

Economic Analysis of Medicare for All

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the reviewers have also provided more extensive comments on various specific aspects of the study. [All of these comments can also be found at the online site.](#)

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Highlights of Study

This study provides an economic analysis of the Medicare for All Act of 2017, which was introduced before the United States Senate by Senator Bernie Sanders (S. 1804). Our analysis also addresses, more broadly, a range of issues that need to be examined seriously in considering any specific proposals for a single-payer health care system for the United States.

The most fundamental goals of Medicare for All are to significantly improve health care outcomes for U.S. residents while also establishing effective cost controls throughout the health care system. We conclude that these two purposes are both achievable. This study presents both an extensive review of the relevant research literature and a range of statistical evidence. These serve as the basis on which we establish our overall assessment as to the viability of Medicare for All.

Establishing the Universal Right to Decent Health Care

Under Medicare for All, all residents of the United States will have the opportunity to receive decent health care as a basic right. This will result through establishing a health insurance system that covers all residents in a manner comparable to the coverage now provided for residents 65 years old and older under the existing Medicare program. All health care consumers will also have the right to receive care from the providers of their choice.

Increased Demand for Health Care Services under Medicare for All

At present, roughly 9 percent of U.S. residents are uninsured and 26 percent are *underinsured*—i.e. they are unable to adequately access needed health care because of prohibitively high costs. The demand for health care services by these population cohorts will rise significantly under Medicare for All. Medicare for All will also provide stable access to decent coverage for those currently receiving adequate insurance coverage but who may face difficulties at later points. As a high-end estimate, we conclude that overall demand for health care services in the U.S. will rise by about 12 percent through Medicare for All.

Cost Saving Potential under Medicare for All

Medicare for All has the potential to achieve major cost savings in its operations relative to the existing U.S. health care system. We estimate that, through implementation of Medicare for All, overall U.S. health care costs could fall by about 19 percent relative to the existing system. The most significant sources of cost saving will be in the areas of: 1) administration (9.0 percent savings in total system costs); 2) pharmaceutical pricing (5.9 percent savings in system costs); and 3) establishing uniform Medicare rates for hospitals, physicians, and clinics (2.8 percent savings in system costs). An additional, more modest source of cost savings, at least in the initial years under Medicare for All, would be to reduce the high levels of waste and fraud that currently prevail in service provision. As a low-end figure, we assume that achievable cost savings in these areas would be about 1.5 percent of total system costs in the first year of full operations. We also assume that further gains in waste reduction and fraud control are achievable in later years, at a rate of about 1 percent per year for roughly a decade.

Overall System Costs

As of 2017, the U.S. is spending \$3.24 trillion on Health Consumption Expenditures (other than public health programs). With Medicare for All generating both increased overall demand in the range of 12.0 percent and cost savings of about 19.2 percent, total Health Consumption Expenditures would fall to \$2.93 trillion. We therefore estimate that Medicare for All could reduce U.S. Health Consumption Expenditures by about 9.6 percent while also providing decent health care coverage for all U.S. residents.

Financing Medicare for All

There will be two sources of financing for Medicare for All. The first is the same public health care revenue sources that presently provide about 60 percent of all U.S. health care financing, including funding for Medicare and Medicaid. Existing public sources of funds will provide \$1.88 trillion to finance Medicare for All. Given our estimate that the overall costs of Medicare for All will be \$2.93 trillion, the system therefore needs to raise an additional \$1.05 trillion from new revenue sources.

We provide a set of illustrative financing proposals that, in combination, can generate \$1.08 trillion, thus producing a revenue surplus of about 1 percent for the system. Other approaches are also workable. We emphasize at the outset that, regardless of the specific funding framework utilized for Medicare for All, all households and private businesses will be able to pay into the system an average of 9.6 percent less than they are presently contributing to the U.S. health care system. This is, straightforwardly, because Medicare for All is able to operate at a funding level that is 9.6 percent below the current overall funding level for U.S. health care.

Our proposals include the following:

- **Business health care premiums cut by 8 percent relative to existing spending per worker.** *Revenue generated = \$623 billion.*

All businesses that now provide health care coverage for their employees will be guaranteed to receive proportional benefits during Medicare for All's initial 2-3 years of operation. Firms that are not offering coverage for some or all of their employees would pay \$500 per uncovered worker. Small businesses would be exempt from these premium payments. We also develop proposals for either an 8.2 percent payroll tax or 1.78 percent gross receipts tax that would apply both to new businesses and more generally after the first 2-3 years under Medicare for All. Both of these measures would generate the same revenue level as the 8 percent premium reduction for those businesses now providing coverage.

- **3.75 percent sales tax on non-necessities.** *Revenue generated = \$196 billion.*

This includes exemptions for spending on necessities in four areas: food and beverages consumed at home; housing and utilities; education and non-profits. We also include a 3.75 percent income tax credit for families currently insured through Medicaid.

- **Net worth tax of 0.38 percent.** *Revenue generated = \$193 billion.*

We propose that the first \$1 million in net worth are exempted from this net worth tax. The tax would therefore apply to only the wealthiest 12 percent of U.S. households.

- **Taxing long-term capital gains as ordinary income.** *Revenue generated = \$69 billion.*

Budgetary Impacts on Businesses and Households

Under the transitional program featuring the 8 percent premium reductions for covered employees, businesses that have been providing coverage for their employees will see their health care costs fall by between about 8 – 13 percent, after accounting for administrative savings as well as their premium reductions.

For families, our results show that Medicare for All can promote both lower average costs and greater equity in financing health care. For example, we find that for middle-income families, the net costs of health care will fall sharply under Medicare for All, by between 2.6 and 14.0 percent of income. By contrast, with high-income families, health care costs will rise, but still only to an average of 3.7 percent of income for those in the top 20 percent income group and to 4.7 percent of income for the top 5 percent income group.

The Transition into Medicare for All

The transition out of the existing U.S. health care system into Medicare for All will entail formidable challenges. There will be three major sets of issues to tackle: 1) the overall administrative transition; 2) the impact of the transition on both the incomes of physicians and on the capacity of physicians and other providers to meet the increased demand for health care services; and 3) the displacement of workers now employed in both the private health insurance and health services industries. We provide detailed assessments of the range of issues at hand and advance proposals for managing the transition in ways that are workable and cost-effective. This includes addressing the impacts on health care providers, health care consumers, and health insurance industry workers respectively.

