZ	NOR	SWE	SWIZ	UK	US	AUS	CAN	FRA	GER	NETH	NZ	NOR	SWE	SWIZ	UK	US
Primary care doctor always or often receives timely and relevant information when needed after patient sees specialist	2015 CMWF Survey	58%	61%	80%	61%	63%	69%	66%	37%	78%	47%	62%	-0.33	-0.08	1.46	-0.08	0.08	0.57	0.33	-2.03	1.30	-1.22	0.00
Primary care doctor always or often receives information about changes to a patient's medication or care plan after patient sees specialist	2015 CMWF Survey	83%	78%	94%	73%	66%	94%	88%	53%	88%	86%	72%	0.27	-0.12	1.14	-0.52	-1.07	1.14	0.67	-2.10	0.67	0.51	-0.60
Specialist lacked medical history or regular doctor not informed about specialist care in the past two years	2016 CMWF Survey	20%	27%	25%	19%	28%	17%	36%	31%	27%	21%	31%	0.96	-0.23	0.11	1.13	-0.40	1.47	-1.76	-0.91	-0.23	0.79	-0.91
Experienced gaps in hospital discharge planning in the past two years	2016 CMWF Survey	29%	40%	60%	28%	47%	31%	61%	52%	45%	28%	22%	0.82	0.02	-1.44	0.90	-0.49	0.68	-1.51	-0.86	-0.35	0.90	1.34
Doctor is always notified when patient is seen in ED and when patient is discharged from the hospital	2015 CMWF Survey	14%	23%	16%	16%	59%	43%	25%	4%	21%	32%	26%	-0.75	-0.16	-0.62	-0.62	2.23	1.17	-0.02	-1.42	-0.29	0.44	0.04
Practice routinely communicates with home care provider about patient's needs and services	2015 CMWF Survey	29%	32%	36%	51%	56%	28%	63%	53%	55%	34%	52%	-1.22	-0.98	-0.67	0.52	0.91	-1.30	1.46	0.67	0.83	-0.82	0.60
Practice frequently coordinates care with social services or community providers	2015 CMWF Survey	45%	50%	35%	63%	42%	58%	51%	42%	60%	65%	43%	-0.54	-0.04	-1.55	1.27	-0.84	0.77	0.06	-0.84	0.97	1.48	-0.74
Subdomain Score for Coordinated Care													-0.11	-0.23	-0.22	0.37	0.06	0.64	-0.11	-1.07	0.41	0.30	-0.04

Note: "Performance Score" is based on the distance from the 11-country average, measured in standard deviations.

APPENDIX 2D. Engagement and Patient Preferences

Indicator	Source	Raw Data											Performance Score										
		AUS	CAN	FRA	GER	NETH	NZ	NOR	SWE	SWIZ	UK	US	AUS	CAN	FRA	GER	NETH	NZ	NOR	SWE	SWIZ	UK	US
Regular doctor always or often knew important information about their medical history	2016 CMWF Survey	79%	83%	75%	89%	91%	86%	74%	57%	77%	84%	81%	-0.07	0.36	-0.50	1.01	1.22	0.69	-0.61	-2.44	-0.28	0.47	0.15
Regular doctor always or often spent enough time with them and explained things in a way they could understand	2016 CMWF Survey	88%	74%	64%	78%	88%	83%	70%	62%	79%	79%	77%	1.33	-0.30	-1.46	0.17	1.33	0.75	-0.76	-1.69	0.29	0.29	0.05
With same doctor for five years or more	2016 CMWF Survey	61%	63%	42%	65%	76%	67%	60%	54%	63%	69%	49%	0.02	0.23	-1.98	0.44	1.60	0.65	-0.09	-0.72	0.23	0.86	-1.24
Specialist always or often told patient about treatment choices and involved patient in decisions about care and treatment, among adults age 65 and older	2014 CMWF Survey	74%	66%	62%	58%	67%	63%	40%	50%	64%	79%	81%	0.83	0.17	-0.17	-0.50	0.25	-0.08	-2.00	-1.17	0.00	1.25	1.42
Doctors always treated the patient with courtesy and respect during their hospital stay	2016 CMWF Survey	80%	73%	69%	48%	79%	80%	73%	75%	72%	76%	74%	0.83	0.04	-0.41	-2.77	0.72	0.83	0.04	0.27	-0.07	0.38	0.15
Nurses always treated the patient with courtesy and respect during their hospital stay	2016 CMWF Survey	81%	65%	51%	52%	81%	74%	76%	80%	69%	81%	71%	0.91	-0.54	-1.81	-1.72	0.91	0.27	0.45	0.82	-0.18	0.91	0.00
Chronically ill patients discussed with health professional their main goals and priorities in caring for their condition in the past two years	2016 CMWF Survey	71%	56%	66%	67%	59%	62%	41%	26%	64%	61%	63%	1.01	-0.14	0.62	0.70	0.09	0.32	-1.28	-2.43	0.47	0.24	0.40
Chronically ill patients discussed with health professional their treatment options, including side effects in the past two years	2016 CMWF Survey	67%	57%	61%	60%	57%	62%	32%	30%	59%	54%	60%	1.04	0.21	0.54	0.46	0.21	0.63	-1.86	-2.03	0.38	-0.04	0.46
Had a written plan describing treatment they want at the end of life, among adults age 65 and older	2014 CMWF Survey	31%	46%	5%	58%	16%	23%	4%	5%	25%	20%	55%	0.25	1.02	-1.09	1.63	-0.52	-0.16	-1.14	-1.09	-0.06	-0.32	1.48
Had a written plan naming someone to make treatment decisions for them if they cannot do so, among adults age 65 and older	2014 CMWF Survey	53%	62%	16%	58%	16%	38%	6%	8%	28%	47%	67%	0.74	1.14	-0.90	0.96	-0.90	0.08	-1.34	-1.25	-0.37	0.48	1.36
Subdomain Score for Engagement and Patient Preferences													0.69	0.22	-0.71	0.04	0.49	0.40	-0.86	-1.17	0.04	0.45	0.42

Note: "Performance Score" is based on the distance from the 11-country average, measured in standard deviations.

