Chapter 19: Do Americans Get Good Value for Money in Health Care?

By:
Christopher Conover

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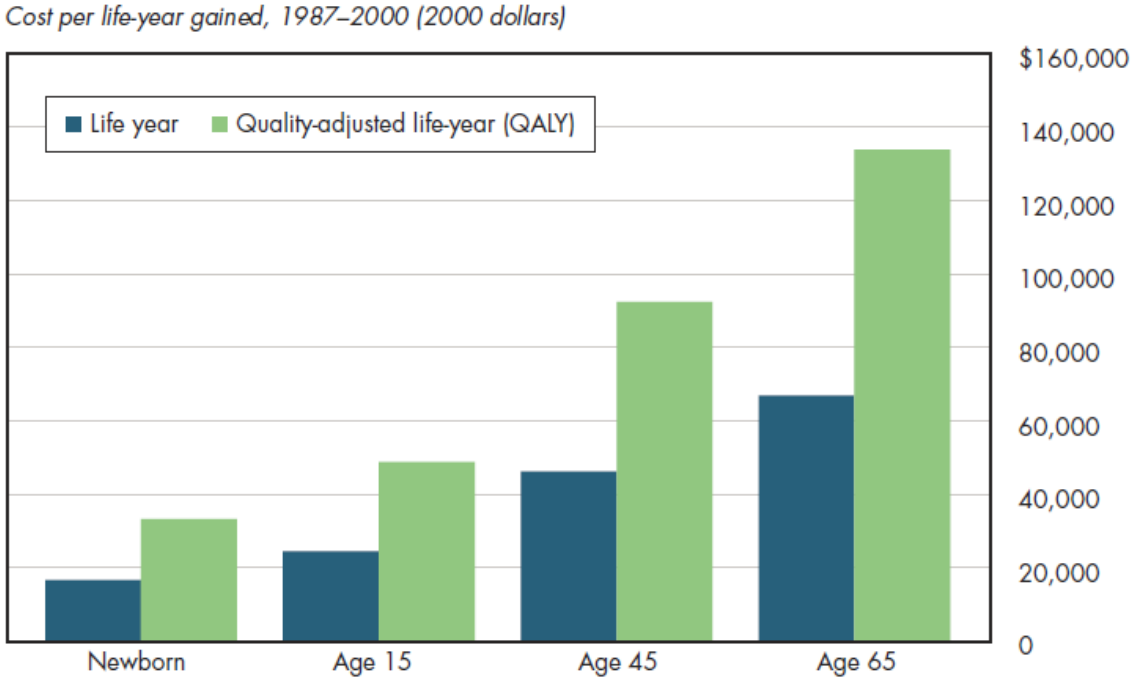
Chapter 1

19.1 US Health Spending Appears to Provide Good Value for the Money[1]

The United States appears to have attained good value for the money from the trillions of dollars spent on health care since 1987 (figure 19.1a). The average cost-effectiveness of this sizable expenditure is only approximate because certainty about how much of the gain in life expectancy over this period can be attributed to medical care is not achievable.

19.1a Even after accounting for the resources spent to add a year of healthy life, U.S. health spending appears to provide good value for the money



Studies of individual factors (for example, infant mortality and mortality due to heart problems) suggest that medical care improvements have been responsible for at least half of the observed mortality reductions during this time. Thus, the numbers in figure 19.1a result from an assumption that half of life expectancy

[1]This content is available online at <https://hub.mili.csom.umn.edu/content/m10060/1.1/>.

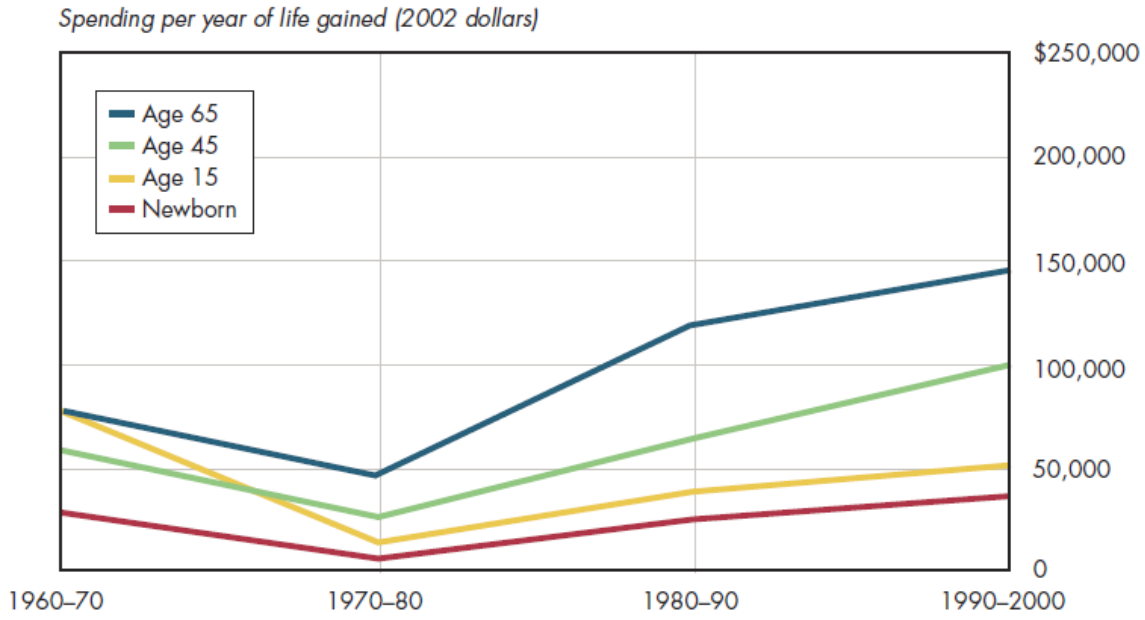
gains are from expenditures on medical care, as opposed to investments in highway safety, changes in drunk driving laws, speed limits, and other non-medical factors that surely also made a contribution.

Even precisely specifying the exact contribution of health spending to better health, some might disagree about what threshold to use to distinguish spending that was *cost-effective* from that which was not. Medicare spends approximately $75,000 a year on kidney dialysis for each patient who has end-stage renal disease. Without it, such patients would die. Thus, a minimum estimate of the value of life in the United States (implied by our willingness to pay for it) is $75,000 per year. As figure 19.1a shows, spending for all age categories was less than this threshold. Thus, on average, we apparently received good value for the money from health spending.

However, not all added years of life are lived in good health (for example, added years for someone who is bedridden). A quality-adjusted life-year (QALY) is one in good health, that is, two years in bed might be viewed as one QALY. For the elderly, spending per added QALY was more than $130,000. Reasonable people can disagree about whether such spending was worthwhile.

A somewhat less-detailed analysis has examined health spending since 1960. This too shows mixed results. Spending per added year of life generally was less than the $75,000 threshold for most ages and times (figure 19.1b). Again, this suggests that health spending provided good value for the money on average, but the cost to achieve an added year of life appears to be increasing. Even being cost-effective on average does not mean that there is no waste or inefficiency in how we spend health dollars.

19.1b On average, increases in U.S. health spending appear to have provided reasonable value for the money



Note: Spending per year of life gained is defined by the change in spending over each decade divided by the change over the decade in expected years of life at the ages shown.

1.1 Downloads

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- Figure 19.1b Editable Slide (can be formatted as desired)[5]

1.2 References

A. Cutler DM. A Health Report Card for the Nation. ASHE Presentation. June 6, 2006. http://healtheconomics.us/conference/2006/plenaries/powerpoint/cutler- madison.ppt (accessed August 18, 2010).
B. Cutler DM, A Rosen and S Vijan. The Value of Medical Spending in the United States, 1960-2000. The New England Journal of Medicine 2006; 355(9):920-28.

[3]https://hub.mili.csom.umn.edu/content/m10060/latest/19.1aDATA.ppt
[4]https://hub.mili.csom.umn.edu/content/m10060/latest/19.1bIMG.ppt
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Chapter 2

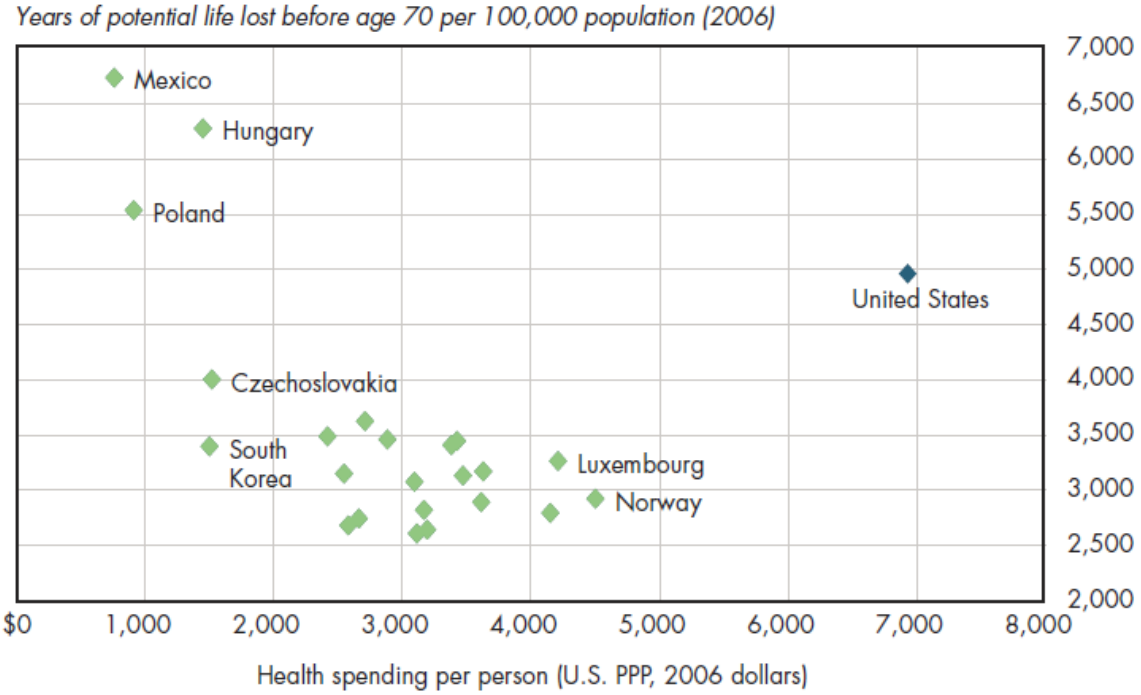
19.2 Geographic Differences in Broad Health Outcomes Are Associated with Health Spending[1]

Among industrialized nations, some association exists between expenditures on health and better health outcomes. One approximate cross-national measure of health outcomes is the number of years lost due to premature death. Because life expectancy in industrialized countries now exceeds 70 years, deaths before age 70 are premature. Using this metric, someone dying at age 20 would have lost 50 years of life, whereas someone dying at age 69 would have lost only one year. Giving much greater weight to deaths occurring early in life seems superior to treating all deaths equally. Adding all the years of lost life at all ages and dividing by population numbers provides a standardized measure across countries of different sizes.

Using such a measure, the burden from premature death appears to decline with increased health spending (figure 19.2a). The United States is a rather extreme outlier. It spends much more money on health care but performs much worse on this metric. Some use numbers such as these to argue that the United States does not get good value for the money compared with that of other countries.

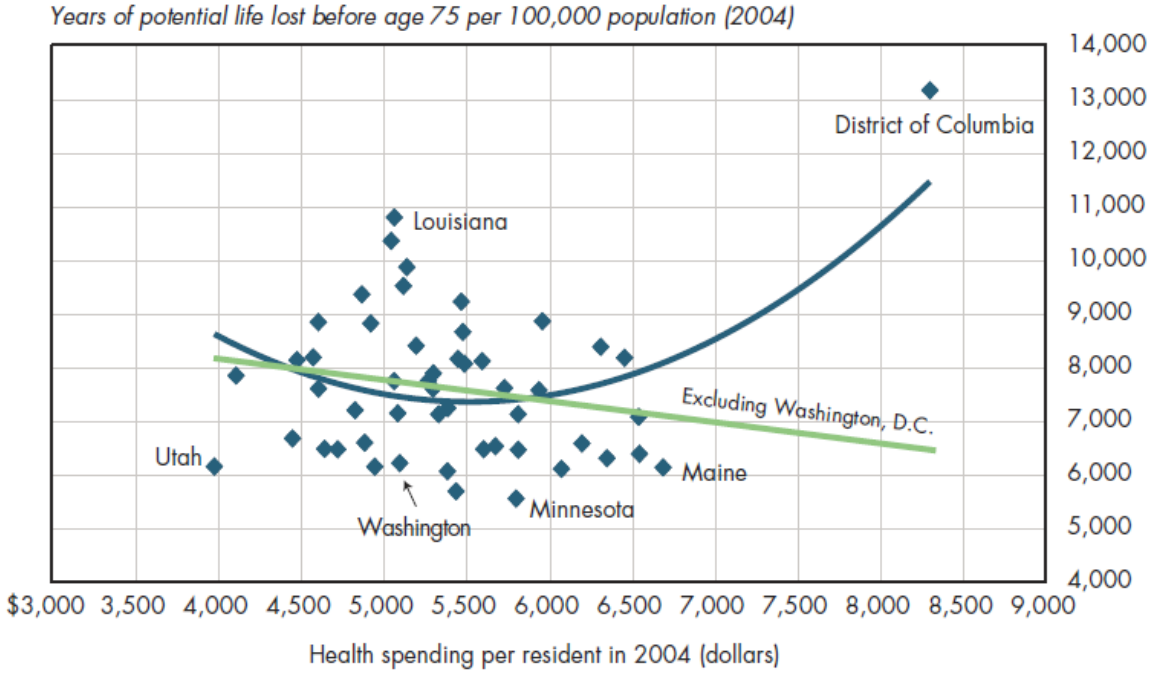
[1]This content is available online at <https://hub.mili.csom.umn.edu/content/m10061/1.1/>.