Macroeconomic Impacts of Medicare for All

As of 2017, U.S. Health Consumption Expenditures are equal to 17.2 percent of GDP. The comparable ratio for eight other large industrial economies ranges between 8.9 percent of GDP for Italy and 11.3 percent of GDP for Germany. In addition, health care spending as a share of the U.S. economy has risen dramatically over time. In 1970, U.S. Health Consumption Expenditures equaled 6.2 percent of GDP. The Centers for Medicare and Medicaid Services (CMS) projects that the ratio will reach 18.8 percent by 2026.

Following from our estimates, Health Consumption Expenditures would fall to 15.8 percent of GDP under Medicare for All, as of the 2017 economy. This would represent a dramatic decline in health care spending as a share of GDP for the U.S., but would still be substantially higher than the figures for all other large advanced economies. We conclude that further incremental improvements in service delivery under Medicare for All should enable U.S. health care costs to stabilize at around 15.8 percent of GDP, even after taking account of the rising cost pressures resulting from an aging population.

Based on these results, we can then develop a 10-year forecast of Health Consumption Expenditures under Medicare for All, and compare this forecast with the projection by CMS of Health Consumption Expenditures assuming that the U.S. continues operating under its existing health care system. We find that, over the decade 2017 – 2026, the cumulative savings through operating under Medicare for All would be \$5.1 trillion, equal to 2.1 percent of cumulative GDP.

There would also be broader macroeconomic benefits through operating the U.S. health care system under Medicare for All. Among these are that improved health outcomes will raise productivity; Medicare for All will support greater income equality; and that Medicare for All should support net job creation, especially through lowering operating costs for small- and medium-sized businesses.

SUMMARY OF STUDY

The Medicare for All Act of 2017 (S.1804) was introduced before the United States Senate in September 2017 by Senator Bernie Sanders. This study provides an economic analysis of the proposed measure. Our analysis also addresses, more broadly, a range of issues that need to be examined seriously in considering any specific proposals for a single-payer health care system for the United States.

The study is comprised of seven chapters. They are:

1. Universal Health Care and Health Outcomes
2. Demand Increases and Costs of Universal Health Care
3. Cost Saving Potential under Medicare for All
4. Financing Medicare for All
5. Budgetary Impacts on Businesses and Families
6. The Transition into Medicare for All
7. Macroeconomic Impacts of Medicare for All

The main findings of the study are as follows:

1. Universal Health Care and Health Outcomes

The focus of this study is an economic analysis of the U.S. Medicare for All Act of 2017 Health Insurance Program. But, of course, Medicare for All cannot be simply evaluated on the basis of economic impacts. The most fundamental goal of the measure is to significantly improve health care outcomes in the United States while also establishing effective cost controls throughout the country's health care delivery system. In this introductory chapter, we provide a very brief overview of the substantial research literature examining how the provision of decent and affordable health care affects health outcomes. We cite, among others, a standard 2009 study by the U.S. Institute of Medicine (IOM) which found that people lacking in health insurance suffer from worse health and die sooner than those who do have decent health insurance. An extensive 2017 literature survey affirmed the IOM's earlier findings, writing that "the body of evidence summarized here indicates that coverage expansions significantly increase patients' access to care and use of preventive care, primary care, chronic illness treatment, medications and surgery. These increases appear to produce significant, multi-faceted and nuanced benefits to health."

It is also the case that, on balance, other countries that provide universal health care generate superior health outcomes relative to the U.S. Another 2017 study summarizes some key evidence as follows: "In other countries, a shift to universal health care has been associated with reduced mortality. Specifically, 34 countries score higher than the USA on the Health Access and Quality Index, a metric based on amenable mortality, or death that could be averted with medical care. All of these countries provide a form of universal care."

At the same time, these findings do not mean that the universal provision of decent health care is the only significant factor in determining health outcomes in the U.S. or elsewhere. Rather, overall health outcomes also depend substantially on the broader set of conditions and life opportunities provided to people in any society. The transition to Medicare for All should encourage more systematic initiatives focused on the social determinants of health, including income inequality and poverty, employment opportunities, education, housing, transportation, nutrition, environmental quality, violence, and the criminal justice system. With respect to overall budgetary priorities, the transition to Medicare for All should similarly encourage greater consideration around rebalancing health expenditures between acute care and prevention. But addressing these broader questions around the social determinants of health is beyond the scope of this study.

2. Demand Increases and Costs of Universal Health Care

In its most recent projection, the Centers for Medicare and Medicaid Services (CMS) estimated that total U.S. Health Consumption Expenditures for 2017 was \$3.33 trillion. This represents 17.2 percent of U.S. GDP for 2017 according to the CMS projection.

As of 2016, the U.S. health care system includes 292.3 million people (91.2 percent) who have some form of health insurance coverage and 28.1 million (8.8 percent) who are uninsured.¹ But, roughly speaking, an additional 85 million people—26 percent of the population (and 29 percent of the insured population)—are *underinsured*. These are people who are unable to adequately access needed health care because of prohibitively high costs.

The primary goal of Medicare for All is to provide high-quality health care to all U.S. residents. This includes full coverage for the 8.8 percent of the population that is presently uninsured and the 26 percent of the population that is underinsured. Medicare for All also aims to provide stable access to decent coverage to all U.S. residents, including those who currently receive adequate care but may face difficulties at later points. In reviewing the relevant research literature, we conclude that, as a high-end figure, overall demand for health care services (i.e. health care “utilization”) would rise by about 12 percent as a result of providing decent universal coverage under Medicare for All. This would translate into a 12 percent increase in Health Consumption Expenditures before we incorporate any of the cost saving measures that are achievable under Medicare for All. Thus, Health Consumption Expenditures (exclusive of public health activity) would rise from \$3.24 trillion to \$3.63 trillion as of 2017 before taking into account the cost savings measures that can result through Medicare for All.

3. Cost Saving Potential under Medicare for All

Working from the relevant research literature, we estimate that, through implementation of Medicare for All, overall costs of providing full health care coverage to all U.S. residents could fall by about 19 percent in the first year of full operations relative to spending levels under the existing system. The most significant source of cost saving under Medicare for All

1. These 2016 figures are the most recent at the time of writing.

will be a series of structural changes. These will be in the areas of: 1) administration (9.0 percent savings in total system costs); 2) pharmaceutical pricing (5.9 percent savings in system costs); and 3) establishing uniform Medicare rates for hospitals, physicians, and clinics (2.8 percent savings in system costs). We therefore estimate that these three areas of structural change under Medicare for All can achieve, overall, about 17.7 percent in total system cost savings relative to the existing U.S. health care system.