APPENDIX 3. Access

Indicator	Source	Raw Data											Performance Score										
		AUS	CAN	FRA	GER	NETH	NZ	NOR	SWE	SWIZ	UK	US	AUS	CAN	FRA	GER	NETH	NZ	NOR	SWE	SWIZ	UK	US
Affordability																							
Had any cost-related access problem to medical care in the past year	2016 CMWF Survey	14%	16%	17%	7%	8%	18%	10%	8%	22%	7%	33%	0.07	-0.18	-0.31	0.95	0.82	-0.43	0.57	0.82	-0.93	0.95	-2.31
Skipped dental care or check up because of cost in the past year	2016 CMWF Survey	21%	28%	23%	14%	11%	22%	20%	19%	21%	11%	32%	-0.13	-1.20	-0.43	0.95	1.41	-0.28	0.03	0.18	-0.13	1.41	-1.82
Insurance denied payment for medical care or did not pay as much as expected	2016 CMWF Survey	9%	14%	24%	8%	8%	2%	2%	2%	12%	1%	27%	0.10	-0.46	-1.59	0.22	0.22	0.89	0.89	0.89	-0.24	1.00	-1.93
Had serious problems paying or was unable to pay medical bills	2016 CMWF Survey	5%	6%	23%	4%	7%	5%	8%	5%	11%	1%	20%	0.53	0.38	-2.09	0.68	0.24	0.53	0.09	0.53	-0.34	1.11	-1.66
Doctors report patients often have difficulty paying for medications or out-of-pocket costs	2015 CMWF Survey	25%	30%	17%	13%	52%	30%	3%	6%	9%	12%	60%	-0.09	-0.36	0.34	0.56	-1.54	-0.36	1.10	0.93	0.77	0.61	-1.97
Out-of-pocket expenses for medical bills more than \$1,000 in the past year, US\$ equivalent	2016 CMWF Survey	16%	15%	7%	5%	7%	7%	13%	4%	46%	4%	36%	-0.10	-0.03	0.54	0.69	0.54	0.54	0.11	0.76	-2.26	0.76	-1.54
Subdomain Score for Affordability													0.06	-0.31	-0.59	0.67	0.28	0.15	0.46	0.69	-0.52	0.97	-1.87
Timeliness																							
Have a regular doctor or place	2016 CMWF Survey	94%	93%	99%	99%	100%	96%	98%	92%	90%	94%	88%	-0.21	-0.46	1.06	1.06	1.31	0.30	0.81	-0.71	-1.22	-0.21	-1.73
Regular doctor always or often answers the same day when contacted with question	2016 CMWF Survey	86%	66%	86%	87%	87%	83%	76%	75%	88%	78%	72%	0.76	-1.94	0.76	0.90	0.90	0.36	-0.59	-0.73	1.03	-0.32	-1.13
Saw a doctor or nurse on the same or next day, last time they needed medical care	2016 CMWF Survey	67%	43%	56%	53%	77%	76%	43%	49%	57%	57%	51%	0.84	-1.21	-0.10	-0.36	1.69	1.61	-1.21	-0.70	-0.02	-0.02	-0.53
Somewhat or very difficult to obtain after-hours care	2016 CMWF Survey	44%	63%	64%	64%	25%	44%	40%	64%	58%	49%	51%	0.59	-0.91	-0.99	-0.99	2.09	0.59	0.91	-0.99	-0.52	0.19	0.04
Waited two hours or more for care in emergency room	2016 CMWF Survey	23%	50%	9%	18%	20%	30%	34%	39%	26%	32%	25%	0.44	-2.01	1.70	0.89	0.71	-0.20	-0.56	-1.01	0.16	-0.38	0.25
Doctors report patients often experience difficulty getting specialized tests (e.g., CT, MRI)	2015 CMWF Survey	11%	40%	54%	27%	6%	54%	7%	15%	1%	19%	29%	0.69	-0.86	-1.61	-0.17	0.96	-1.61	0.90	0.48	1.22	0.26	-0.27
Doctors report patients often experience long wait times to receive treatment after diagnosis	2015 CMWF Survey	23%	21%	17%	17%	10%	33%	18%	28%	1%	31%	9%	-0.42	-0.21	0.20	0.20	0.91	-1.44	0.09	-0.93	1.83	-1.24	1.01
Waited two months or longer for specialist appointment	2016 CMWF Survey	13%	30%	4%	3%	7%	20%	28%	19%	9%	19%	6%	0.14	-1.65	1.09	1.20	0.78	-0.60	-1.44	-0.49	0.57	-0.49	0.88
Waited four month or longer for elective/non-emergency surgery	2016 CMWF Survey	8%	18%	2%	0%	4%	15%	15%	12%	7%	12%	4%	0.14	-1.54	1.14	1.48	0.81	-1.04	-1.04	-0.53	0.30	-0.53	0.81
Practice has arrangement for patients to see doctor or nurse after hours without going to ED	2015 CMWF Survey	78%	48%	71%	85%	94%	92%	80%	75%	69%	89%	39%	0.20	-1.52	-0.20	0.60	1.11	1.00	0.31	0.03	-0.32	0.83	-2.03
Subdomain Score for Timeliness													0.32	-1.23	0.31	0.48	1.13	-0.10	-0.18	-0.56	0.31	-0.19	-0.27
Domain Score for Access													0.19	-0.77	-0.14	0.58	0.70	0.02	0.14	0.06	-0.11	0.39	-1.07

Note: "Performance Score" is based on the distance from the 11-country average, measured in standard deviations.