19.2a Years lost due to premature death are many more in the United States than in most other industrialized nations



Data from the United States illustrate the limitations of such conclusions (figure 19.2b). First, for any given level of health spending, there is almost a two-to-one difference in the premature death burden. Thus, the huge difference between Louisiana and Washington cannot be attributed to health spending because both states spend almost identical amounts. Conversely, Utah and Maine have almost identical premature death burdens, yet Maine spends almost 75 percent more on health care per resident. Washington, D.C. is an outlier to approximately the same extent that the United States is among industrialized countries. If health spending determined health outcomes, these data would imply worse outcomes with higher spending. Removing D.C.'s unique experience, health outcomes tend to improve with increasing health spending, but other factors clearly make a difference.

19.2b Wide differences in years lost due to premature death exist across states, even with identical health spending levels



Note: The curved line is a best-fitting prediction line using all the states and the District of Columbia. The straight line is a best-fitting prediction line that excludes the District of Columbia.

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2.2 References

A. Author's calculations.
B. Department of Health and Human Services. Centers for Disease Control and Prevention.
C. Department of Health and Human Services. Centers for Medicare and Medicaid Services.
D. Organisation for Economic Co-operation and Development.

[2]https://hub.mili.csom.umn.edu/content/m10061/latest/19.2aIMG.ppt
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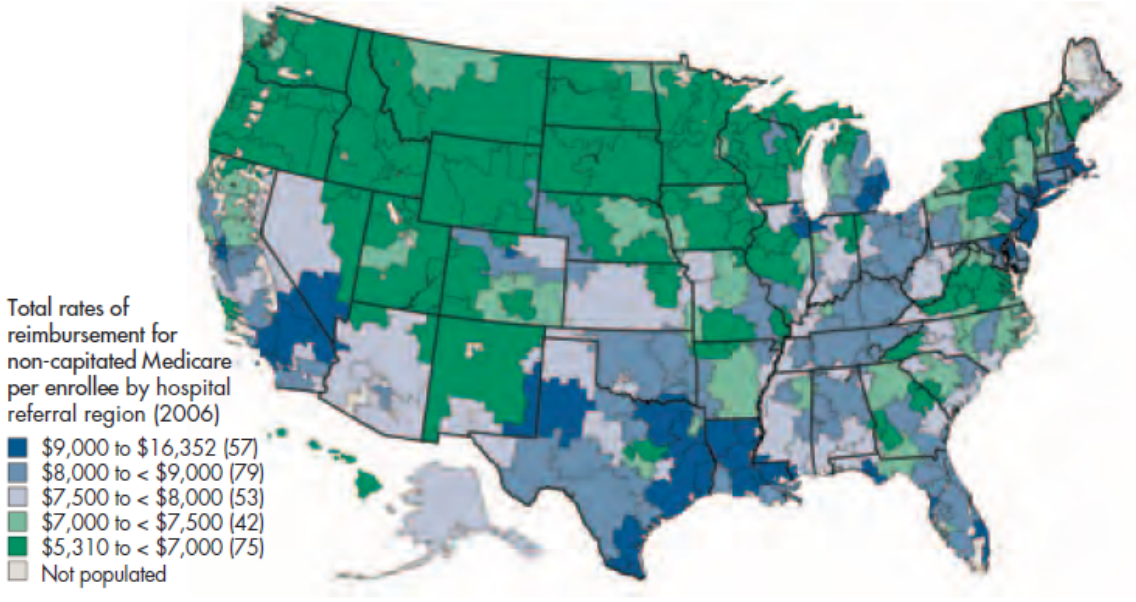
[5]https://hub.mili.csom.umn.edu/content/m10061/latest/19.2bDATA.ppt

Chapter 3

19.3 Medicare Spending & Spending Growth Vary Substantially across Geographical Areas[1]

There is almost a three-to-one difference in Medicare spending per enrollee between hospital markets with the least amount of spending and those with the highest (figure 19.3a). These enormous differences by location are not a new phenomenon, having been observed for decades. Many factors contribute to these differences, but they are not entirely well understood. Because Medicare eligibility and benefits are the same across the entire country, these factors cannot explain the large geographic variations in Medicare spending.

19.3a Medicare reimbursements per enrollee vary substantially across hospital market areas in the United States



Note: Non-capitated Medicare is equivalent to fee-for-service Medicare; i.e., it excludes spending related to members of Medicare Advantage plans such as Kaiser or other HMOs. Numbers in parentheses represent the number of market areas in each category.

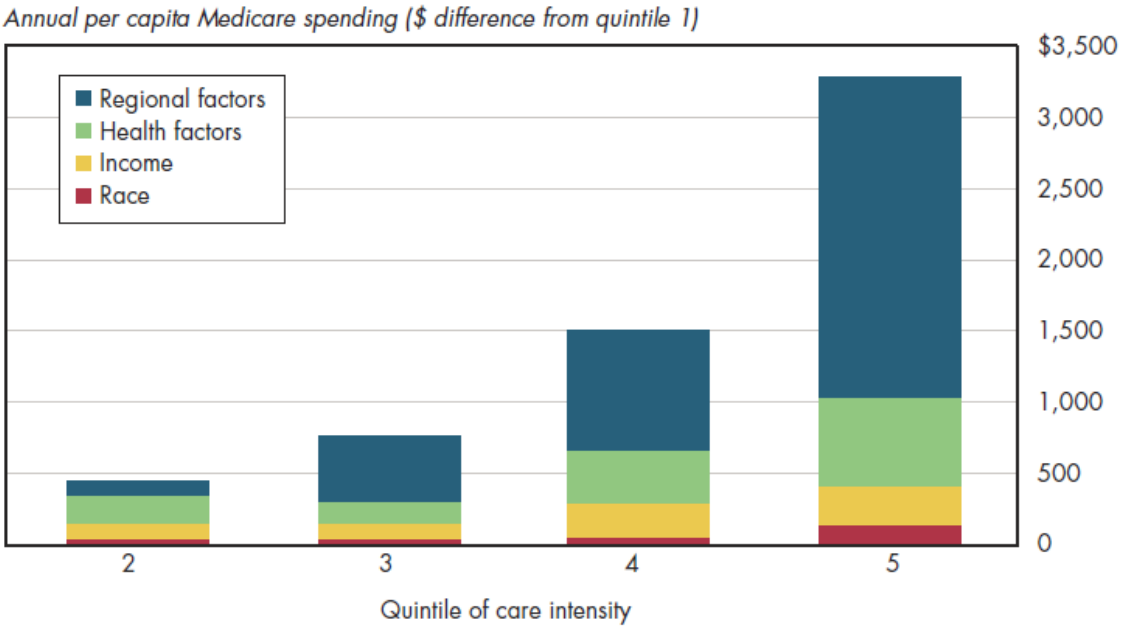
[1]This content is available online at <https://hub.mili.csom.umn.edu/content/m10062/1.1/>.

The availability of resources contributes to these spending differences. Geographic areas that have more physicians or hospital beds relative to the population tend to spend more, which in turn can attract more physicians. Differences in organizational and physician decision-making, which some characterize as *practice style*, also play a critical role in these financial differences. Many discretionary decisions, such as whether a patient warrants admission to the hospital, hospital lengths of stay, whether a patient is referred to a specialist, the ordering of various tests, or how often to see chronically ill patients, collectively drive much of the variation.

Medicare's fee-for-service system also plays a role. Geographic variations in Medicare spending are not always replicated in private health plans, in which most members are in some form of managed care. Increases in Medicare spending also vary geographically. Areas that have high spending growth are not generally areas with the highest spending *levels*. Thus, Medicare's geographic variations might decrease over time.

Differences in income, race, and health status play a relatively minor role in explaining the geographic variations in Medicare spending (figure 19.3b). Income can explain health-spending differences across countries and individual states. However, income explains little of the difference between Medicare regions that spend more compared with those in the bottom 20 percent of spending.

19.3b Differences in income, race or health explain less than half the spending differences across regions



Note: The vertical bars show the proportion of the difference in spending between regions in each of the four top care-intensity quintiles and the regions in the lowest quintile that can be explained by differences in patients' race, income, health factors (self-reported health, presence or absence of diabetes, high blood pressure, body-mass index, and smoking history), and regional factors. All models control for age, gender, and urban or rural residence.

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- Figure 19.3b Image Slide (as it appears above)[4]
- Figure 19.3b Editable Slide (can be formatted as desired)[5]

3.2 References

A. Fisher E, D Goodman, J Skinner and K Bronner. Health Care Spending, Quality, and Outcomes. Dartmouth Institute for Health Policy and Clinical Practice. Hanover NH. February 27, 2009.
B. Sutherland JM, ES Fisher and JS Skinner. Getting Past Denial—The High Cost of Health Care in the United States. New England Journal of Medicine 2009; 361:1227-30.

[3]https://hub.mili.csom.umn.edu/content/m10062/latest/19.3aDATA.ppt
[4]https://hub.mili.csom.umn.edu/content/m10062/latest/19.3bIMG.ppt
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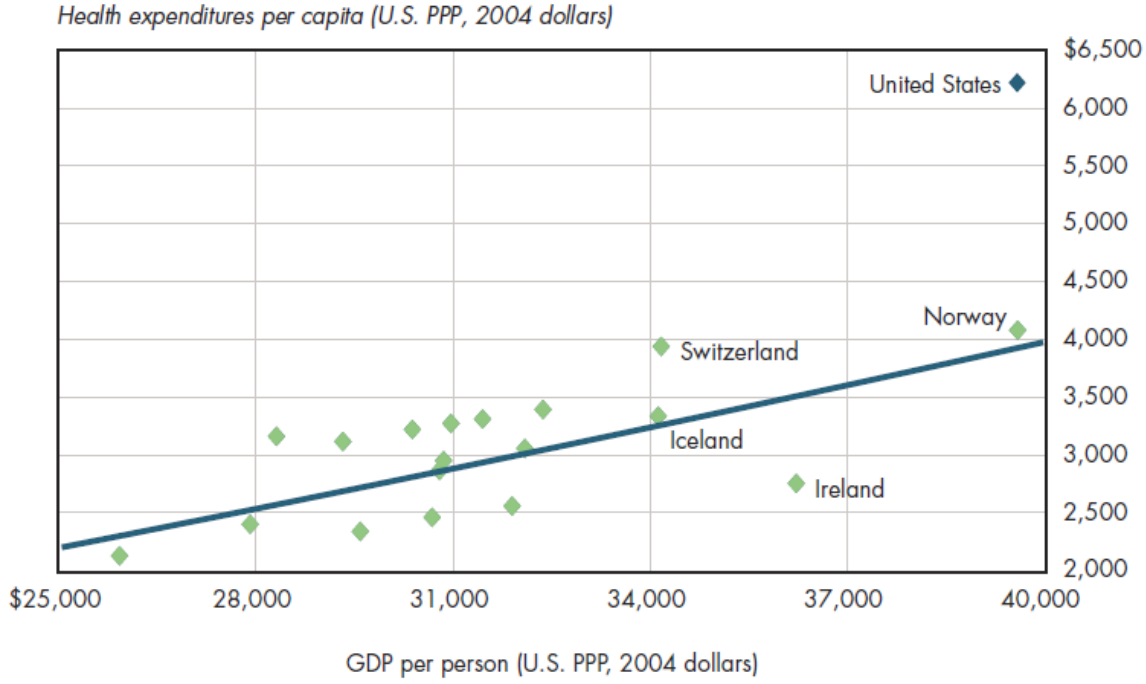
Chapter 4

19.4 US Health Spending per Capita Is Not Far from Expected[1]

There is a widespread perception that the United States spends "too much" on health care. Health care is a "normal" good. As incomes increase, so does consumption of health care. Thus, an important reason that the United States has much higher health spending per person is that it also has much higher GDP per person than most other countries have. The relationship between income and health is sufficiently tight that income alone explains approximately 90 percent of the differences in health spending across countries. A statistical prediction line is one that best fits income versus health spending data for OECD countries. The United States is far above its predicted value when using such a line (figure 19.4a).