A second, more modest source of cost savings, at least in the initial years under Medicare for All, would be to reduce the high level of waste that currently prevails in service provision. A major 2010 study by the IOM found that, as a lower-bound estimate, wasteful expenditures in four major areas of service delivery amounted to about 19 percent of total system costs. These four areas are: 1) unnecessary services; 2) inefficiently delivered services; 3) missed prevention opportunities; and 4) fraud. In line with the IOM's own analysis, we assume that achievable cost savings in these areas through Medicare for All would be only about 1.5 percent of total system costs in the first year of full operations. But we do also estimate that additional efficiency gains in the range of 1 percent per year would be attainable thereafter for roughly a decade. A major factor here will be to establish an effective global budgeting system under Medicare for All.

4. Financing Medicare for All

Overall System Costs

Working from the relevant research literature, this chapter examines alternative approaches to financing U.S. Health Consumption Expenditures under Medicare for All. Before proceeding with a consideration of all such financing options, we first need to be clear as to our estimates of the overall costs of operating the U.S. health care system under Medicare for All.

In Tables S1 and S2 and Figure S1, we summarize the main findings we present both in Chapter 2, which addresses increased demand under Medicare for All, and Chapter 3, which focuses on potential sources of savings. Table S1 shows our estimates of: 1) the overall increase in health care demand once the system provides universal coverage, and 2) the potential cost savings that can be achieved under Medicare for All through the channels of a) administrative restructuring, b) pharmaceutical price reductions, c) establishing uniform Medicare rates for hospitals and providers, and d) increasing efficiency in service delivery and reducing fraud. As Table S1 shows, we conclude from the Chapter 2 discussion that overall health care demand will increase by about 12.0 percent through universal coverage and, from Chapter 3, that cost savings will amount to about 19.2 percent.

In Table S2, we then summarize our estimate for total costs under Medicare for All. We work from the CMS projection for 2017 that Health Consumption Expenditures (excluding public health activity) will be \$3.24 trillion. With universal coverage encouraging increased demand, Health Consumption Expenditures then rises by 12.0 percent relative to the CMS figure, to \$3.63 trillion. But with Medicare for All also achieving a total of 19.2 percent in savings in the areas of administration, pharmaceutical pricing, provider rates and improved service delivery, Health Consumption Expenditures under Medicare for All then falls to \$2.93 trillion.

TABLE S1
Key Assumptions for Estimating Overall Costs of Medicare for All

1) Overall increase in health care demand through universal coverage	12.0%
<i>Sources of system-wide cost savings</i>	
2) Administrative restructuring	9.0%
3) Pharmaceutical price reductions	5.9%
4) Uniform Medicare rates for hospitals and physicians/clinics	2.8%
5) Improved service delivery/reduced waste and fraud	1.5%
6) Total cost savings (= rows 2+3+4+5)	19.2%

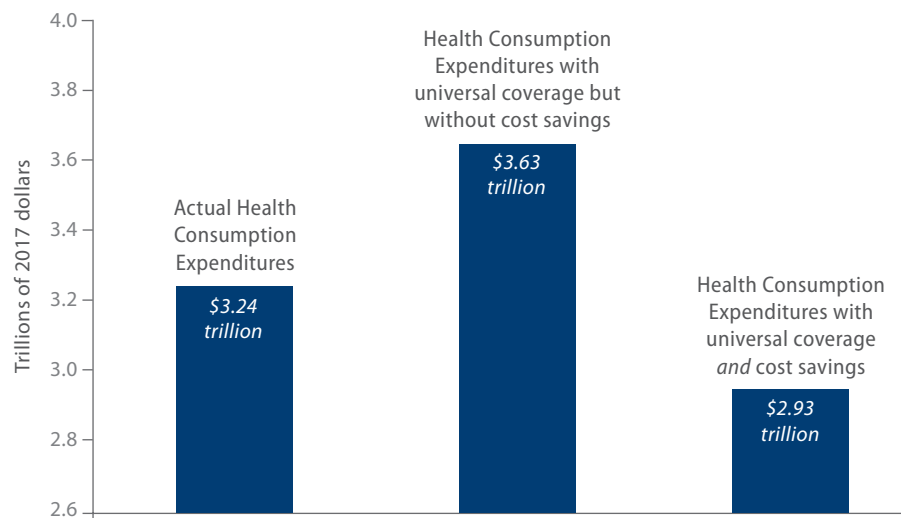
Sources: See Tables 8 and 15.

TABLE S2
Impact of Demand Increases and Cost Savings on Overall Health Care Costs

1) Actual health consumption expenditures in 2017 (figure is exclusive of public health budget)	\$3.24 trillion
2) Health consumption expenditures with universal coverage and existing system (with 12.0 percent increase in demand)	\$3.63 trillion (=row 1 x 1.12)
3) Total cost savings through Medicare for All provisions	19.2%
4) Health consumption expenditures with universal coverage and total cost savings	\$2.93 trillion (= \$3.63 trillion x 0.808)

FIGURE S1: U.S. Health Consumption Expenditures: Actual and Estimated under Medicare for All

Figures are for 2017, exclusive of public health spending



Source: See Table 16.

Overall then, as of 2017, with Medicare for All generating both increased demand in the range of 12.0 percent and cost savings of about 19.2 percent, U.S. Health Consumption Expenditures falls from the CMS figure of \$3.24 trillion, to \$2.93 trillion under Medicare for All. This would be a net decline in Health Consumption Expenditures of 9.6 percent. We can see these overall results clearly in Figure S1.

Financing Total System Costs

Chapter 4 then focuses on how to finance this level of health care spending for Medicare for All—i.e. \$2.93 trillion in total costs. There will be two sources of financing for Medicare for All. The first is the same public health care revenue sources that presently provide about 60 percent of all U.S. health care financing. These include Medicare and Medicaid, which together finance nearly 40 percent of all health care funding. It also includes tax subsidies for health care expenditures by individuals and households, which equal about 10 percent of total funding.

Overall, existing public sources of funds will provide \$1.88 trillion to finance Medicare for All. That means that the remaining \$1.05 trillion to fund Medicare for All will need to be provided by new revenue sources. Table S3 summarizes these figures.