APPENDIX 4. Administrative Efficiency

Indicator	Source	Raw Data											Performance Score										
		AUS	CAN	FRA	GER	NETH	NZ	NOR	SWE	SWIZ	UK	US	AUS	CAN	FRA	GER	NETH	NZ	NOR	SWE	SWIZ	UK	US
Doctors report time spent on administrative issues related to insurance or claims is a major problem	2015 CMWF Survey	21%	20%	63%	52%	60%	20%	9%	27%	50%	21%	54%	0.77	0.82	-1.37	-0.81	-1.22	0.82	1.38	0.46	-0.71	0.77	-0.91
Doctors report time spent getting patients needed medications or treatment because of coverage restrictions is a major problem	2015 CMWF Survey	11%	21%	27%	38%	32%	12%	6%	6%	14%	15%	54%	0.70	0.03	-0.37	-1.10	-0.70	0.63	1.03	1.03	0.50	0.43	-2.17
Doctors report time spent on administrative issues related to reporting clinical or quality data to government or other agencies is a major problem	2015 CMWF Survey	8%	10%	43%	23%	51%	16%	13%	25%	33%	22%	33%	1.25	1.11	-1.30	0.16	-1.88	0.67	0.89	0.01	-0.57	0.23	-0.57
Visited ED for a condition that could have been treated by a regular doctor, had he/she been available	2016 CMWF Survey	6%	17%	7%	5%	6%	7%	11%	12%	9%	7%	16%	0.81	-1.85	0.57	1.06	0.81	0.57	-0.40	-0.64	0.09	0.57	-1.61
Tests results or medical records were not available at the time of patient's scheduled medical care appointment in the past two years	2016 CMWF Survey	5%	8%	13%	6%	5%	7%	7%	8%	6%	6%	11%	0.98	-0.22	-2.21	0.58	0.98	0.18	0.18	-0.22	0.58	0.58	-1.42
Doctors ordered a medical test that patient felt was unnecessary because the test had already been done in the past two years	2016 CMWF Survey	6%	6%	20%	6%	3%	4%	6%	5%	9%	5%	11%	0.29	0.29	-2.67	0.29	0.92	0.71	0.29	0.50	-0.35	0.50	-0.77
Spent a lot of time on paperwork or disputes related to medical bills	2016 CMWF Survey	5%	5%	28%	5%	8%	3%	5%	3%	11%	0%	16%	0.39	0.39	-2.52	0.39	0.01	0.65	0.39	0.65	-0.37	1.03	-1.00
Domain Score for Administrative Efficiency													0.74	0.08	-1.41	0.08	-0.15	0.60	0.54	0.26	-0.12	0.59	-1.21

Note: "Performance Score" is based on the distance from the 11-country average, measured in standard deviations.