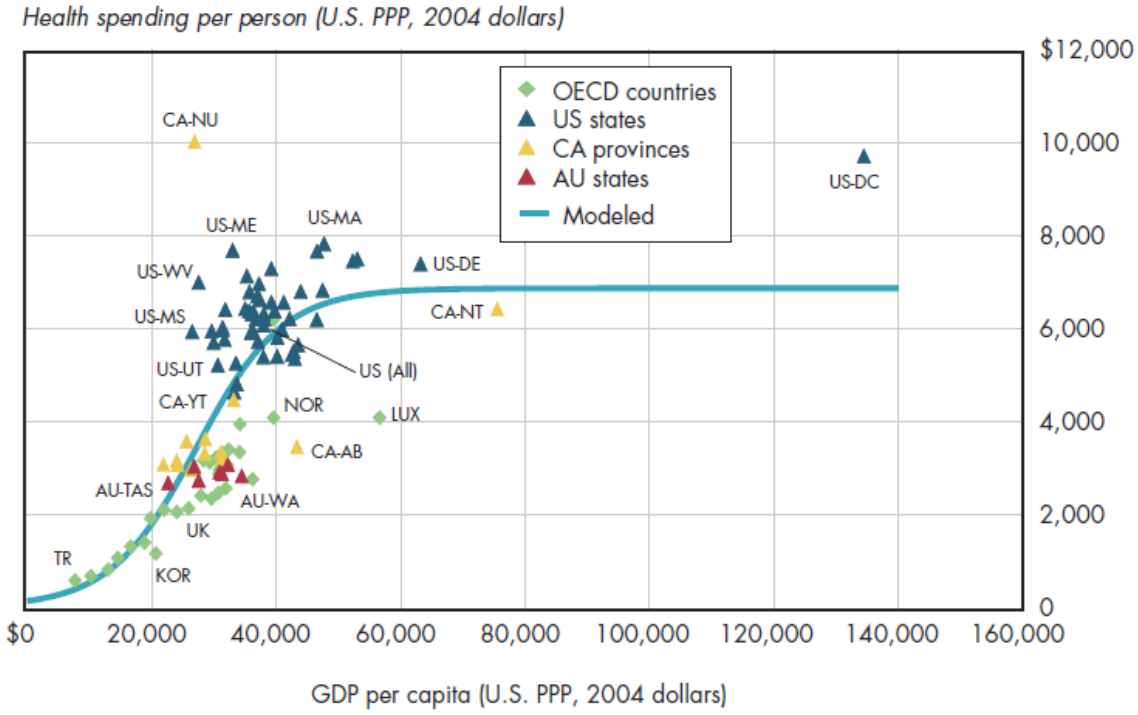
19.4a The conventional wisdom is that U.S. health spending is far above its expected level, given the nation's per person GDP



[1]This content is available online at <https://hub.mili.csom.umn.edu/content/m10063/1.1/>.

The United States is a huge country that dwarfs many of the industrialized countries of Europe, Asia, or North America. For example, if the U.S. states were countries, six would rank among the top 20 countries in the OECD in terms of GDP. Health spending per resident varies by a factor of two to one across states. Separating U.S. states (including D.C.), 13 Canadian provinces, and seven Australian states/territories, the relationship between GDP per capita and health spending per capita changes considerably (figure 19.4b). Both Nunavut in Canada and D.C. are clear outliers. Calculating the best-fitting prediction line that ignores these outliers, the line increases initially but eventually plateaus. (Were the outliers included, this line would continue to rise although much slower than as illustrated in figure 19.4a.)

19.4b When sub-national areas are taken into account, U.S. health spending is almost exactly where it is expected to be, given U.S. GDP



This alternative S-shaped line in figure 19.4b fits the data better (it explains more of the spending variation) than does the line in figure 19.4a. Although U.S. states are both above and below the line, health spending per capita for the United States as a whole is almost exactly on the prediction line. The small difference between actual and predicted health spending illustrated in figure 19.4b does not prove that the nation's health spending is what it "should" be nor does the large difference in actual and predicted health spending in figure 19.4b. The size of the difference is sensitive to the assumed shape of the prediction line. Reasonable people can disagree about which shape more accurately predicts where other countries will be when they reach the U.S. level of GDP per capita.

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4.2 References

A. Eyermann C. Redefining the Health Care Debate—Part Two. Political Calculations. http://politicalcalculations.blogspot.com/2009/07/redefining-health-care-debate-part-2.html (accessed September 1, 2010).
B. Organisation for Economic Co-operation and Development.

[4]https://hub.mili.csom.umn.edu/content/m10063/latest/19.4bIMG.ppt
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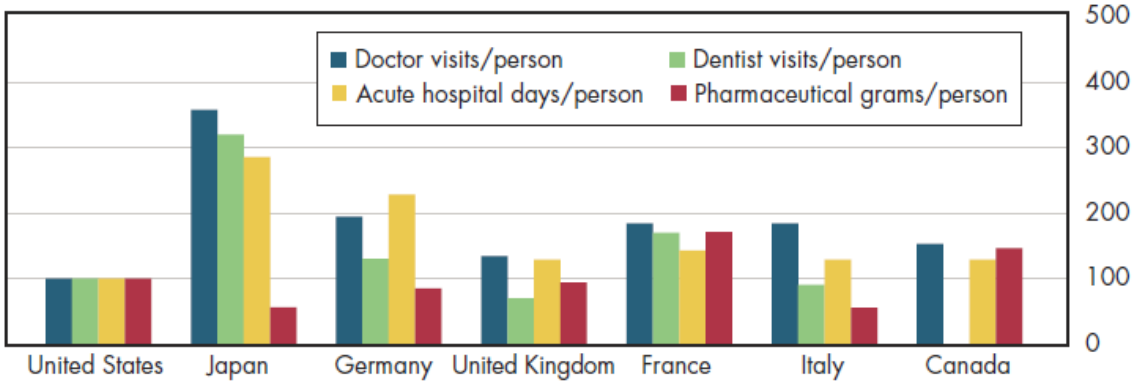
Chapter 5

19.5 Increased US Health Spending Cannot Be Explained by Health Services Use[1]

Increased U.S. health care spending generally does not appear to be the result of more health care services use compared with use in other industrialized nations. The annual number of physician visits, for example, is as much as 100 to 200 percent higher in other G7 countries (figure 19.5a). Similarly, each one of these nations exceeds the United States in acute hospital days per person.

19.5a Compared with other G7 countries, the United States generally uses fewer acute care services such as doctor visits and hospital care, but not pharmaceuticals

Percentage indexes: 100=U.S. rate of use (2006)



Note: Figures for pharmaceuticals are for 2005.

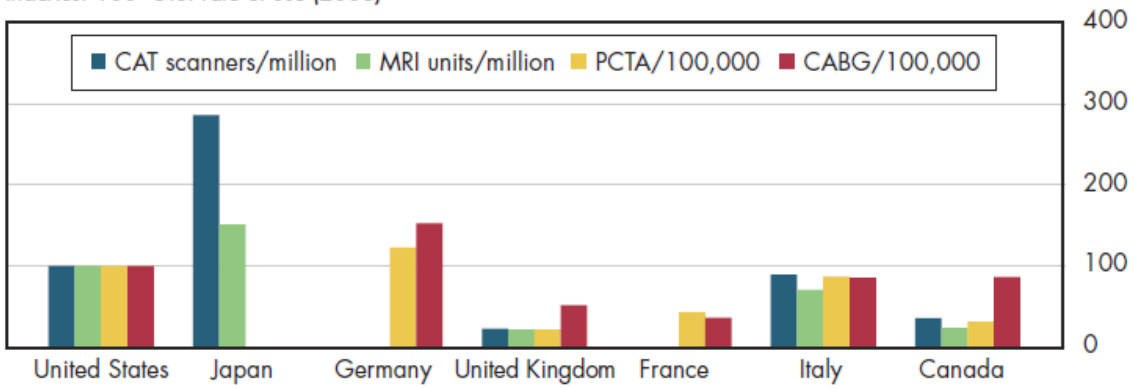
Pharmaceutical use, measured in grams per capita, is higher in the United States compared with other G7 countries (except France and Canada). On average, the differences are not large. Because pharmaceuticals account for only one-eighth of all health spending, these differences cannot explain per capita spending differences measured in double-digit percentages.

U.S. use of diagnostic technology (such as CAT scanners or MRI machines) and advanced medical procedures is higher than in other G7 nations, except in Germany and Japan. Examples of advanced medical procedures include percutaneous transluminal coronary angioplasty (PTCA), used to clean out clogged ar-

[1]This content is available online at <https://hub.mili.csom.umn.edu/content/m10064/1.1/>.

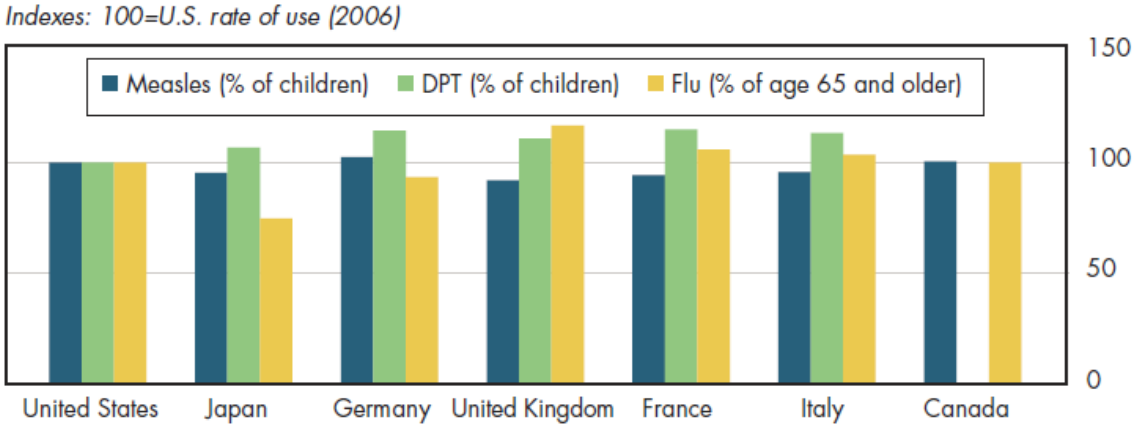
teries, and coronary artery bypass graft (CABG) surgery, which also generally is used more in the United States than elsewhere (figure 19.5b). However, the aggregate spending on such procedures is not sufficient to account for spending differences as large as currently exist.

19.5b U.S. use of technology generally is much more than use by the other G7 nations, except Japan and Germany



Immunization rates for children (for example, for measles, or for diphtheria/pertussis/tetanus [DPT]) and for the elderly (flu shots) generally are the same as rates in the rest of the G7 (figure 19.5c).

19.5c Immunization rates in the United States are generally the same as those in other G7 nations



Health professionals in the United States generally are paid much more than their counterparts are elsewhere in the G7 (refer to figure 11.4a). Because labor costs account for such a large part of the health sector, it would be difficult to avoid higher U.S. spending levels unless the use of services by Americans was drastically lower than elsewhere. Many experts believe that the United States also pays the highest prices for medical equipment, in part because it tends to be an early adopter of new technologies. Higher introductory prices typically are paid by early adopters.

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5.2 References

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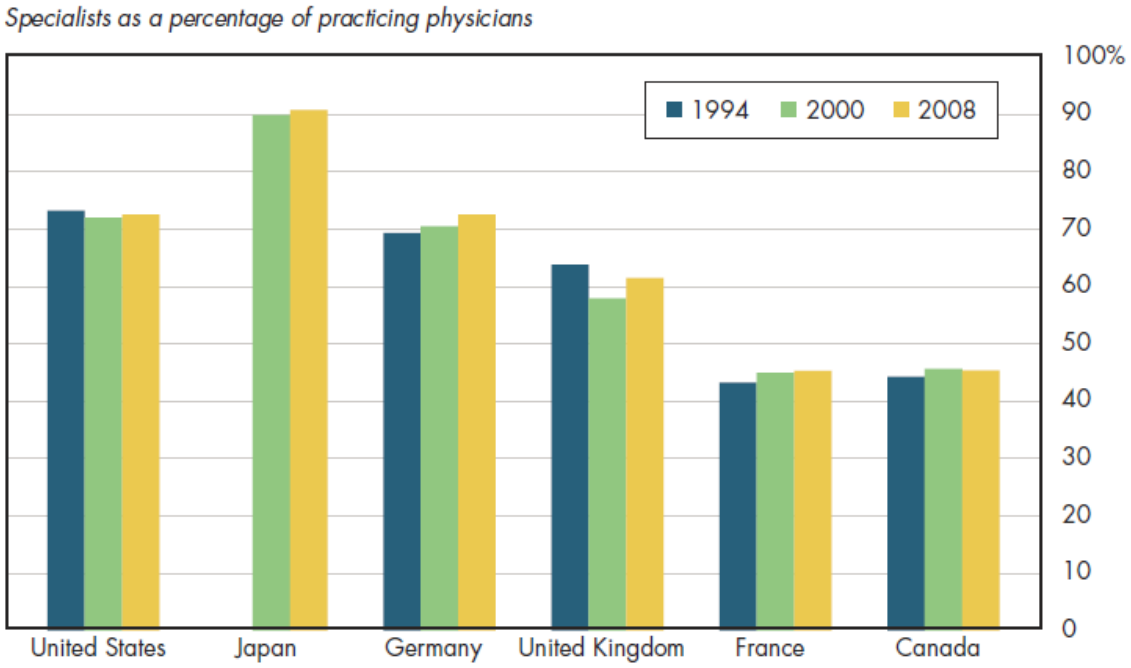
[6]https://hub.mili.csom.umn.edu/content/m10064/latest/19.5cIMG.ppt
[7]https://hub.mili.csom.umn.edu/content/m10064/latest/19.5cDATA.ppt

Chapter 6

19.6 US Relies Heavily on Specialists in Contrast to Primary Care Doctors[1]

In the United States, seven in 10 physicians are specialists (figure 19.6a). This is higher than in France or Canada, where fewer than half of practicing doctors are specialists. However, by this same metric, U.S. reliance on specialists is only somewhat higher than in the UK, the same as in Germany, and is lower than in Japan.