For the purposes of this analysis, we assume that the target for additional funding will be *\$1.08 trillion*, i.e. \$30 billion more than our estimate of the additional revenue required. By incorporating this additional \$30 billion into our estimated revenue requirement, we are targeting that Medicare for All will operate with a surplus equal to about 1 percent above the total system budgetary requirement of \$2.93 trillion.

Even when we assume that our additional revenue target is \$1.08 trillion rather than \$1.05 trillion, it is still the case that financing Medicare for All will entail an overall level of funding that is nearly 10 percent lower than the funding requirements for the existing U.S. health care system. In working through the total revenue needs for Medicare for All, it is useful to keep in mind this overall framework as a basic reference. That is, because Medicare for All is able to operate at a funding level that is 9.6 percent below the current overall funding level for U.S. health care, it implies that, on average, *all households and private businesses will be able to pay into Medicare for All about 9.6 percent less than they are presently contributing to the U.S. health care system.*

There are multiple ways through which the U.S. federal government could raise \$1.08 trillion in additional revenues to finance Medicare for All. We examine here one set of new measures that would be capable of generating a total of \$1.08 trillion in an equitable and efficient matter. But we emphasize that additional approaches could also be workable.

TABLE S3
Additional Public Revenues Required to Finance Medicare for All, 2017

1. Cost of full universal coverage under Medicare for All	\$2.93 trillion
2. All current public sources of financing	\$1.88 trillion
3. Additional financing required (= rows 1 – 2)	\$1.05 trillion

Sources: See Tables 16 and 18.

The basic features of our approach include the following:

- **Business health care premiums cut by 8 percent relative to existing spending per worker.** *Revenue generated = \$623 billion.*

Through this simple framework, all businesses that now provide health care coverage for their employees will be guaranteed to receive proportional benefits during Medicare for All's initial 2-3 years of operation. Firms that are not offering coverage for some or all of their employees would then also pay \$500 per uncovered worker. Small businesses would be exempt from these premium payments. This measure would raise the same total level of revenue as either an 8.2 percent payroll tax or a 1.78 percent gross receipts tax, after including exemptions for small businesses. We therefore propose that newly established businesses pay an 8.2 percent payroll tax as their health care premium. After a 2-3 year transition period, we also propose that business revenues overall be provided either through the 8.2 percent payroll tax or a 1.78 percent gross receipts tax. We consider the relative distributional strengths and weaknesses of these alternative approaches.

- **3.75 percent sales tax on non-necessities.** *Revenue generated = \$196 billion.*

This sales tax will include exemptions for spending on necessities in four areas: food and beverages consumed at home; housing and utilities; education and non-profits. Of course, current spending on health care will also be excluded as a potential source of tax revenues. We further include a 3.75 percent income tax credit for families currently insured through Medicaid. This will fully offset their 3.75 percent sales tax spending on non-necessities.

- **Net worth tax of 0.38 percent.** *Revenue generated = \$193 billion.*

We propose that the first \$1 million in net worth will be exempted from this net worth tax. The tax would therefore apply to only the wealthiest 12 percent of U.S. households. It would reduce the average return on the portfolios of the wealthiest 1 percent of families from 5.96 to 5.58 percent and, for the next wealthiest 11 percent of families, from 5.81 to 5.43 percent.

- **Taxing long-term capital gains as ordinary income.** *Revenue generated = \$69 billion.*

Table S4 lists these proposed measures and our estimates as to their respective revenue potential.

5. Budgetary Impacts on Businesses and Families

Impact on Businesses

We examine impacts on businesses according to size. We first consider two types of small businesses—those that do not provide health insurance for their employees versus those that do provide coverage. We then consider medium-sized businesses, which employ 10 – 19 workers and 20 -99 workers respectively. We finally examine two types of large businesses, those that employ between 100 – 499 workers and ones employing 500 workers or more.

TABLE S4
Revenues Generated through Four Proposed Funding Sources

Revenue sources	Revenue generated	Percentage of total revenue generated
1. Revenues from businesses (= rows 2 + 3)	\$623 billion	57.6%
2. Premiums at 8% cut relative to current premiums	\$615 billion	56.9%
3. Coverage for previously uncovered employees – \$500 per uncovered worker – Exemptions for small businesses	\$8 billion	0.7%
4. Revenues from individuals/families (= rows 5 + 6 + 7)	\$458 billion	42.4%
5. Sales tax at 3.75% on non-necessities only – Exemptions for current Medicaid-eligible families	\$196 billion	18.1%
6. Net worth tax at 0.38% – Exemptions for first \$1 million of net worth	\$193 billion	17.9%
7. Taxing long-term capital gains as ordinary income	\$69 billion	6.4 %
TOTAL REVENUE	\$1.08 TRILLION	100%

Source: See Appendix 4.

Our proposal features the idea that businesses which are currently providing coverage will experience an 8 percent cut in premiums under Medicare for All. It follows from this proposal that all firms that are presently paying premiums to private insurance companies will receive savings of 8 percent or more. This will not be true for small businesses that have not been providing coverage. But these firms will still mainly be exempt from having to pay premiums. We also show the respective distributional effects of both the 8.2 percent payroll tax and the 1.78 percent gross receipts tax. Most small and medium-sized firms will receive significant cost savings with these measures, while the largest firms will face modest cost increases. At most, under the 1.78 percent gross receipts tax, the average firm with over 500 employees will face a cost increase equal to 0.6 percent of gross receipts.

In Table S5, we show the summary figures for changes in health care spending for businesses by size, operating under the broad principle that all firms that now pay health care premiums to cover their workers will reduce these premiums by 8 percent.

Impact on Families

We then consider the impact of Medicare for All relative to the existing system for seven representative family types. These are: low-income families that currently qualify for Medicaid; low-income families that do not qualify for Medicaid and do not have private health insurance; middle-income families with distinct insurance arrangements, including families that are underinsured, individually insured, and insured by their employer; and high-income families, within the top 20 and top 5 percent income levels respectively. On balance, our results show that Medicare for All can promote both lower costs and greater equity in the financing of health care in the United States.

TABLE S5
Summary Figures: Impact of Transition to Medicare for All
on Businesses by Size

	Percentage change in health care spending
Small businesses—0 – 9 employees	
No health benefits	0%
With health benefits	-12.9%
Medium-sized businesses	
10 – 19 employees	-7.7%
20 – 99 employees	-7.7%
Large businesses	
100 – 499 employees	-8.9%
500+ employees	-9.0%

Source: See Table 22.