APPENDIX 5. Equity

Indicator	Source	Raw Data											Raw Data										
		Below-Average Income											Above-Average Income										
		AUS	CAN	FRA	GER	NETH	NZ	NOR	SWE	SWIZ	UK	US	AUS	CAN	FRA	GER	NETH	NZ	NOR	SWE	SWIZ	UK	US
Rated medical care from regular provider was fair or poor	2016 CMWF Survey	5%	10%	19%	6%	9%	2%	11%	19%	4%	5%	12%	2%	7%	5%	0%	5%	4%	7%	14%	2%	8%	5%
Had any cost-related access problem to medical care in the past year	2016 CMWF Survey	21%	26%	23%	10%	13%	29%	15%	13%	30%	7%	44%	10%	7%	12%	6%	6%	13%	6%	5%	15%	4%	26%
Skipped dental care or check up because of cost in the past year	2016 CMWF Survey	29%	41%	34%	17%	18%	34%	31%	27%	29%	12%	45%	19%	17%	17%	18%	8%	23%	12%	13%	13%	7%	21%
Had serious problems paying or was unable to pay medical bills	2016 CMWF Survey	8%	12%	41%	11%	15%	12%	12%	11%	19%	3%	29%	2%	2%	7%	1%	4%	1%	4%	1%	5%	0%	11%
Somewhat or very difficult to obtain after-hours care	2016 CMWF Survey	51%	68%	75%	65%	29%	56%	45%	66%	61%	51%	57%	37%	60%	69%	61%	25%	39%	36%	62%	59%	52%	47%
Waited two months or longer for specialist appointment	2016 CMWF Survey	19%	31%	2%	--	6%	29%	29%	21%	10%	16%	8%	9%	29%	10%	--	5%	15%	27%	17%	9%	30%	4%
Specialist lacked medical history or regular doctor not informed about specialist care in the past two years	2016 CMWF Survey	24%	33%	25%	--	30%	23%	32%	33%	29%	27%	38%	12%	21%	29%	--	29%	14%	37%	31%	26%	16%	23%
Have a regular doctor or place	2016 CMWF Survey	91%	92%	99%	98%	100%	97%	98%	93%	91%	95%	84%	96%	94%	99%	99%	100%	98%	98%	91%	89%	98%	93%
Regular doctor always or often spent enough time with them and explained things in a way they could understand	2016 CMWF Survey	86%	70%	63%	67%	88%	73%	67%	59%	76%	81%	72%	91%	79%	68%	88%	89%	88%	73%	64%	82%	80%	81%
Regular doctor always or often knew important information about their medical history	2016 CMWF Survey	77%	79%	62%	82%	91%	80%	68%	58%	78%	81%	77%	82%	86%	89%	96%	91%	88%	78%	55%	73%	86%	86%
Talked with provider about healthy diet, exercise and physical activity in the past two years	2016 CMWF Survey	40%	40%	16%	15%	24%	44%	19%	21%	28%	38%	52%	35%	44%	31%	21%	24%	32%	20%	21%	25%	30%	63%
		Percentage-Point Difference Between Above-Average and Below-Average Income Respondents (higher numbers = greater inequity)											Performance Score										
Indicator	Source	AUS	CAN	FRA	GER	NETH	NZ	NOR	SWE	SWIZ	UK	US	AUS	CAN	FRA	GER	NETH	NZ	NOR	SWE	SWIZ	UK	US
Rated medical care from regular provider was fair or poor	2016 CMWF Survey	3%	3%	14%	6%	4%	-2%	4%	5%	2%	-3%	7%	0.20	0.20	-2.23	-0.46	-0.02	1.31	-0.02	-0.24	0.42	1.53	-0.68
Had any cost-related access problem to medical care in the past year	2016 CMWF Survey	11%	19%	11%	4%	7%	16%	9%	8%	15%	3%	18%	0.00	-1.47	0.00	1.29	0.74	-0.92	0.37	0.55	-0.74	1.47	-1.29
Skipped dental care or check up because of cost in the past year	2016 CMWF Survey	10%	24%	17%	-1%	10%	11%	19%	14%	16%	5%	24%	0.46	-1.37	-0.45	1.91	0.46	0.33	-0.71	-0.06	-0.32	1.12	-1.37
Had serious problems paying or was unable to pay medical bills	2016 CMWF Survey	6%	10%	34%	10%	11%	11%	8%	10%	14%	3%	18%	0.77	0.28	-2.65	0.28	0.16	0.16	0.52	0.28	-0.21	1.13	-0.70
Somewhat or very difficult to obtain after-hours care	2016 CMWF Survey	14%	8%	6%	4%	4%	17%	9%	4%	2%	-1%	10%	-1.32	-0.19	0.19	0.57	0.57	-1.89	-0.38	0.57	0.94	1.51	-0.57
Waited two months or longer for specialist appointment	2016 CMWF Survey	10%	2%	-8%	--	1%	14%	2%	4%	1%	-14%	4%	-1.05	-0.05	1.20	--	0.08	-1.55	-0.05	-0.30	0.08	1.96	-0.30
Specialist lacked medical history or regular doctor not informed about specialist care in the past two years	2016 CMWF Survey	12%	12%	-4%	--	1%	9%	-5%	2%	3%	11%	15%	-0.90	-0.90	1.35	--	0.65	-0.48	1.49	0.51	0.37	-0.76	-1.32
Have a regular doctor or place	2016 CMWF Survey	5%	2%	0%	1%	0%	1%	0%	-2%	-2%	3%	9%	-1.08	-0.14	0.48	0.17	0.48	0.17	0.48	1.11	1.11	-0.45	-2.33
Regular doctor always or often spent enough time with them and explained things in a way they could understand	2016 CMWF Survey	5%	9%	5%	21%	1%	15%	6%	5%	6%	-1%	9%	0.38	-0.27	0.38	-2.21	1.03	-1.24	0.22	0.38	0.22	1.36	-0.27
Regular doctor always or often knew important information about their medical history	2016 CMWF Survey	5%	7%	27%	14%	0%	8%	10%	-3%	-5%	5%	9%	0.23	0.00	-2.29	-0.80	0.80	-0.11	-0.34	1.14	1.37	0.23	-0.23
Talked with provider about healthy diet, exercise and physical activity in the past two years	2016 CMWF Survey	-5%	4%	15%	6%	0%	-12%	1%	0%	-3%	-8%	11%	0.73	-0.40	-1.78	-0.65	0.10	1.61	-0.02	0.10	0.48	1.11	-1.28
Domain Score for Equity													-0.14	-0.39	-0.53	0.01	0.46	-0.24	0.14	0.37	0.34	0.93	-0.94

Note: "Performance Score" is based on the distance from the 11-country average, measured in standard deviations.