19.6a The United States is not alone in relying heavily on specialty physician care

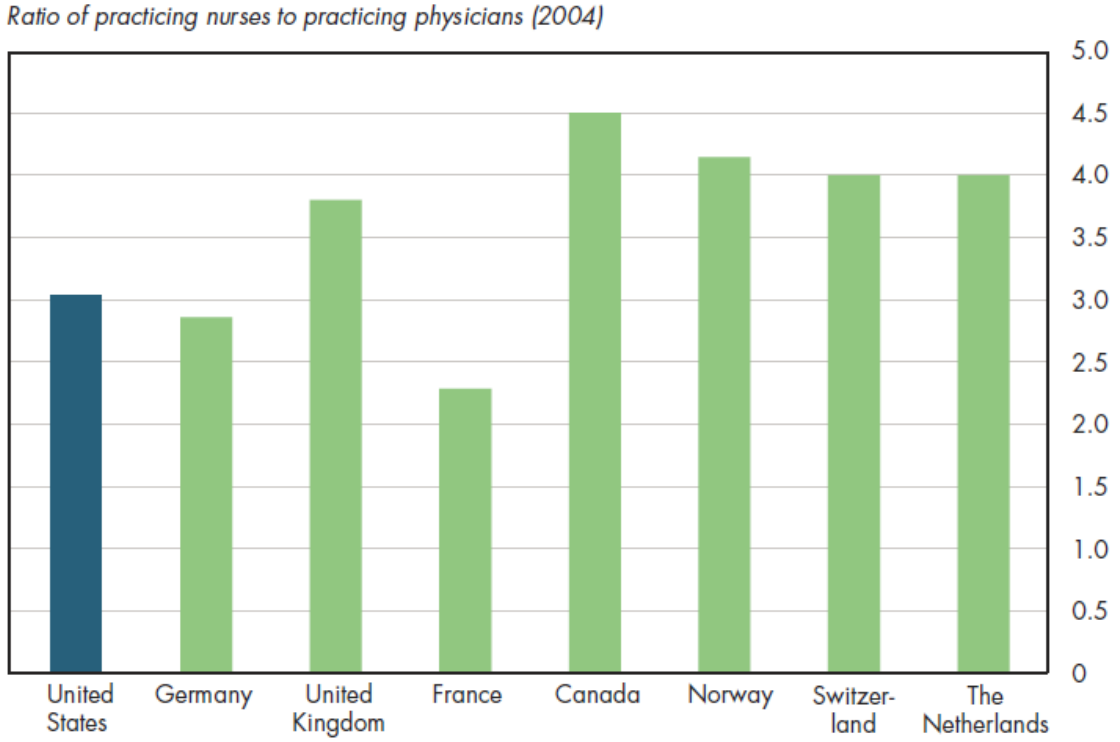


In most countries, the specialty share has been increasing since 1994. In the United States, the specialty share is down slightly from its 1994 level. However, in the most recent residency match, fewer than 20 percent of medical residencies were in primary care, suggesting that absent some major change in policy, the specialty share is likely to increase in the future.

[1]This content is available online at <https://hub.mili.csom.umn.edu/content/m10065/1.1/>.

The ratio of nurses to physicians in the United States is approximately in the middle of the remaining OECD countries for which such data are available (figure 19.6b). However, Canada's ratio is 50 percent higher than in the United States and in countries most comparable to the United States in terms of health spending per capita (the Netherlands, Norway, and Switzerland), the ratio is approximately 30 percent more. No strong inferences can be made about either efficiency or quality from these comparisons, but they illustrate how differently industrialized nations organize and deliver medical care.

19.6b The ratio of practicing nurses to doctors in the United States is comparable to the ratios in other OECD nations



The new health reform law has several provisions designed to expand the supply of primary care providers. The law included (starting in 2011) a 10 percent bonus for five years under the Medicare fee schedule, to family doctors, internists, geriatricians, nurse practitioners, and physician assistants who provide 60 percent of services in qualifying evaluation and management codes. The law also requires states to increase Medicaid payment rates to Medicare levels in 2013 and 2014 for providers who deliver certain primary care services. These measures might encourage more medical students to enter these fields and also might delay the retirement of those thinking about quitting their practices.

If implemented, the new health reform law will increase demand for primary care. How much of that ultimately is provided through physicians as opposed to less expensive mid-level providers (for example, physician assistants or nurse practitioners) remains to be seen.

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Chapter 7

19.7 Americans Pay Higher Prices for Brand-Name Drugs among Major Industrialized Countries[1]

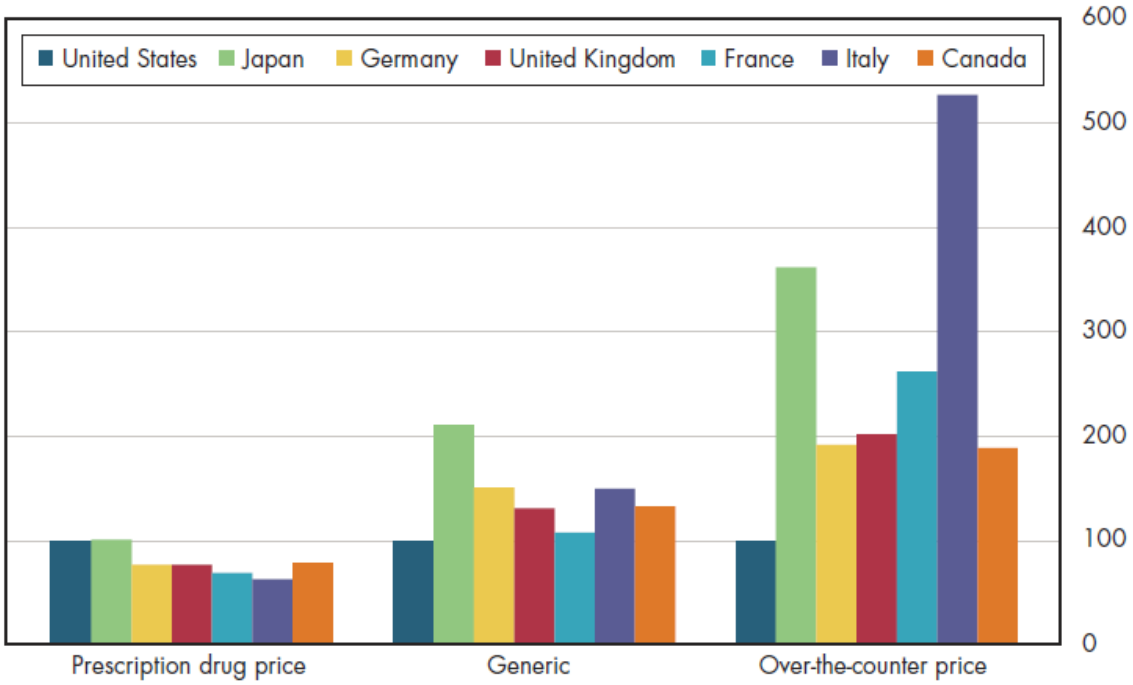
U.S. pharmaceutical spending per capita is higher than in the rest of the G7. This is true whether spending is measured in terms of manufacturer prices or in terms of public prices that include wholesaler and retailer distribution margins and value-added taxes. Americans tend to use stronger drug formulations. Thus, even though U.S. prescription drug use is second lowest within the G7 based on doses per capita, the United States is exceeded only by Canada and France in terms of number of grams per capita.

Americans pay higher prices for drugs on patent, but much lower prices for generic medications and over-the-counter medications not requiring a prescription (figure 19.7a). Generic medications account for 70 percent of U.S. pharmaceuticals by volume but less than 20 percent by sales. Prices for brand-name drugs still enjoying patent protection can be set much higher. This allows the manufacturers to recoup the hundreds of millions of dollars in R&D costs that it takes on average to bring one new drug to market. Generics are less expensive in the United States because many factors in the pharmaceutical market contribute to making the generic sector extremely price competitive. Greater regulation, among other factors, contributes to higher generic prices elsewhere in the G7.

[1]This content is available online at <https://hub.mili.csom.umn.edu/content/m10066/1.1/>.

19.7a Americans generally pay more for drugs on patent than other nations in the G7 do but less for generic and over-the-counter products

Indexes: 100=U.S. (2005)

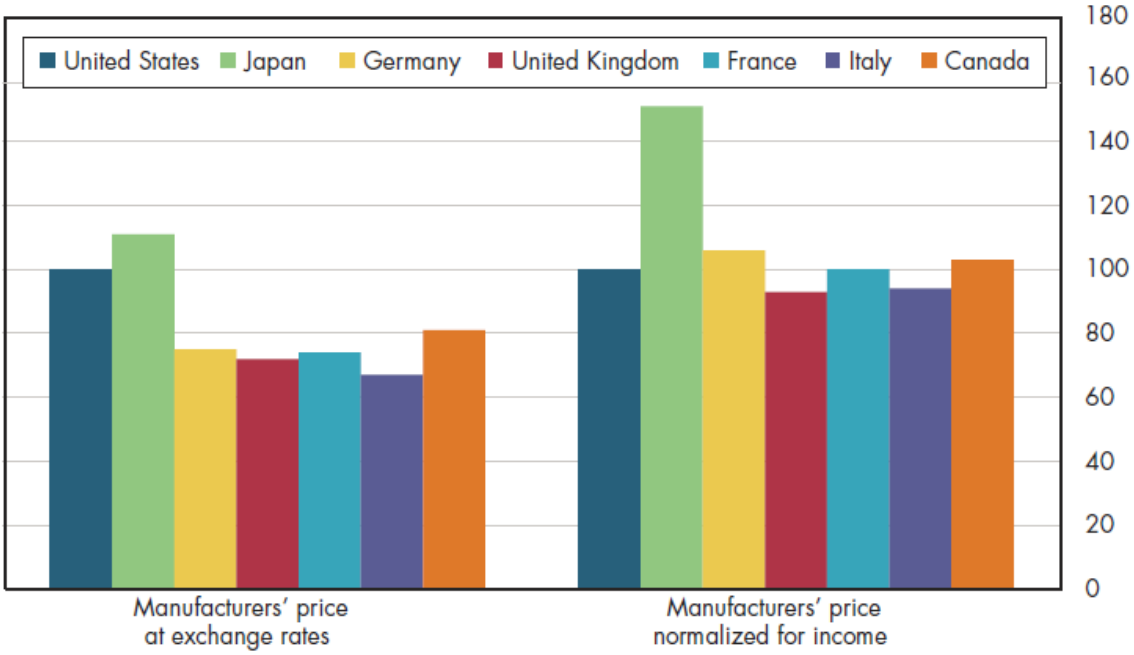


The prescription drug price index shown in figure 19.7a is a weighted average of brand name and generic prescription medications. This index illustrates that, except in Japan, the lower prices Americans pay for generics do not offset the higher prices they pay for patented pharmaceuticals. However, drugs, like most market commodities, are priced based on willingness to pay, which in turn reflects ability to pay.

Using manufacturers' prices converted to U.S. dollars at the prevailing exchange rate, the United States has higher pharmaceutical prices than any other G7 competitor except Japan. However, when this same price index is normalized to eliminate differences in GDP per capita (an approximate measure of average income), U.S. drugs are more affordable than in Japan, Germany, and Canada (figure 19.7b). Among the G7, only Italy and the UK have more affordable drugs than in the United States.