For example, we find that for middle-income families, the net costs of health care under the present system range between 4.2 and 15.5 percent of the families' incomes. By contrast, high-income families in the U.S. are presently receiving *a net subsidy* of between 0.1 and 0.9 percent of their income to support their health care coverage. Under Medicare for All, net health care spending for middle-income families falls sharply, to an average of 1.6 percent of these families' income level. This represents a reduction in health care spending for middle-income families of between 2.6 and 14.0 percent of income. By contrast, with high-income families, health care costs will rise, but still only to an average of 3.7 percent for those in the top 20 percent income grouping and to 4.7 percent for the top 5 percent income group. Table S6 summarizes these results.

6. The Transition into Medicare for All

The transition out of the existing U.S. health care system into Medicare for All will entail formidable challenges. There will be three major sets of issues to tackle: 1) the overall administrative transition; 2) the impact of the transition on both the incomes of physicians and on the capacity of physicians and other providers to meet the increased demand for health care services; and 3) the displacement of workers now employed in both the private health insurance and health services industries.

Administrative Transition

We conclude from the evidence we review that this transition process will be workable. To begin with, at present, roughly one-third of the U.S. population is already covered by public health insurance plans and two-thirds of the overall funding needed to finance Medicare for All will come from existing public sources. There are also relevant precedents for this transition. These include the initial establishment of the U.S. Medicare system in 1965-66 without the benefit of modern information technologies and the fact that nearly 4 million people are

TABLE S6
Summary Figures: Impact of Transition to Medicare for All on Families

	Health care spending as share of income		3. Change in health care spending as share of income (= column 2 – column 1)
	1. Existing system	2. Medicare for All	
Low-income families			
\$13,000 in income with Medicaid	3.5%	-0.1%	-3.7%
\$35,000 in income, uninsured	2.5%	1.7%	-0.8%
Middle-income families: \$60,000 in income			
Underinsured	8.0%	1.6%	-6.4%
Individually insured	15.5%	1.6%	-14.0%
Insured by employer	4.2%	1.6%	-2.6%
High-income families			
Top 20 percent: \$221,000 in income	-0.1%	3.7%	+3.9%
Top 5 percent: \$401,000 in income	-0.9%	4.7%	+5.6%

Source: Table 25. Differences in column 3 figures relative to columns (2 -1) are due to rounding.

presently newly enrolling each year in the existing Medicare program. In addition, Taiwan successfully implemented a transition to its single-payer system in less than one year in 1994-95, also without access to current IT capacities.

Under the current draft legislation, the phase-in period would proceed over four years. This type of extended phase-in period will have the advantage of reducing pressure in carrying out the full range of major administrative tasks. The tasks could be implemented incrementally, with the inevitable administrative pitfalls that will emerge—both foreseen and unforeseen—getting corrected over this four-year phase-in period.

But an extended phase-in period will also face difficulties. For one, under the four-year phase-in, businesses would have to continue to administer private coverage for their employees who were not yet eligible for Medicare for All. In addition, it will certainly be problematic for the U.S. health care system to continue operating with a substantial degree of dependence on the private health insurance companies during the four-year phase-in. Given that Medicare for All will be displacing the private companies when the new system is fully phased in, it would be reasonable to expect that the quality of service would deteriorate during the four-year phase-in period.

It would therefore be sensible to consider the viability of a more rapid transition for at least major components of Medicare for All. For example, considering those currently insured through private employer plans, it will likely be easier for businesses to transfer all of their employees at once, as opposed to sorting them by age categories and moving them into Medicare for All according to these age categories. In terms of financing, there is no reason to expect any budgetary shortfalls to occur even under a one-year phase-in, since, again, roughly two-thirds of the revenues required to finance Medicare for All will already be accounted for through existing public revenue sources. The new sources of revenue that we have proposed to substitute for the premiums, deductibles, and copayments that health care

consumers now pay to private insurance companies will only become necessary in the latter months of the initial year of operations under Medicare for All.

Overall, in terms of administrative challenges, there are strengths and weaknesses that will be associated both with a longer phase-in period—such as the four-year plan proposed under the current Medicare for All bill—and an alternative shorter phase-in approach. These relative strengths and weaknesses will need to be evaluated carefully in developing a detailed transition program for Medicare for All.

Physicians' Fees and Increased Demand for Services

Medicare for All will increase overall demand for health care services. However, this increased demand for services should not create significant shortages in the supply of health care providers, even in the short run. This is primarily because, under Medicare for All, physicians will be able to substantially reduce the amount of time they now spend on administration and to correspondingly increase the time they can devote to patient care. This also means that physicians will be able to increase their billable hours. The increase in billable hours will, as an average, roughly compensate physicians for having to accept uniform Medicare payment rates. Medicare-based payment rates are lower than those paid by private insurance companies, but higher than those provided through Medicaid. Physicians in some specialized areas will experience a net loss of income in having to move to uniform Medicare payment rates. But compensation levels for these specialists is very high at present and will remain very high under Medicare for All. This is true relative to the overall U.S. income distribution and in comparison with specialists in comparable countries such as Germany, France, and the UK. In addition, reforming the financing of U.S. medical education such that physicians are not burdened with high debt levels after completing their professional training could offset any possible net compensation losses resulting from the establishment of a uniform Medicare-based provider fee structure.

Any modest shortfalls in physicians' available treatment time during the transition period can be addressed by increasing the care-delivery roles of nurse practitioners and physician assistants. Both nurse practitioners and physician assistants are trained and licensed to diagnose and treat common illnesses and injuries, manage chronic illnesses, prescribe medications, and provide counseling. Moreover, there is already an excess supply of nurse practitioners and physicians' assistants in the U.S. This excess supply problem will otherwise increase as the administrative responsibilities of these providers diminishes under Medicare for All.

The September 2017 draft of the Medicare for All bill stipulates that all U.S. residents will have the right to "obtain health services from any institution or individual qualified to participate under this Act." All patients therefore retain the right to receive treatment from their preferred health care providers. Moreover, because the increased demand for physicians' services under Medicare for All will be roughly matched by the major reduction in their administrative workload, there will not be any reason to expect patients to face difficulties in being treated by their preferred providers.

Just Transition for Displaced Workers

The implementation of Medicare for All will produce significant job losses for workers now employed in the private health insurance industry as well as administrative support staffers devoted to health insurance matters within the health care services industry. Providing fair

levels of support and protections for these workers will need to be a major component of the overall transition process. This should include full pension guarantees for all workers; a path to voluntary retirement for older workers that would include wage replacement as well as pension guarantees; and an average of one year of 100 percent wage replacement as well as retraining and relocation support for displaced workers.