APPENDIX 6. Health Care Outcomes

Indicator	Source	Raw Data											Performance Score										
		AUS	CAN	FRA	GER	NETH	NZ	NOR	SWE	SWIZ	UK	US	AUS	CAN	FRA	GER	NETH	NZ	NOR	SWE	SWIZ	UK	US
Population Health																							
Infant mortality, deaths per 1,000 live births	OECD 2016	3.4	4.8	3.5	3.2	3.6	4.7	2.4	2.2	3.9	3.9	6.0	0.35	-0.94	0.26	0.53	0.17	-0.84	1.27	1.45	-0.11	-0.11	-2.04
Adults age 18 to 64 with at least two of five common chronic conditions	2016 CMWF Survey	10%	16%	12%	8%	9%	9%	12%	10%	10%	10%	21%	0.41	-1.17	-0.12	0.93	0.67	0.67	-0.12	0.41	0.41	0.41	-2.49
Life expectancy at age 60 in years	WHO 2016	25.5	25.0	25.7	23.7	24.2	24.7	24.2	24.6	25.5	24.1	23.6	1.20	0.52	1.48	-1.25	-0.57	0.11	-0.57	-0.02	1.20	-0.71	-1.39
Mortality Amenable to Health Care																							
Mortality amenable to health care, deaths per 100,000	European Observatory on Health Systems and Policies 2017	62	78	61	83	72	87	64	69	55	85	112	0.81	-0.15	0.91	-0.48	0.23	-0.75	0.70	0.40	1.22	-0.61	-2.27
10-year decline in mortality amenable to health care	European Observatory on Health Systems and Policies 2017	29%	26%	28%	28%	34%	32%	32%	26%	29%	37%	16%	0.03	-0.52	-0.15	-0.15	0.95	0.59	0.59	-0.52	0.03	1.50	-2.36
Disease-Specific Health Outcomes																							
30 day in-hospital mortality rate following acute myocardial infarction, deaths per 100 patients	OECD 2015	4.1	6.7	7.2	8.7	7.6	6.6	6.7	4.5	7.7	7.6	5.5	1.79	-0.05	-0.41	-1.47	-0.69	0.02	-0.05	1.51	-0.76	-0.69	0.80
30 day in-hospital mortality rate following ischemic stroke, deaths per 100 patients	OECD 2015	9.3	10.0	7.9	6.4	7.1	8.0	5.4	6.4	6.9	9.2	3.6	-1.08	-1.45	-0.33	0.48	0.10	-0.38	1.01	0.48	0.21	-1.02	1.98
Breast cancer five-year relative survival rate	OECD 2015	88%	88%	--	86%	85%	86%	89%	89%	--	81%	89%	0.46	0.46	--	-0.30	-0.67	-0.30	0.84	0.84	--	-2.19	0.84
Colon cancer five-year relative survival rate	OECD 2015	69%	64%	--	64%	64%	63%	64%	65%	--	56%	64%	1.59	0.10	--	0.10	0.10	-0.20	0.10	0.40	--	-2.29	0.10
Domain Score for Health Care Outcomes												0.62	-0.35	0.23	-0.18	0.03	-0.12	0.42	0.55	0.32	-0.63	-0.76	

Note: "Performance Score" is based on the distance from the 11-country average, measured in standard deviations.

APPENDIX 7. Sample Size of Commonwealth Fund International Health Policy Surveys

	AUS	CAN	FRA	GER	NETH	NZ	NOR	SWE	SWIZ	UK	US
SAMPLE SIZES											
2014 Commonwealth Fund International Health Policy Survey of Older Adults	1,670	3,147	860	547	582	379	651	5,000	1,084	581	1,116
Older adults who saw or needed to see specialist in the past two years	1,105	1,802	525	463	397	193	400	2,608	712	267	775
2015 Commonwealth Fund International Health Policy Survey of Primary Care Physicians	747	2,284	502	559	618	503	864	2,905	1,065	1,001	1,001
2016 Commonwealth Fund International Health Policy Survey of Adults	5,248	4,547	1,103	1,000	1,227	1,000	1,093	7,124	1,520	1,000	2,001
Adults with a regular doctor or place of care	5,061	4,302	1,097	994	1,224	968	1,079	6,742	1,400	946	1,809
Adults who saw or needed to see specialist in the past two years	2,264	2,529	641	437	594	417	618	3,402	875	389	1,157
Adults with a regular doctor or place of care and who saw or needed to see specialist in the past two years	2,235	2,458	637	434	593	415	610	3,301	835	379	1,093
Adults who were hospitalized in past two years	879	692	276	139	207	165	223	1,502	323	150	378
Adults with ED visit in past two years	949	1,818	316	108	242	222	276	2,517	442	234	659
Adults who needed elective surgery in past two years	660	625	155	119	107	135	217	1,144	231	100	302
Adults with at least one of the following chronic conditions: asthma or chronic lung disease; diabetes; heart disease; and hypertension	1,635	1,992	293	306	367	316	457	3,530	466	306	1,007
Adults with a regular doctor or place of care and was ever diagnosed with depression, anxiety, or other mental health problem	529	794	38*	85	94	118	152	1,033	188	106	427
Adults with a regular doctor or place of care and smoke	868	711	313	323	281	160	221	741	283	190	298
Adults who take two or more prescription medications regularly	1,856	2,169	261	267	435	341	494	3,557	471	334	1,018
Equity											
Adults below average income	1,711	1,484	316	387	267	297	393	2,849	643	239	697
Adults above average income	1,495	1,760	255	110	539	350	479	2,462	440	287	799
Adults below average income with a regular doctor or place of care	1,610	1,383	314	384	267	288	388	2,728	597	228	601
Adults above average income with a regular doctor or place of care	1,463	1,684	253	109	537	343	470	2,305	398	283	754
Adults below average income who saw or needed to see specialist in the past two years	804	867	186	194	146	152	224	1,399	372	118	399
Adults above average income who saw or needed to see specialist in the past two years	674	978	154	50*	268	162	276	1,187	254	114	492
RESPONSE RATES											
2016 IHP Survey of General Population	25%	21%	25%	27%	32%	31%	11%	17%	47%	22%	18%
2015 IHP Survey of Primary Care Physicians	25%	32%	8%	19%	41%	28%	44%	47%	39%	39%	31%
2014 IHP Survey of Older Adults	31%	28%	29%	26%	25%	27%	16%	23%	60%	23%	24%

Note: This appendix shows the sample size in each country for each survey, as well as the sample sizes for any indicators with restricted bases. Data for the indicators used in the Equity domain come from the 2016 Commonwealth Fund International Health Policy Survey of Adults and are stratified between respondents who reported having "below-average" and "above-average" income. An asterisk (*) indicates where countries were excluded from analysis because of small sample size, n<50.