19.7b Manufacturers' prices generally are higher in the United States, but U.S. pharmaceuticals are generally more affordable because of higher incomes

Pharmaceutical price indexes: 100=U.S. (2005)



7.1 Downloads

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[5]https://hub.mili.csom.umn.edu/content/m10066/latest/19.7bDATA.ppt

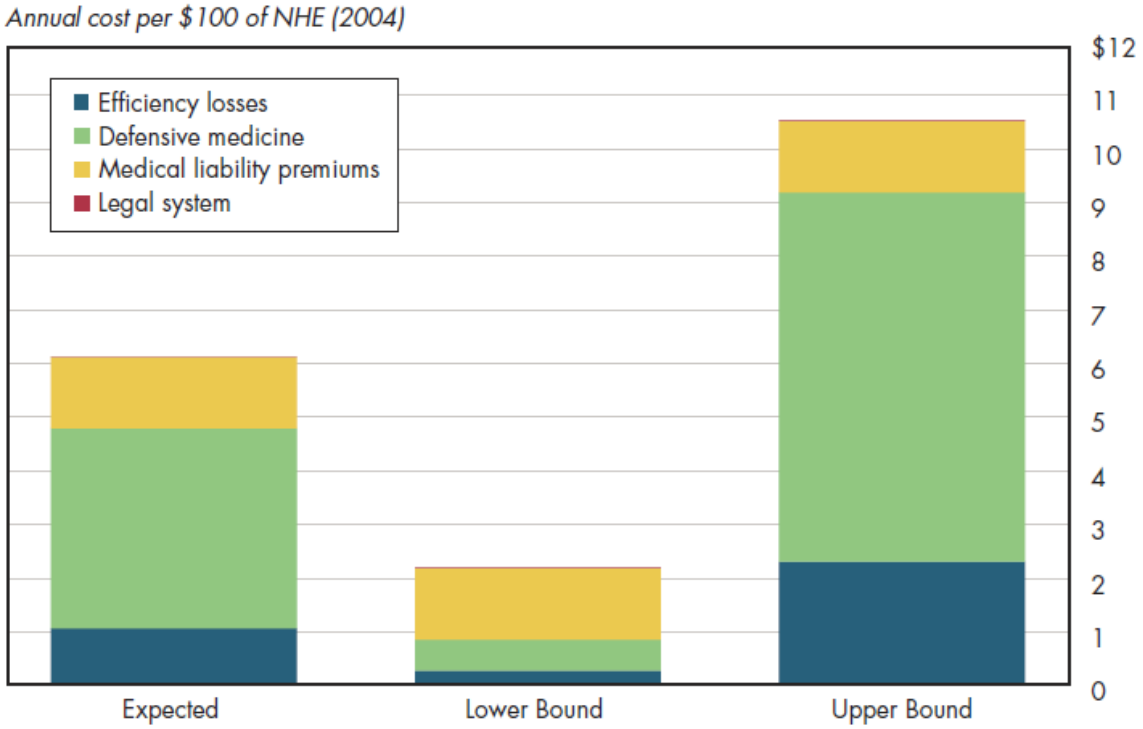
Chapter 8

19.8 Medical Malpractice Explains Some Difference in Health Spending between US and Competitors[1]

The direct and hidden costs of the medical tort system amount to approximately six dollars for every $100 in NHE (figure 19.8a). The visible costs of the legal system and medical liability premiums for health facilities and health professionals equal only approximately 1 percent of health spending.

[1]This content is available online at <https://hub.mili.csom.umn.edu/content/m10067/1.1/>.

19.8a The direct and indirect costs of the medical tort system amount to approximately six dollars for every 100 dollars of health spending

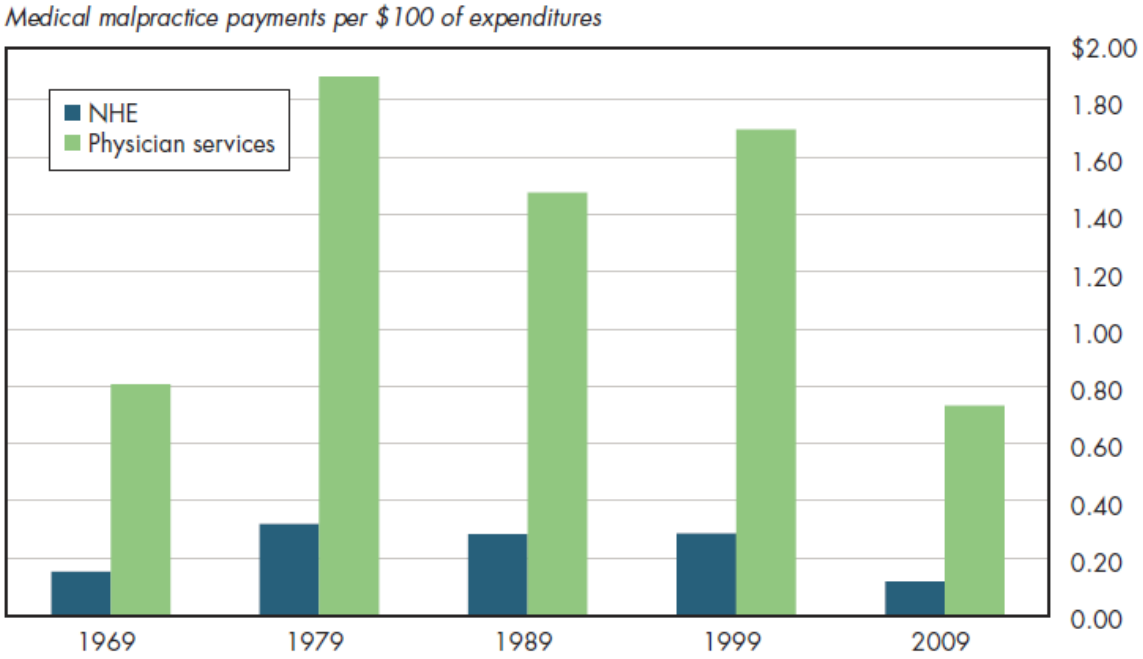


Note: Legal system costs are too small to be visible, but they are included in the figures shown.

Defensive medicine, which includes any unnecessary tests or procedures that would be eliminated absent the incentives created by the medical tort system, is almost four times as much as this direct cost. These direct and indirect costs of the medical tort system can be viewed as an excise tax that increases the cost of medical care. If so, then there is another hidden cost in the form of efficiency losses arising from the lost output associated with this medical tort system "tax." There is much uncertainty around these estimates. It is possible that they are as low as two dollars for every $100 in health spending, or as high as $10.

The BEA tracks the annual level of payments for medical liability claims. The United States has experienced a series of medical malpractice "crises" starting in the mid-1970s. Relative to the amount of either total NHE or expenditures only for physician services, these medical liability payments peaked in the 1970s. Currently, these payments represent a lower share of NHE or physician spending than in 1969 (figure 19.8b). This does not suggest that the medical tort system could not be improved, only that it has been relatively worse in the past. Good cross-national estimates of malpractice spending do not exist, but OECD data indicate that the United States has the third-highest rate of deaths from medical errors per 100,000 population.

19.8b Medical liability payments as a share of total or physician spending peaked in the 1970s and have declined through 2009



As a system for compensating victims, the medical tort system has been criticized as both inefficient and unfair. It is inefficient because fewer than 50 cents of every malpractice premium goes to paying victims. It is unfair to both patients and doctors because only a few of those injured due to medical negligence ever seek to recover damages and even fewer win awards. Conversely, many lawsuits filed involve doctors who were not negligent.

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[2]https://hub.mili.csom.umn.edu/content/m10067/latest/19.8aIMG.ppt
[3]https://hub.mili.csom.umn.edu/content/m10067/latest/19.8aDATA.ppt
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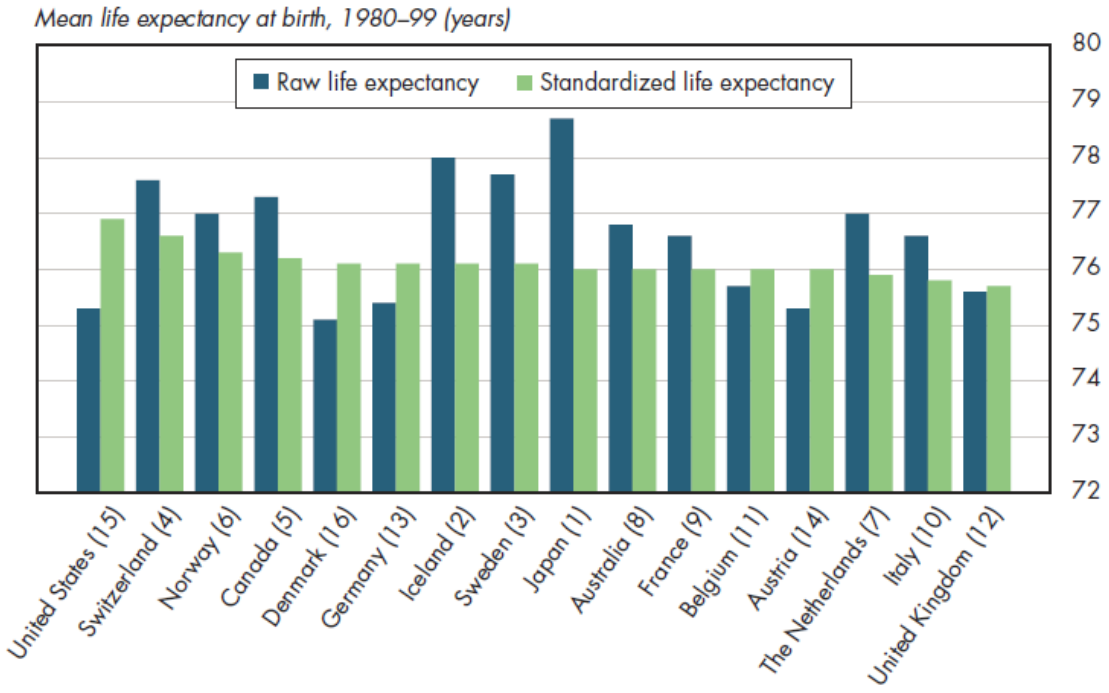
Chapter 9

19.9 US Leads the World in Life Expectancy[1]

When life expectancy figures are appropriately adjusted, the United States ranks number one in the world in life expectancy at birth (figure 19.9a). Without such adjustment, the United States ranks fifteenth. The disproportionate number of U.S. deaths due to violence is the principal reason for the nation to rank so low overall. These fatalities include all gunshot-related deaths (homicides and suicides) and also deaths due to automobile accidents or other injuries. Such deaths arguably have little to do with medical system performance but instead arise from social causes, lifestyle choices, or imperfections in other public efforts to reduce such deaths, such as highway safety.

[1]This content is available online at <https://hub.mili.csom.umn.edu/content/m10068/1.1/>.

19.9a When higher-than-average U.S. rates of violent deaths are taken into account, the United States leads the world in life expectancy



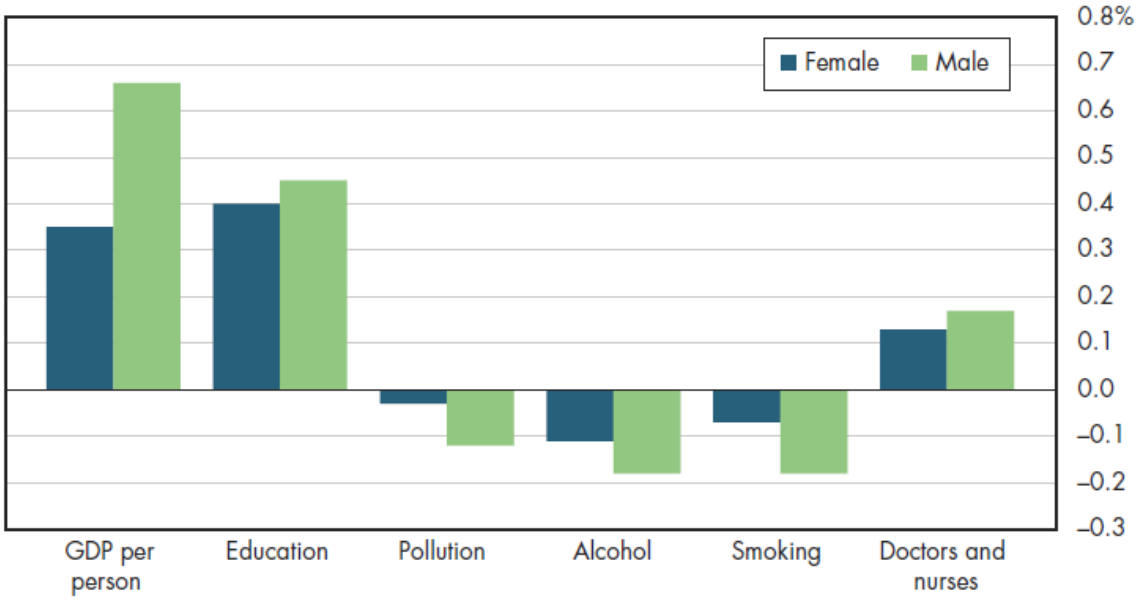
Note: Countries are ordered by standardized life expectancy derived by assigning each country the mean OECD fatal injury rate for the period shown; numbers in parentheses denote ranking on unstandardized life expectancy at birth.

In figure 19.9a, each country was assumed to have the average fatal injury rate experienced over the 20 years examined. This has the effect of increasing life expectancy in countries that have a higher-than-average fatal injury rate, such as the United States. Conversely, it has the effect of lowering life expectancy in countries that have a lower-than-average fatal injury rate, such as Switzerland.

An OECD study shows that the availability of medical care (for example, supply of doctors and nurses relative to the population) is a relatively minor contributor to life expectancy. Increasing GDP per person by 10 percent, for example, would have almost four times as much impact on male life expectancy at birth as increasing the supply of doctors and nurses by the same percentage (figure 19.9b). In addition, increasing the level of education by 10 percent would have at least two to three times the impact as would the equivalent percent increase in doctor and nurse supply.

19.9b Other determinants of life expectancy at birth are of equal or greater importance than the availability of doctors and nurses

Percent change in life expectancy at birth per 10 percent change in factor



Changing behavior also can produce life expectancy gains that rival an increased supply of medical care services. A 10 percent reduction in smoking or excess use of alcohol (including any use of alcohol resulting in a fatal injury) would produce greater gains in male life expectancy than a 10 percent increase in the supply of doctors and nurses would.

None of these comparisons demonstrates which approach to increasing life expectancy is most cost-effective. They simply illustrate that differences in life expectancy across countries or states could arise even if they have medical care systems that are identical in performance.