The level of annual financing of such a Just Transition program will depend on how quickly the Medicare for All system is phased-in. Under a four-year phase-in, the entire Just Transition program could be more than covered through the annual \$30 billion budgetary surplus that we have incorporated into our financing proposal. If the phase-in were to occur more quickly, some additional funding would be needed for 1-2 years. For example, a two-year increase of 0.06 percent in the net worth tax that we have proposed to help finance Medicare for All over the longer term—i.e. an increase from 0.38 to 0.44 percent for two years—would fully cover the additional costs of coverage for a short-term phase-in.

7. Macroeconomic Impacts of Medicare for All

As of 2015, total health care spending in the U.S. was equal to 17.2 percent of GDP. The comparable ratio for eight other large industrial economies ranged between 8.9 percent of GDP for Italy and 11.3 percent of GDP for Germany. We show these comparable health care costs by country in Table S7.

Health care spending as a share of the U.S. economy has also risen dramatically over time. In 1970, U.S. Health Consumption Expenditures equaled 6.2 percent of GDP. The ratio then rose at an average rate of 2.2 per year through 2015. CMS projects that the ratio will continue rising at an average annual rate of about 0.9 percent between 2017 – 2026, reaching 18.8 percent by 2026.

How could Medicare for All impact this rising cost trend? Based on our estimates both of total costs of providing universal coverage and for potential savings, Health Consumption Expenditure/GDP should fall, as of the 2017 economy, to 15.8 percent. This would

TABLE S7
Total Health Spending as Share of GDP for
U.S. and 8 OECD Comparison Countries
Figures are for 2015

United States	17.2%
Italy	8.9%
Spain	9.0%
Australia	9.6%
United Kingdom	9.7%
Canada	10.3%
Japan	10.9%
France	11.0%
Germany	11.3%

Source: OECD. Health spending (indicator) (2015). <https://data.oecd.org/healthres/health-spending.htm>

represent a dramatic decline in the health care spending/GDP ratio for the U.S., but would still be substantially higher than the figures for all other large advanced economies.

What are the prospects for achieving further cost reductions beyond the one-time gains achieved through implementing Medicare for All, or even to stabilize the U.S. health spending/GDP ratio? We conclude that incremental improvements in service delivery can continue over time. This should enable health care costs to stabilize at around 15.8 percent of GDP, even after taking account of the rising cost pressures resulting from an aging population. This implies that the levels of funding and taxation that we present in Chapter 4 should remain sufficient to fully fund Medicare for All for several years.

Working from these conclusions, we can also present a 10-year projection for U.S. Health Consumption Expenditures under Medicare for All. To generate this projection, we utilize the CMS forecast for U.S. GDP over 2017 – 2026. We then assume that, under Medicare for All, Health Consumption Expenditures remain as a fixed 15.8 percent of GDP over the full decade. Table S8 shows the results of this exercise. Table S8 also shows the CMS projections of Health Consumption Expenditures over 2017 – 2026, operating within our existing health care system. This enables us to compare the CMS projection of Health Consumption Expenditures with our framework operating under Medicare for All.

As we see, cumulative Health Consumption Expenditures under the CMS projection will be \$42.90 trillion between 2017 – 2026. Following from our conclusion that Health Consumption Expenditures can remain stable at about 15.8 percent of GDP for a decade under Medicare for All, it follows that cumulative Health Consumption Expenditures from 2017 – 2026 will amount to \$37.79 trillion. Thus, the cumulative savings over the decade from operating U.S. health care under Medicare for All rather than the existing system would be \$5.11 trillion. This amounts to 2.1 percent of cumulative GDP between 2017 – 2026.

Would there be broader macroeconomic benefits—as measured by standard indicators such as GDP growth, productivity growth, and employment creation—through operating the U.S. health care system at a roughly stable level of around 15.8 percent of GDP, as opposed to having the health care spending share of the economy continue to rise over time? Answers to this question are contingent on what types of economic activities would receive additional resources as alternatives to spending a rising share on health care. Nevertheless, we can identify some basic considerations, including the following:

TABLE S8
Summary Figures: Comparative U.S. Health Consumption
Expenditure Projections, 2017 – 2026

CMS Projection of cumulative Health Consumption Expenditures under existing system	\$42.90 trillion
PERI projection of cumulative Health Consumption Expenditures under Medicare for All	\$37.79 trillion
Cumulative 10-year savings through Medicare for All	\$5.11 trillion
Cumulative 10-year savings, as % of cumulative GDP	2.1% of GDP

Source: See Table 39.

Improved health outcomes will raise productivity. This would be due to a significant share of workers missing less time from their jobs and being more effective while at work, because their health care circumstances will have improved.

Medicare for All will support greater income equality. The combined impact of the financing measures we propose in Chapter 4 will support rising income equality. In many circumstances, increasing equality—i.e. reducing inequality—will support improved macroeconomic performance. One well-understood channel is through raising overall demand in the economy. But reducing inequality will not necessarily yield positive macroeconomic results. For example, if wealthy households end up with less money to channel into purchasing financial assets, this could cause interest rates to rise. The net impact of these various effects will depend on a range of additional policies and circumstances that we cannot adequately evaluate here.

Medicare for All should support job creation. Medicare for All will support higher levels of spending on relatively labor-intensive activities. This is because net health care costs will fall for small- and medium-sized businesses. The operations of these businesses tend to be more labor-intensive than those for larger-scale businesses.

Effective Just Transition policies are necessary to support positive macroeconomic outcomes. Without effective Just Transition policies, the sharp downsizing of the private health insurance industry will produce a significant negative shock to the U.S. economy. Just Transition policies are therefore critical for capturing the broadest possible set of macroeconomic benefits that could result through implementing Medicare for All.

Economic Analysis of Medicare for All

1. UNIVERSAL HEALTH CARE AND HEALTH OUTCOMES

The focus of this study is an economic analysis of the 2017 Medicare for All bill. As we will discuss, according to our review of the relevant research literature, under the Medicare for All framework, the U.S. economy can achieve decent health care coverage for all residents, even while lowering overall costs of the health care system by about 10 percent. As we demonstrate below, this results through the combination of overall costs rising by roughly 12 percent to provide all U.S. residents with decent coverage, while the Medicare for All system achieves close to 20 percent in savings in its operations relative to the existing system. As a result, on average, all households and businesses should be able to spend about 10 percent less than they are now for health care, while all U.S. residents will be provided with decent coverage. In Chapter 5, we review in detail the financial impacts of the transition into Medicare for All for households and businesses of various types.