APPENDIX 8. Mirror, Mirror Measure Descriptions and Source Notes

Note: Base includes full sample of survey unless indicated otherwise.

Appendix 2A. Preventive Care

1. Percent of adults who talked with their doctor or other clinical staff in the past two years about things in their life that cause worry or stress. Sample size was less than 100 in Germany and Netherlands. Sample size was less than 60 in France, which was therefore excluded. Base: Has a regular doctor or place of care and was ever diagnosed with depression, anxiety, or other mental health problem. Source: 2016 Commonwealth Fund International Health Policy Survey.
2. Percent of adults who talked with their doctor or other clinical staff about a healthy diet, exercise and physical activity. Base: Has a regular doctor or place of care. Source: 2016 Commonwealth Fund International Health Policy Survey.
3. Percent of adults who talked with their doctor or other clinical staff in the past two years about health risks of smoking and ways to quit. Base: Has a regular doctor or place of care and smokes. Source: 2016 Commonwealth Fund International Health Policy Survey.
4. Percent of adults who talked with their doctor or other clinical staff in the past two years about alcohol use. Base: Has a regular doctor or place of care. Source: 2016 Commonwealth Fund International Health Policy Survey.
5. Percent of women age 50-69 with mammography screening in past year, 2014. Data from 2013 in the US, and from 2012 in Canada, Germany, and Switzerland. Results from the UK, Norway, New Zealand, and Australia are based on program data, and all other countries based on survey data. No data available for Sweden. Source: OECD, OECD Health Data, December 2016.
6. Percent of adults over age 65-with influenza vaccination in past year, 2014. Data from 2013 in the US, from 2012 in Germany, and 2010 in Switzerland. No data since 2010 in Australia. Source: OECD, OECD Health Data, December 2016.
7. Avoidable hospital admissions for diabetes, age-sex standardized rates per 100,000, 2013. Data from 2012 in New Zealand, Switzerland and the US, and from 2011 in the Netherlands. Source: OECD, OECD Health Care Quality Indicators, 2015.
8. Avoidable hospital admissions for asthma, age-sex standardized rates per 100,000, 2013. Data from 2012 in New Zealand, Switzerland and the US, and from 2011 in the Netherlands. Source: OECD, OECD Health Care Quality Indicators, 2015.
9. Avoidable hospital admissions for congestive heart failure, age-sex standardized rates per 100,000, 2013. Data from 2012 in New Zealand, Switzerland and the US, and from 2011 in Netherlands. Source: OECD, OECD Health Care Quality Indicators, 2015.

Appendix 2B. Safe Care

10. Percent of adults who reported experiencing a medical, medication or lab mistake in the past two years, including at least one of the following: been given the wrong medication or wrong dose by a doctor, nurse, hospital or pharmacist; reported had a time you thought a medical mistake was made in your treatment or care; experienced delays in being notified about abnormal results; and/or been given incorrect results for diagnostic or lab test. Source: 2016 Commonwealth Fund International Health Policy Survey.
11. Percent of primary care physicians who report their practice has electronic clinical decision support, defined by at least two of these three functions: doctor routinely receives electronic alerts or prompts about a potential problem with drug dose or interaction; doctor routinely receives reminders for guideline-based interventions and/or tests using a computerized system; and/or doctor receives alert or prompt to provide patients with test results using computerized system. Source: 2015 Commonwealth Fund International Health Policy Survey of Primary Care Physicians.
12. Percent of adults who reported that a health care professional had not reviewed with them all the medications they take in the past year. Base: Taking two or more prescription medications regularly. Source: 2016 Commonwealth Fund International Health Policy Survey.

Appendix 2C. Coordinated Care

13. Percent of primary care physicians who reported that when a patient has been seen by a specialist, they “always” or “often” receive a report back with all relevant information and they “always” or “often” receive information that is timely and available when needed. Source: 2015 Commonwealth Fund International Health Policy Survey of Primary Care Physicians.
14. Percent of primary care physicians who reported that when a patient has been seen by a specialist, they “always” or “often” receive information about changes to their medication or care plan. Source: 2015 Commonwealth Fund International Health Policy Survey of Primary Care Physicians.
15. Percent of adults who reported that, in the past two years, there was a time when: a specialist did not have basic medical information or tests results from their regular doctor about the reason for visit; OR after they saw a specialist, their regular doctor did not seem informed and up to date about the care they received. Base: Regular doctor or place of care and saw or needed to see a specialist in past two years. Source: 2016 Commonwealth Fund International Health Policy Survey.
16. Percent of adults who reported experiencing any hospital discharge coordination problem, including at least one of the following: failure to discuss the purpose of taking a

APPENDIX 8. Mirror, Mirror Measure Descriptions and Source Notes (continued)