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Chapter 10

19.10 US Ranks 3rd in the World in Saving Premature Infants' Lives[1]

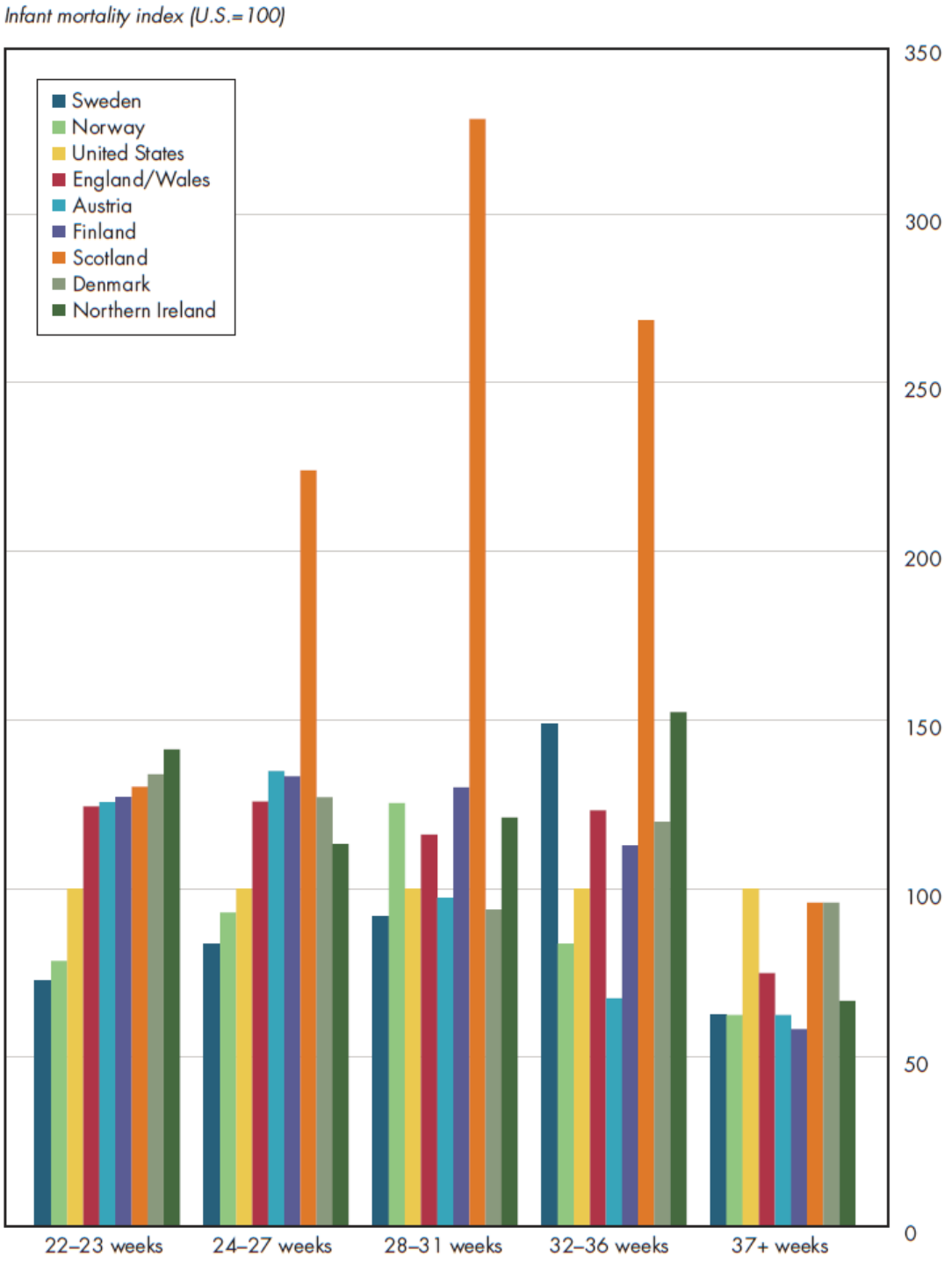
The United States ranks poorly in terms of infant mortality rates, but this too says little about the performance of its health care system. The United States has the third-highest infant mortality rate in the OECD. This rate is somewhat overstated due to differences in statistical methods for measuring infant deaths. The United States is one of only eight countries that count extremely premature infants as "live births," even though they have extremely low odds of survival.

More important, compared with most other industrialized countries, the United States has a much higher rate of premature and/or low-birth-weight infants. Although adequate prenatal care certainly can influence such rates, many other social factors also contribute. For example, low-birth-weight infants are disproportionately born to mothers from disadvantaged socioeconomic backgrounds. Adolescent pregnancies also are more likely to result in a premature birth. Even though it has been declining, the U.S. teenage birth rate far exceeds that of other G7 nations. Maternal smoking, and drug and alcohol use during pregnancy also increase the odds of a low-birth- weight infant.

A fairer comparison, therefore, examines how well the medical system performs in keeping alive infants of a given length of gestation. For all birth categories before full term (37+ weeks), the United States ranks second or third among the nine countries for which comparable data exist (figure 19.10). Unfortunately, the United States and the UK are the only G7 nations on this list.

[1]This content is available online at <https://hub.mili.csom.umn.edu/content/m10069/1.1/>.

19.10 The United States generally leads the world (except Sweden and Norway) in saving the lives of premature infants



Note: Countries listed (left to right) from best to worst for infants with the shortest gestation period.

The ability to save premature infants has increased greatly over the past few decades. For white infants, for example, infant mortality steadily declined between 1983 and 2004 despite a 20 percent increase in the percentage of such infants falling into the low-birth-weight category. This reflects sizable investments in (and wide diffusion of) neonatal intensive-care units. Careful studies suggest that since 1960, the 70 percent decline in mortality for low-birth-weight infants born in the United States was almost entirely the result of improved medical care.

10.1 Downloads

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Chapter 11

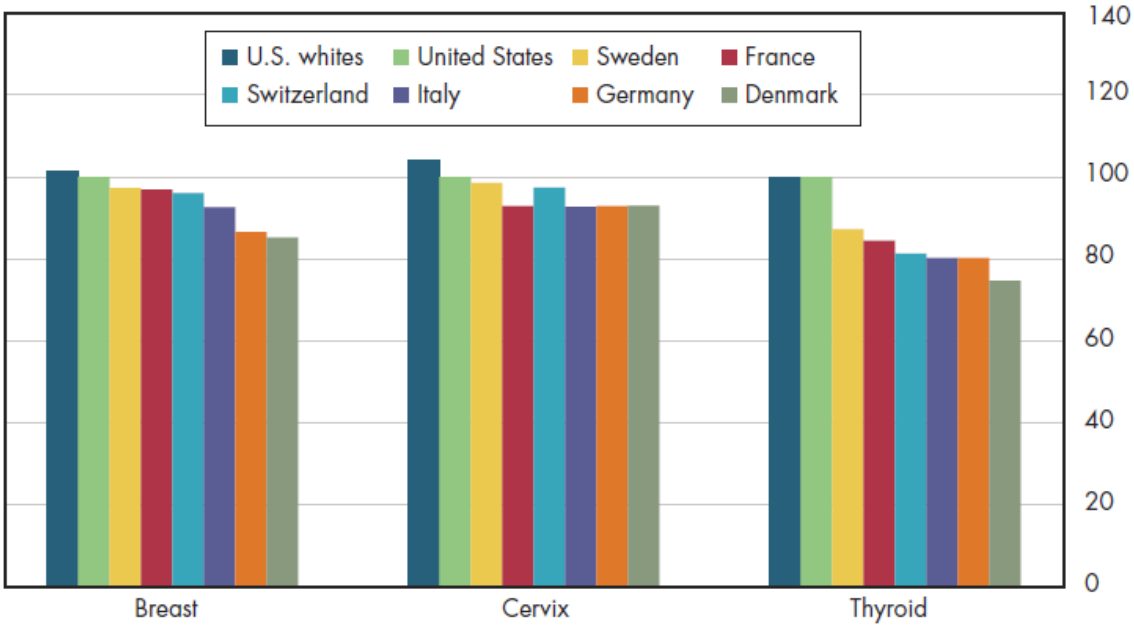
19.11 US Cancer Patients Have Better Chances of Survival among Industrialized Nations[1]

Another area in which the U.S. medical system excels is in cancer treatment. Cancer patients live longer in the United States than in any other country in the world. For example, the United States leads the world in cancer survival rates for the leading cancers among women (figure 19.11a). In general, the survival differences between the United States and other countries are even greater for major cancers affecting males, including colon, lung, and prostate cancer.

[1]This content is available online at <https://hub.mili.csom.umn.edu/content/m10070/1.1/>.

19.11a The United States leads the world in female cancer survival rates for the leading causes of cancer deaths

Five-year female cancer survival rate indexes (U.S.=100)



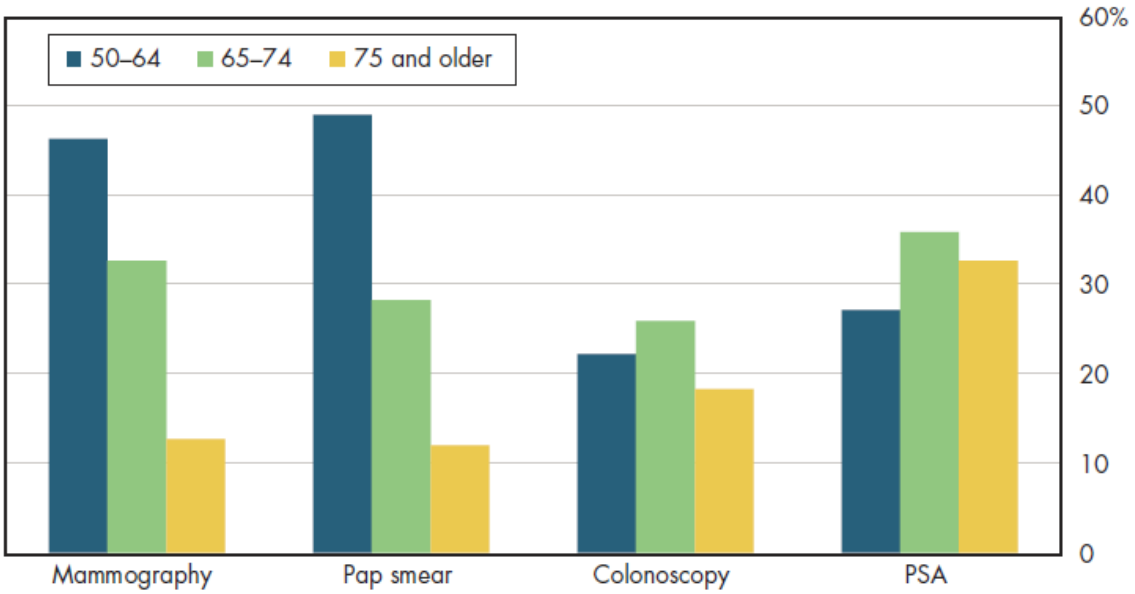
Note: Countries ranked from best to worst for breast cancer.

For some of these cancers, such as female breast and cervical cancers, there is a large difference in survival rates for whites compared with blacks. If rates were standardized to account for the higher percentage of blacks in the United States relative to these other nations, the cancer survival differences would be even larger than shown.

Some of the apparently superior performance in the United States can be attributed to higher cancer screening rates (figure 19.11b). To the extent that cancers are detected earlier in their course through routine screening, this will increase the percentage of patients in whom cancer is detected who are able to survive five years.

19.11b Despite more uninsured people in the United States, cancer screening rates for adults 50 and older are much higher in the United States than in Europe

European cancer screening rates as a percentage of U.S. rates



Note: PSA = prostate-specific antigen test to screen for prostate cancer.

The most important factors in cancer survival are early diagnosis, time to treatment, and access to the most effective drugs. Some uninsured cancer patients in the United States encounter problems with timely treatment and access. However, apparently a larger proportion of cancer patients in other G7 countries face similar barriers to access. For example, waiting times for specialty care are especially problematic in Canada and in the UK. Almost half the improvement in survival rates in the United States in the 1990s can be attributed to the introduction of new oncology drugs. Americans typically get more rapid access to new pharmaceuticals than do citizens in other countries. Consequently, any benefits from new oncology drugs would show up faster in U.S. cancer survival statistics than in countries that have longer lag-times for the introduction of the latest drugs.