But, of course, Medicare for All cannot be simply evaluated on the basis of its financial impacts. The most fundamental goal is to improve health care outcomes, even if that is not the focus of this study. We nevertheless provide here a very brief overview of the substantial research literature examining how the provision of decent and affordable health care affects health outcomes.

As one standard reference, the U.S. Institute of Medicine (IOM) produced a series of six reports between 2002 and 2004 that reviewed the evidence on the lack of health insurance coverage in the U.S. The IOM then updated these findings in 2009. Their basic conclusion was that people lacking in health insurance suffer from worse health and die sooner than those who do have decent insurance. We quote here in full from the IOM's own "Summary of the Evidence on the Health Effects of Uninsurance for Children and Adults"¹:

Children benefit considerably from health insurance, as demonstrated by recent evaluations of enrollment in Medicaid and the SCHIP program:

- When previously uninsured children acquire insurance, their access to health care services, including ambulatory care, preventive health care (e.g., immunizations), prescription medications, and dental care improves.
- When previously uninsured children who are well or have special health needs acquire insurance, they are less likely to experience unmet health care needs. Uninsured children with special health care needs are much more likely to have an unmet health need than their counterparts with insurance.
- When previously uninsured children acquire insurance, they receive more timely diagnosis of serious health conditions, experience fewer avoidable hospitalizations, have improved asthma outcomes, and miss fewer days of school.

Adults benefit substantially from health insurance for preventive care when they are well and for early diagnosis and treatment when they are sick or injured:

- Without health insurance, men and women are less likely to receive effective clinical preventive services.

- Without health insurance, chronically ill adults are much more likely to delay or forgo needed health care and medications.
- Without health insurance, adults with cardiovascular disease or cardiac risk factors are less likely to be aware of their conditions, their conditions are less likely to be well controlled, and they experience worse health outcomes.
- Without health insurance, adults are more likely to be diagnosed with later-stage breast, colorectal, or other cancers that are detectable by screening or symptom assessment by a clinician. As a consequence, when uninsured adults are diagnosed with such cancers, they are more likely to die or suffer poorer health outcomes.
- Without health insurance, adults with serious conditions, such as cardio-vascular disease or trauma, have higher mortality.
- The benefits of health insurance have been clearly demonstrated through recent studies of the experiences of previously uninsured adults after they acquire Medicare coverage at age 65. These studies demonstrate that when previously uninsured adults gain Medicare coverage:
 - Their access to physician services and hospital care, particularly for adults with cardiovascular disease or diabetes, improves.
 - Their use of effective clinical preventive services increases.
 - They experience substantially improved trends in health and functional status.
 - Their risk of death when hospitalized for serious conditions declines.

A good example of the types of specific research results that the general IOM report summarized is the 2009 study by Wilper et al., “Health Insurance and Mortality in U.S. Adults.”² The authors of this study analyzed data from the Third National Health and Nutrition Examination Survey. They found that uninsurance is positively associated with mortality. They write that “the strength of that association appears similar to that from a study that evaluated data from the mid-1980s, despite changes in medical therapeutics and the demography of the uninsured since that time,” (2009, p. 2289). Specifically, they found that “lack of health insurance is associated with as many as 44,789 deaths per year in the United States, more than those caused by kidney disease,” (2009, p. 2294).

A more recent survey by Sommers et al. (2017), “Health Insurance Coverage and Health—What the Recent Evidence Tells Us,” reaches the same basic conclusion.³ This survey reviews findings from studies published between 2009 – 2017. Most of the papers reviewed were published between 2013 – 17, and focused on the impact of the expansion of coverage resulting from the Affordable Care Act. Their conclusion from the review is as follows:

The body of evidence summarized here indicates that coverage expansions significantly increase patients’ access to care and use of preventive care, primary care, chronic illness treatment, medications and surgery. These increases appear to produce significant, multi-faceted and nuanced benefits to health. Some benefits may manifest in earlier detection of disease, some in better medication, adherence and management of chronic conditions, and some in the psychological well-being borne of knowing one can afford care when one gets sick (2017, pp. 590-591).

As we discuss at length in Chapter 2, the problems with health insurance coverage in the U.S. is also not limited only to those without insurance altogether. The more pervasive problem is “underinsurance.” This refers to individuals and families who are covered by health insurance, but their insurance policies include deductibles and other forms of cost sharing that are prohibitively expensive—to the extent that they are unable to obtain the health care they require.

The Commonwealth Fund has been providing biennial studies as to the effects of being underinsured in the U.S. on both health outcomes and households’ financial well-being. Their most recent October 2017 publication, “How Well Does Insurance Coverage Protect Consumers from Health Care Costs?” reached the following conclusions concerning both health outcomes and finances⁴:

On health outcomes:

“Underinsured adults are more likely to skip needed health care because of cost than are adults with more cost-protective insurance. More than two of five (45%) underinsured adults reported not getting needed medical care because of cost in the past year, including not going to the doctor when sick, not filling a prescription, skipping a test or treatment recommended by a doctor or not seeing a specialist. This is twice the rate of continuously insured adults who were not underinsured (22%). It is also close to the rate reported by adults who were uninsured (52%). The two states with the highest share of underinsured adults (Florida and Texas) also had the highest shares of insured adults who reported cost-related problems getting needed care,” (p. 9).

On finances:

“Many adults who have struggled to pay their medical bills report lingering financial problems. People who are either underinsured or uninsured have the highest rates of such problems: both groups had higher debt loads and lower incomes than adequately insured adults. Half (47%) of underinsured adults who had problems paying medical bills or had medical debt said they had used up all of their savings to pay their bills; 40 percent said they had received a lower credit rating because of their bills. Over one-third (38%) of underinsured adults with medical bill problems said they had taken on credit card debt to pay bills. About 6 percent of underinsured adults reported they had to declare bankruptcy,” (p. 9).