- medication, make arrangements for follow-up care with a doctor or other health professional, and receive written information about what to do after returning home and what symptoms to watch for. Base: Hospitalized in past two years. Source: 2016 Commonwealth Fund International Health Policy Survey
17. Percent of primary care physicians who reported they “always” receive notification that a patient has been seen in emergency room and they “always” receive notification that a patient is being discharged from hospital. Source: 2015 Commonwealth Fund International Health Policy Survey of Primary Care Physicians.
 18. Percent of primary care physicians who reported their practice communicates “routinely” with home care providers about their patients’ needs and the services to be provided. Base: Excluding those who responded “not applicable”. Source: 2015 Commonwealth Fund International Health Policy Survey of Primary Care Physicians.
 19. Percent of primary care physicians who reported their practice “frequently” coordinates care with social services or community providers. Source: 2015 Commonwealth Fund International Health Policy Survey of Primary Care Physicians.
- Appendix 2D. Engagement and Patient Preferences**
20. Percent of adults who reported their regular doctor “always” or “often” knows important information about their medical history. Base: Has a regular doctor or place of care. Source: 2016 Commonwealth Fund International Health Policy Survey.
 21. Percent of adults who reported their regular doctor “always” or “often”: spends enough time with them, and explains things in a way they could understand. Base: Has a regular doctor or place of care. Source: 2016 Commonwealth Fund International Health Policy Survey.
 22. Percent of adults who reported seeing same regular doctor for 5 years or more. Base: Has a regular doctor or place of care. Source: 2016 Commonwealth Fund International Health Policy Survey.
 23. Percent of adults over age 65 who reported that specialists “always” or “often” told them about treatment choices and involved them as much as they wanted in decision about care and treatment. Base: Saw or needed to see specialist in the past two years. Source: 2014 Commonwealth Fund International Health Policy Survey of Older Adults.
 24. Percent of adults who reported that doctors “always” treated them with courtesy and respect during their hospital stay. Base: Hospitalized in the past two years. Source: 2016 Commonwealth Fund International Health Policy Survey.
 25. Percent of adults who reported that nurses “always” treated them with courtesy and respect during their hospital stay. Base: Hospitalized in the past two years. Source: 2016 Commonwealth Fund International Health Policy Survey.
 26. Percent of adults with a chronic condition who reported that a doctor or health care professional discussed with them their main goals or priorities in caring for their condition in the past year. Base: Has at least one of the following chronic conditions: asthma or chronic lung disease; diabetes; heart disease; and hypertension. Source: 2016 Commonwealth Fund International Health Policy Survey.
 27. Percent of adults with a chronic condition who reported that a doctor or health care professional discussed with them their treatment options, including side effects, in the past year. Base: Has at least one of the following chronic conditions: asthma or chronic lung disease; diabetes; heart disease; and hypertension. Source: 2016 Commonwealth Fund International Health Policy Survey.
 28. Percent of adults over age 65 who reported they had a written plan or document describing the health care treatment they want or do not want at the end of their life. Source: 2014 Commonwealth Fund International Health Policy Survey of Older Adults.
 29. Percent of adults over age 65 who reported they had a written document that names someone to make treatment decisions for them if they cannot make decisions for themselves. Source: 2014 Commonwealth Fund International Health Policy Survey of Older Adults.
- Appendix 3. Access**
- Affordability*
30. Percent of adults who reported they had a cost-related access problem in the past year, including at least one of the following: did not fill a prescription; skipped recommended medical test, treatment, or follow-up; or had a medical problem but did not visit doctor or clinic in the past year because of cost. Source: 2016 Commonwealth Fund International Health Policy Survey.
 31. Percent of adults who skipped dental care or check up because of cost in the past year. Source: 2016 Commonwealth Fund International Health Policy Survey.
 32. Percent of adults whose insurance denied payment for medical care or did not pay as much as expected in the past year. Source: 2016 Commonwealth Fund International Health Policy Survey.
 33. Percent of adults who had serious problems paying or were unable to pay medical bills in the past year. Source: 2016 Commonwealth Fund International Health Policy Survey.
 34. Percent of primary care physicians who reported their patients “often” have difficulty paying for medications or out-of-pocket costs. Source: 2015 Commonwealth Fund International Health Policy Survey of Primary Care Physicians.

APPENDIX 8. Mirror, Mirror Measure Descriptions and Source Notes (continued)

35. Percent of adults whose out-of-pocket expenses for medical bills were more than US\$1,000 in the past year. Source: 2016 Commonwealth Fund International Health Policy Survey.