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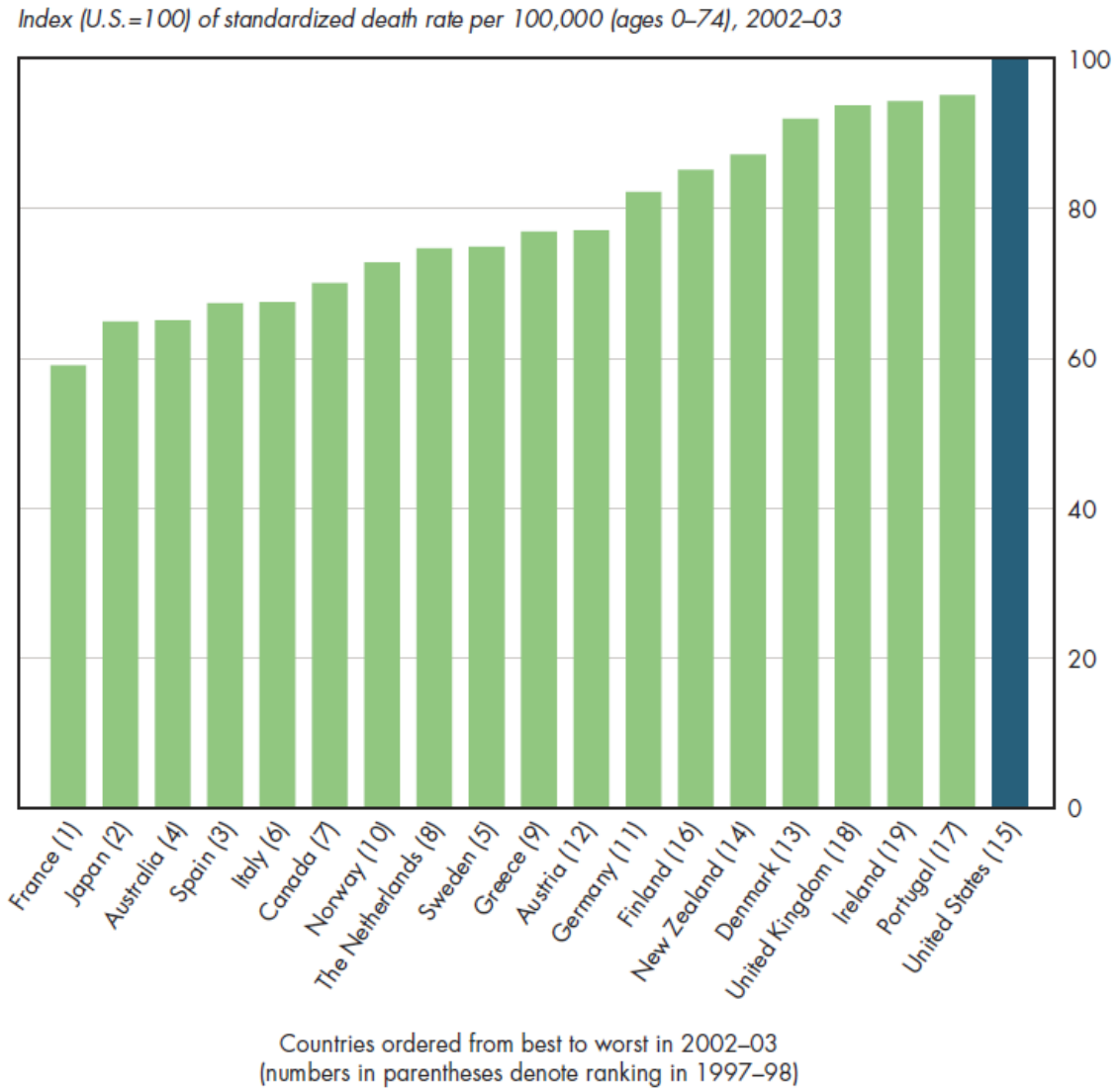
Chapter 12

19.12 US Has More Avoidable Deaths Amenable to Health Care among Industrialized Nations[1]

The United States ranks nineteenth among industrialized countries in the rate of deaths amenable to health care (figure 19.12). "Amenable deaths" refer to deaths from selected causes that should not occur in the presence of timely and effective health care. Such deaths constitute approximately 25 percent of deaths for males who are younger than age 75 and approximately 30 percent of deaths in that age group for females. An important advantage of this measure is that it excludes deaths that do not necessarily reflect problems of access or quality of the medical care system. The death rates used to calculate the estimates in figure 19.12 were standardized by gender and five-year age categories. Thus, observed differences cannot be attributed to basic demographic differences in the U.S. population compared with elsewhere.

[1]This content is available online at <https://hub.mili.csom.umn.edu/content/m10071/1.1/>.

19.12 Compared with many other OECD countries, the United States has a higher death rate from conditions amenable to health care



However, the numbers are *not* standardized based on race. In light of widespread racial and ethnic disparities in U.S. health outcomes—little of which reflect poor health system performance—this limitation might disproportionately cast the United States in a worse light. Moreover, the authors of the study that produced these data have cautioned, "The rate of amenable mortality is a valuable indicator of health care system performance, although it is important to note that the underlying concept should not be mistaken as definitive evidence of differences in the effectiveness of health care but rather as an indicator of potential weaknesses in health care that can then be investigated in more depth."

With these caveats, the available data show that some OECD countries have rates much lower than in the United States. For example, France and Japan have rates approximately 40 percent less than in the United States. Even the UK, which lagged behind in some of the comparisons of cancer survival rates and infant mortality by birth-weight, outperforms the United States on this metric. Second, amenable mortality rates declined only 4 percent in the United States between 1997-1998 and 2002-2003, compared with an average

decline of 17 percent among all countries studied. This fact suggests that the United States is falling behind rather than catching up to its competitors on this measure.

12.1 Downloads

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12.2 References

A. Nolte E and CM McKee. Measuring the Health of Nations: Updating an Earlier Analysis. Health Affairs 2008; 27(1):58-71.

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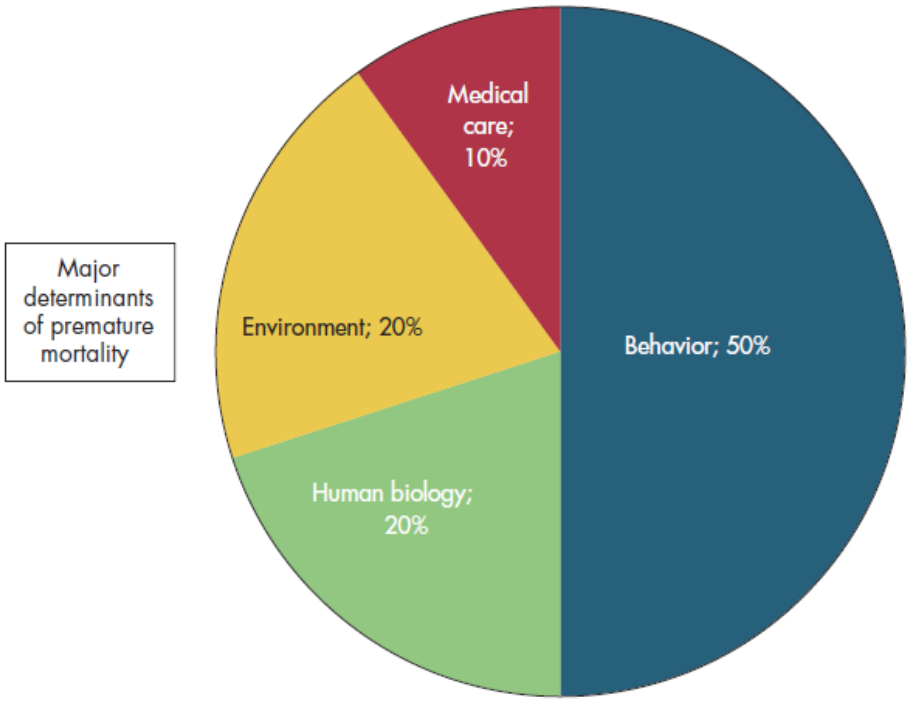
[3]https://hub.mili.csom.umn.edu/content/m10071/latest/19.12DATA.ppt

Chapter 13

19.13 Most "Avoidable" Deaths Are Related to Lifestyle or Behavior[1]

Approximately half of premature mortality is attributable to behavior or lifestyle (figure 19.13a). These include diet, physical activity, smoking, stress, alcohol or illicit drug abuse, injury or violence, and similar factors.

19.13a Approximately half of premature mortality relates to behavior/lifestyle; only 10 percent relates to medical care



Human biology accounts for 20 percent of premature deaths. It refers to the individual's genetic makeup (which includes factors with which he or she is born, or mutations acquired over a lifetime) and family history (which can contribute both to risk for disease and/or the risk of dying from it when diagnosed).

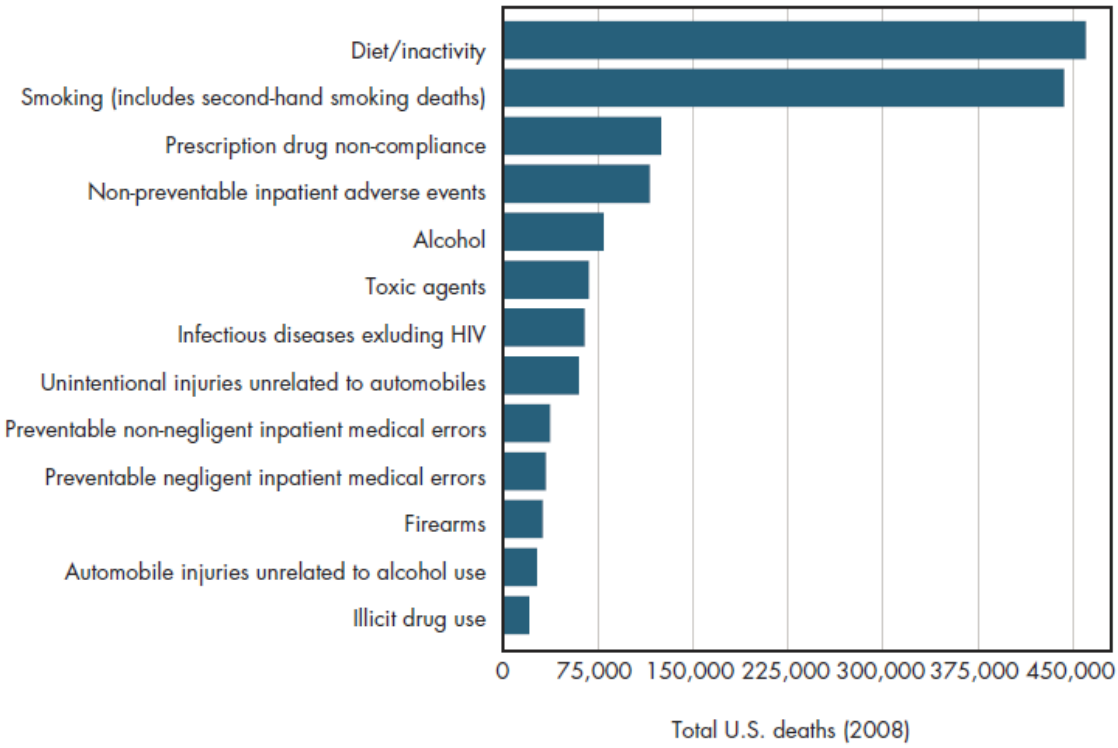
[1]This content is available online at <https://hub.mili.csom.umn.edu/content/m10072/1.1/>.

Environmental factors account for another 20 percent of premature deaths. Researchers distinguish between the social environment (interactions with family, friends, coworkers, and others in the community) and the physical environment (things that can be seen, touched, heard, smelled, and tasted, and less tangible risks such as radiation or ozone). Social institutions, such as law enforcement, the workplace, places of worship, and schools, also are part of this environment. Housing, public transportation, and the presence or absence of violence in the community are other important components.

Access to medical care itself accounts for only 10 percent of premature mortality. The data shown are only approximate. First, they are estimates made 35 years ago. Second, the experts that developed them examined only the 10 leading causes of death in the United States, not all causes of death. Third, clearly important interactions exist between the categories. For example, behaviors can have a reciprocal relationship to biology, meaning that each can react to the other. For example, smoking (behavior) increases the odds of a heart attack (biology). A heart attack then can motivate an individual to stop smoking (behavior).

Even a cursory examination of the underlying causes of death in the United States underscores the importance of behavior and lifestyle (figure 19.13b). Smoking, poor diet and inactivity, and alcohol consumption alone accounted for approximately 40 percent (almost one million) of total deaths in the year 2008. The health care system is most directly implicated in deaths due to prescription drug non-compliance (125,000), non-preventable adverse patient events (116,000), infectious diseases excluding HIV (65,000)—some of which are avoidable—and preventable medical errors, both non-negligent (37,000) and negligent (34,000); together these account for 15 percent of all deaths.

19.13b Changes in behavior/lifestyle would have a sizable impact on mortality rates in the United States



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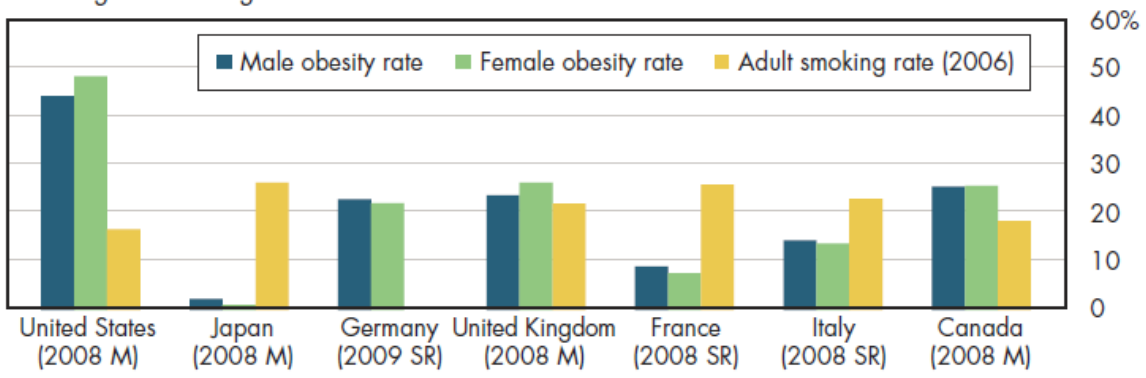
Chapter 14

19.14 US Has World's Highest Obesity Rate but a Low Smoking Rate among Industrialized Nations[1]

The United States by far has the world's highest rate of obesity (figure 19.14a). More than 30 percent of all women in the United States are obese (based on measurements, not self-reports). Within the G7, the two countries ranking just behind the United States (the UK and Canada) have male and female obesity rates that are only approximately 25 percent. Japan's measured obesity rate for men and women is less than 5 percent.

19.14a The United States has far higher obesity rates but much lower smoking rates than do its major G7 competitors



Note: M = measured obesity rate. SR = self-reported obesity rate.

Unfortunately, measured obesity rates for all G7 countries are not available. The difference can be considerable. In Canada, for example, the measured obesity rate is 50 to 60 percent higher than the self-reported rates for men and women. The rates shown for Germany, France, and Italy might therefore be much higher than illustrated.

Smoking is the single largest cause of death in the United States, even though the nation has one of the lowest smoking rates among industrialized countries. There are many ways to measure smoking, but this metric counts the percentage of adults age 15 and older who self-report that they are daily smokers. Using

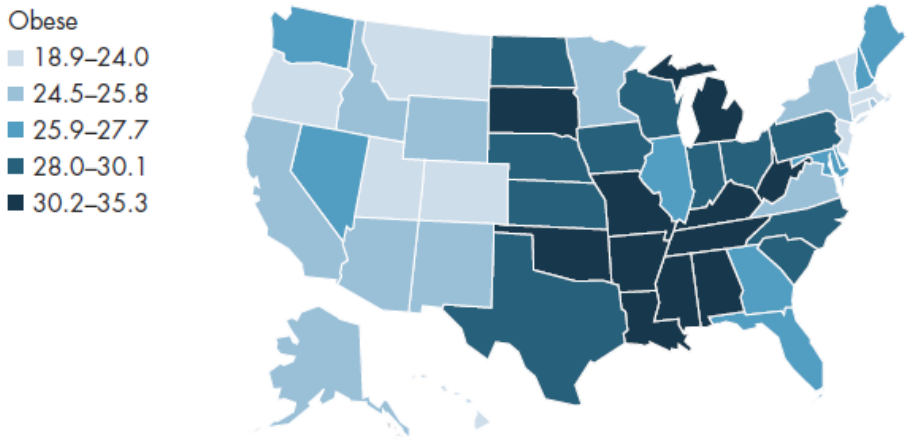
[1]This content is available online at <https://hub.mili.csom.umn.edu/content/m10073/1.1/>.

this metric, adult smoking rates in Japan and France are more than 50 percent higher than current rates in the United States. In fact, none of the G7 countries for which this information is available has a lower smoking rate than in the United States.

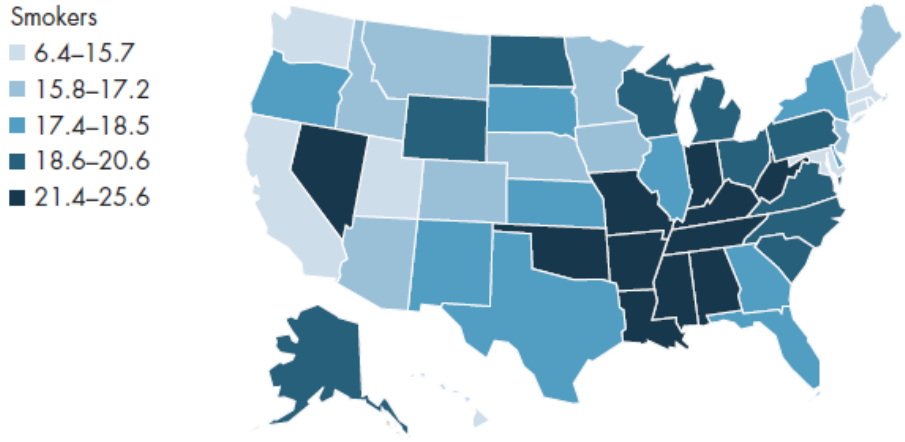
Smoking and obesity both contribute considerably to premature mortality in the United States. Obesity-related and smoking-attributable medical costs each amount to approximately 6 percent of national health spending.

However, differences in obesity and smoking rates within the United States itself rival cross-national differences in such rates among the G7 countries. States exhibit less than a two-fold difference in obesity rates (figure 19.14b) but a three-fold difference in smoking rates (figure 19.14c). This highlights the diversity of the United States in terms of these particular unhealthy behaviors. It also highlights the limitations of national averages when making cross-national comparisons.

19.14b States that have the highest percentage of adults age 15 and older who were obese in 2009 are concentrated in the South



19.14c States that have the highest percentage of adults age 15 and older who were daily smokers in 2007 also are concentrated in the South



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14.2 References

A. Department of Health and Human Services. Centers for Disease Control and Prevention.
B. Organisation for Economic Co-operation and Development.

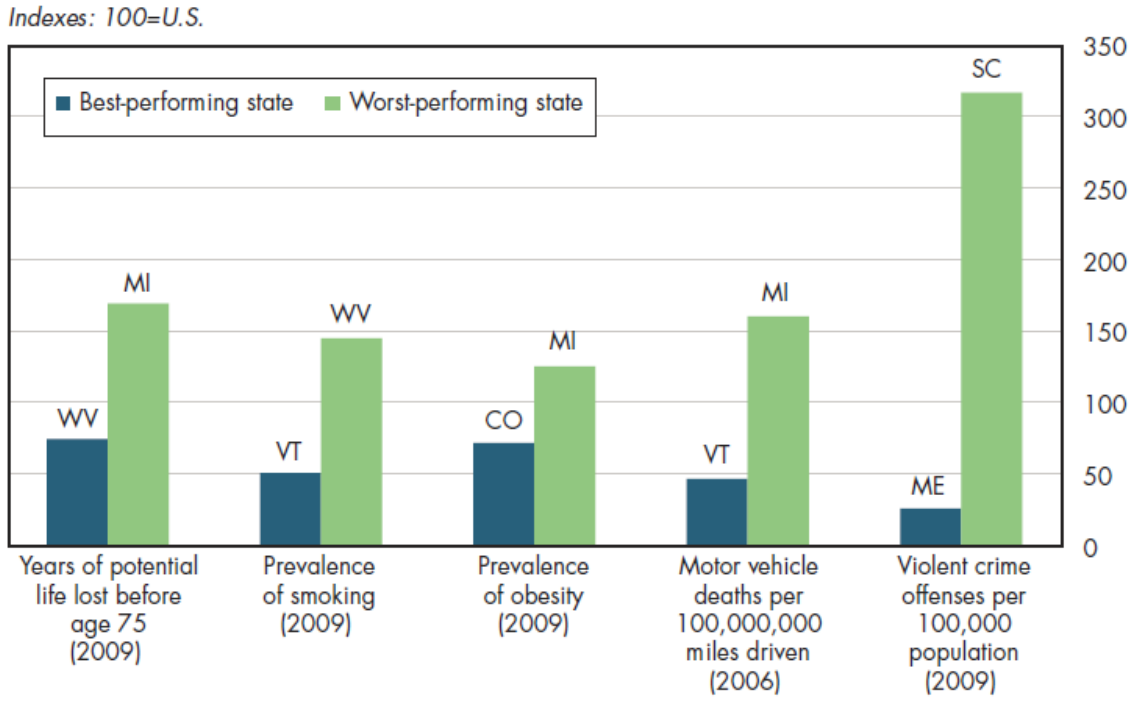
[2]https://hub.mili.csom.umn.edu/content/m10073/latest/19.14aIMG.ppt
[3]https://hub.mili.csom.umn.edu/content/m10073/latest/19.14aDATA.ppt
[4]https://hub.mili.csom.umn.edu/content/m10073/latest/19.14bIMG.ppt
[5]https://hub.mili.csom.umn.edu/content/m10073/latest/19.14bDATA.ppt
[6]https://hub.mili.csom.umn.edu/content/m10073/latest/19.14cIMG.ppt
[7]https://hub.mili.csom.umn.edu/content/m10073/latest/19.14cDATA.ppt

Chapter 15

19.15 The Challenge of Comparing US States[1]

The variation in health outcomes across states has been an important theme in this section. Some side-by-side comparisons of selected indicators that have been used to rank the performance of states are illustrated in figure 19.15a. Here, the word "performance" recognizes that differences in these indicators might not reflect the quality of medical care delivered in the states. Some indicators such as traffic fatalities better reflect state performance on other dimensions (for example, highway safety) than on health care.

19.15a There are large differences in health system performance across states



Note: CO = Colorado; ME = Maine; MI = Michigan; SC = South Carolina; WV = West Virginia; VT = Vermont.

To facilitate comparisons, each indicator has been indexed to the U.S. average for that indicator. This

[1]This content is available online at <https://hub.mili.csom.umn.edu/content/m10074/1.2/>.
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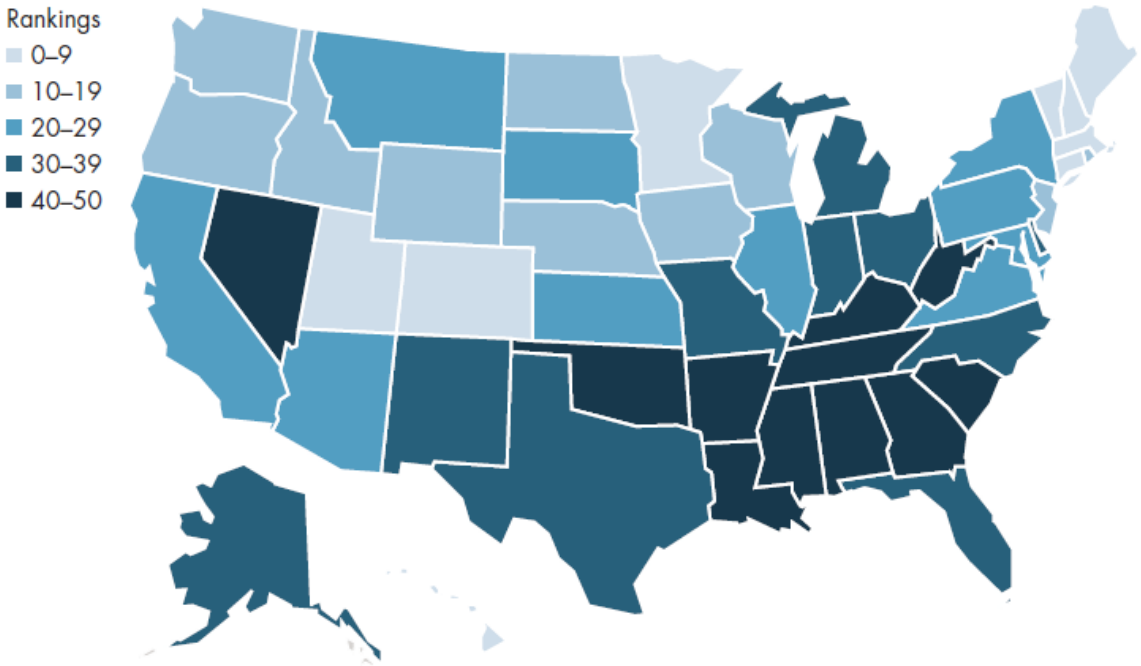
makes it easier to see that the worst performing states on a) years of potential life lost before age 75, b) smoking prevalence, and c) the rate of motor vehicle deaths have rates that are approximately 50 percent higher than the national average. Two conclusions can be drawn from these comparisons.

First, the relative sizes of the differences between states varies widely by indicator. There is only a 75 percent difference between the state that has the highest obesity rate compared with the state that has the lowest. In contrast, there is a 12-fold difference between the states that have the highest and lowest rates of violent crime offenses per 100,000 residents (which include homicides, rapes, robberies, and aggravated assaults).

Second, there is not always much symmetry in how the highest- and lowest- performing states compare with the national average. The state that has the highest obesity rate exceeds the national average by only 25 percent while the best-performing state has an obesity rate 28 percent less than the average. Similarly, the highest state-level smoking rate is 45 percent above the U.S. average, and the state with the lowest rate is 49 percent below that average. The other indicators display more asymmetry. The state with the most years of potential life lost (YPLL) is 69 percent above the national average, but the state with the lowest YPLL is only 25 percent below that average. Rates of violent crimes exhibit the greatest asymmetry.

State rankings (figure 19.15b) therefore depend heavily on what factors are included and the weights given to each factor.

19.15b The United Health Foundation 2009 rankings of overall health reveal that most of the states that have the lowest overall health ranking are located in the South



15.1 Downloads

Download PowerPoint versions of both figures.

- Figure 19.15a Image Slide (as it appears above)[2]

[2]https://hub.mili.csom.umn.edu/content/m10074/latest/19.15aIMG.ppt

- Figure 19.15a Editable Slide (can be formatted as desired)[3]
- Figure 19.15b Image Slide (as it appears above)[4]
- Figure 19.15b Editable Slide (can be formatted as desired)[5]

[3]https://hub.mili.csom.umn.edu/content/m10074/latest/19.15aDATA.ppt
[4]https://hub.mili.csom.umn.edu/content/m10074/latest/19.15bIMG.ppt
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