Timeliness

36. Percent of adults who had a regular doctor or place of care. Source: 2016 Commonwealth Fund International Health Policy Survey.
37. Percent of adults whose regular doctor “always” or “often” answered the same day when contacted with a question. Base: Has a regular doctor or place of care. Source: 2016 Commonwealth Fund International Health Policy Survey
38. Percent of adults who reported that the last time they needed medical attention, they were able to see a doctor or nurse on the same or next day. Base: Excludes those who did not need to make an appointment to see a doctor/nurse. Source: 2016 Commonwealth Fund International Health Policy Survey.
39. Percent of adults who reported it was “very” or “somewhat” difficult to get medical care in the evening, weekend, or on a holiday without going to the emergency room. Base: Excludes those who did not seek after-hours care. Source: 2016 Commonwealth Fund International Health Policy Survey.
40. Percent of adults who reported their waiting time in the emergency room was two hours or more. Base: Used an emergency room in the past two years. Source: 2016 Commonwealth Fund International Health Policy Survey
41. Percent of primary care physicians who reported their patients “often” experience difficulty getting specialized tests (e.g., CT, MRI). Source: 2015 Commonwealth Fund International Health Policy Survey of Primary Care Physicians.
42. Percent of primary care physicians who reported their patients “often” experience long wait times to receive treatment after diagnosis. Source: 2015 Commonwealth Fund International Health Policy Survey of Primary Care Physicians.
43. Percent of adults who reported their waiting time to see a specialist was two months or more. Base: Saw or needed to see a specialist in past two years. Source: 2016 Commonwealth Fund International Health Policy Survey.
44. Percent of adults who reported waiting four months or more for elective/non-emergency surgery. Base: Needed elective surgery in past two years. Source: 2016 Commonwealth Fund International Health Policy Survey.
45. Percent of primary care physicians who reported their practice has an arrangement for patients to see a doctor or nurse after hours without going to the emergency room. Source: 2015 Commonwealth Fund International Health Policy Survey of Primary Care Physicians.

Appendix 4. Administrative Efficiency

46. Percent of primary care physicians who reported the time they and their staff spend on administrative issues related to insurance or claims was a “major” problem. Source: 2015 Commonwealth Fund International Health Policy Survey of Primary Care Physicians.
47. Percent of primary care physicians who reported the time they and their staff spend getting patients needed medications or treatment because of coverage restrictions was a “major” problem. Source: 2015 Commonwealth Fund International Health Policy Survey of Primary Care Physicians.
48. Percent of primary care physicians who reported the time they and their staff spend on administrative issues related to reporting clinical or quality care data to government or other external entities such as health insurance plans was a “major” problem. Source: 2015 Commonwealth Fund International Health Policy Survey of Primary Care Physicians.
49. Percent of adults who visited the emergency room for a condition that could have been treated by their regular doctor, had he/she been available. Base: Has a regular doctor or place of care. Source: 2016 Commonwealth Fund International Health Policy Survey.
50. Percent of adults who reported that during the past two years there was a time when tests results or medical records were not available at the time of their scheduled medical care appointment. Source: 2016 Commonwealth Fund International Health Policy Survey.
51. Percent of adults who reported that during the past two years there was a time when a doctor ordered a medical test that they felt was unnecessary because the test had already been done. Source: 2016 Commonwealth Fund International Health Policy Survey.
52. Percent of adults who reported spending a lot of time on paperwork or disputes related to medical bills. Source: 2016 Commonwealth Fund International Health Policy Survey.

Appendix 5. Equity

53. Percent of adults who rated the medical care from their regular doctor or place of care as “fair” or “poor.” Base: Has a regular doctor or place of care. Source: 2016 Commonwealth Fund International Health Policy Survey.
54. See #30.
55. See #31.
56. See #33.
57. See #39.
58. See #43.
59. See #15.

APPENDIX 8. Mirror, Mirror Measure Descriptions and Source Notes (continued)

- 60. See #36.
- 61. See #21.
- 62. See #20.
- 63. See #2.

- 71. Breast cancer five-year relative survival rate. Data are from 2008-13 or latest available year. Data are from 2003-08 in Canada. Source: OECD, OECD Health Data, 2015.
- 72. Colon cancer five-year relative survival rate. Data are from 2008-13 or latest available year. Source: OECD, OECD Health Data, 2015.

Appendix 6. Health Care Outcomes*Population Health Outcomes*

- 64. Infant deaths per 1,000 live births, 2014. Data from 2013 in the US, and from 2012 in Canada and NZ. Source: OECD, OECD Health Data, December 2016.
- 65. Percent of adults age 18 to 64 with at least two of five common chronic conditions: joint pain or arthritis; asthma or chronic lung disease; diabetes; heart disease; and hypertension. Source: 2016 Commonwealth Fund International Health Policy Survey.
- 66. Life expectancy at age 60 in years, 2015. Source: WHO Global Health Observatory Data Repository, 2016.

Mortality Amenable to Health Care

- 67. Mortality amenable to health care, deaths per 100,000. Trends in amenable mortality for selected countries, 2000-2014. Data for 2014 in all countries except Canada (2011), France (2013), Netherlands (2013), New Zealand (2012), Switzerland (2013), UK (2013). Amenable mortality causes based on Nolte & McKee (2004). Mortality and population data derived from WHO mortality files, September 2016; population data for Canada and the USA derived from the Human Mortality Database. Age-specific rates standardised to the European Standard Population 2013. Contact: Marina.Karanikolos@lshtm.ac.uk. European Observatory on Health Systems and Policies (2017).
- 68. 10-year decline in mortality amenable to health care. Source: see #67.

Disease-Specific Health Outcomes

- 69. 30 day in-hospital mortality rate following acute myocardial infarction, deaths per 100 patients, 2013. Based on admissions data; rates are age-sex standardized for adults age 45 or older. Admissions resulting from transfers included in Australia, the Netherlands, Sweden and the UK. Data from 2012 in Switzerland and US, and 2011 in the Netherlands. Source: OECD, OECD Health Data, 2015.
- 70. 30 day in-hospital mortality rate following ischemic stroke, deaths per 100 patients, 2013. Based on admissions data; rates are age-sex standardized for adults age 45 or older. Admissions resulting from transfers included in Australia, the Netherlands, Sweden and the UK. Data from 2012 in Switzerland and US, and 2011 in the Netherlands. Source: OECD, OECD Health Data, 2015.



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