It is also the case, that, on balance, other countries that provide universal health care systems do generate superior health outcomes. Galvani et al. (2017) summarize some key evidence as follows:

In other countries, a shift to universal health care has been associated with reduced mortality. Specifically, 34 countries score higher than the USA on the Health Access and Quality Index, a metric based on amenable mortality, or death that could be averted with medical care. All of these countries provide a form of universal care (2017, p. 2012).⁵

Overall then, this substantial amount of recent literature provides a solid foundation for concluding that the provision of decent health care to all U.S. residents will provide major benefits in terms of both health outcomes and financial security.

At the same time, this does not mean that the universal provision of decent health care is the only significant factor in determining health outcomes in the U.S. or elsewhere. Rather,

overall health outcomes also depend substantially on the broader set of conditions and life opportunities provided to people in any society. Rice and Unruh (2016) explain this issue as follows:

The issue can be illustrated by considering what might seem an odd example: the consequences of health status in utero. Most people would likely claim that a person should not be disadvantaged by things over which he has no control. Currie (2011) showed that key opportunities in life, such as better health and education, are directly related to health at birth, which in turn is related to the physical environment during gestation. Mothers who are exposed to more pollutants while pregnant, everything else equal, tend to have babies of lower birth weight, which directly affects health and other outcomes later in life—and even affects later generations. These mothers are disproportionately poor and minorities. While there are no easy answers for addressing such inequities, notions of social justice...make it clear that public policy efforts must address the factors underlying the social determinants of health (2016, pp. 360 – 61).

The transition to Medicare for All should encourage more systematic initiatives focused on the social determinants of health, including income inequality and poverty, employment opportunities, education, housing, transportation, nutrition, environmental quality, violence, and the criminal justice system. With respect to overall budgetary priorities, the transition to Medicare for All should similarly encourage greater consideration around rebalancing health expenditures between acute care and prevention. But addressing these broader questions around the social determinants of health is beyond the scope of this study.

2. DEMAND INCREASES AND COSTS OF UNIVERSAL HEALTH CARE

Estimates of national health care expenditures are provided in the National Health Expenditure Accounts produced by the Centers for Medicare and Medicaid Services (CMS).⁶ The most recent actual figures reported by CMS are for 2016. CMS also provides projected figures through 2026. Our analysis will focus most fully on the 2017 projected figures, while referring to the actual figures for 2016 and previous years as appropriate.

National Health Expenditures and Health Consumption Expenditures

The most aggregated category of U.S. health care spending in the CMS accounting framework is termed “National Health Expenditures.” According to the CMS projection, National Health Expenditures for 2017 totaled to \$3.49 trillion, which is equal to 18.0 percent of their projected figure for U.S. GDP in 2017.

In this study, we focus on the largest subcategory of spending within total National Health Expenditures, which the CMS terms “Health Consumption Expenditures.” Health Consumption Expenditures includes every category in National Health Expenditures other than spending on what CMS terms “Investment.” The “Investment” category includes the national budgets for 1) research and 2) structures and equipment. These two categories of health care spending are financed in distinct ways relative to the rest of the U.S. health care system, and are therefore not covered as components of the Medicare for All proposal. Spending on all of the categories that are included in U.S. Health Consumption Expenditures amount to \$3.33 trillion for 2017. This total accounts for 95.3 percent of all National Health Expenditures for 2017. This Health Consumption Expenditures figure is itself equal to 17.2 percent of projected U.S. GDP for 2017.

Spending Categories within Overall Health Consumption Expenditures

Table 1 shows U.S. Health Consumption Expenditures broken down by the main categories and subcategories of spending. As we see, there are three categories of spending: 1) total personal care; 2) administration and private insurance profits; and 3) public health activity.⁷

Personal Care. Among these three categories, the largest by far is Total Personal Care. This accounts for \$3.0 trillion in total spending, or 89.0 percent of all Health Consumption Expenditures. Within Total Personal Care, the three main areas of spending are for hospitals (34.1 percent of health consumption expenditures), physicians/clinics (21.0 percent) and retail spending on pharmaceuticals (10.2 percent).⁸ Together, for 2017, these three categories account for 73.3 percent of Personal Care and 65.3 percent of all Health Consumption Expenditures.

TABLE 1
U.S. Health Consumption Expenditures
Personal Health, Administrative, and Public Health Expenditures, 2017 Estimates

	Spending level (billions \$\$)	Share of total spending
1. Total personal care	\$2,958.1	89.0% (= row 1/row 4)
Hospitals	\$1,132.6	34.1%
Physicians/clinics	\$698.3	21.0%
Pharmaceuticals—retail	\$338.1	10.2%
Other care services*	\$180.4	5.4%
Nursing home services	\$168.1	5.1%
Dental	\$129.1	3.9%
Home health care	\$97.1	2.9%
Other professional services**	\$96.5	2.9%
Other expenditures***	\$65.1	2.0%
Durable medical equipment	\$52.9	1.6%
2. Administration and private insurance profits	\$282.8	8.5% (= row 2/row 4)
Private insurance administration and profits	\$143.0	4.3%
Medicaid administration	\$66.5	2.0%
Medicare administration	\$46.6	1.4%
Other third-party payers	\$20.0	0.6%
Other health insurance	\$6.7	0.2%
3. Public health activity	\$84.5	2.5% (=row 3/row 4)
4. U.S. HEALTH EXPENDITURES (= rows 1+2+3)	\$3,325.4	100.0%

Sources: Centers for Medicare and Medicaid Services National Health Expenditure database; Cuckler, Gigi A., Andrea M. Sisko, John A. Poisal, Sean P. Keehan, Sheila D. Smith, Andrew J. Madison, Christian J. Wolfe, and James C. Hardesty. (2018) "National health expenditure projections, 2017–26: despite uncertainty, fundamentals primarily drive spending growth." *Health Affairs* 37, no. 3 482–492; and Keehan, Sean P., Devin A. Stone, John A. Poisal, Gigi A. Cuckler, Andrea M. Sisko, Sheila D. Smith, Andrew J. Madison, Christian J. Wolfe, and Joseph M. Lizonitz. (2017) "National health expenditure projections, 2016–25: price increases, aging push sector to 20 percent of economy." *Health Affairs* 36, no. 3 553–563.

Notes: The percentages of spending on "Administration and Private Insurance Profits" are taken from the Keehan et al. 2017 study, the latest available. **Other Care Services" include EMS, ambulances, and care provided in settings such as community centers, senior citizen centers, schools and military field stations. ***Other professional services" include services provided by, among others, chiropractors, optometrists, physical, occupational, and speech therapists, podiatrists, and private-duty nurses. ****Other expenditures" is a residual category, which includes non-prescription drugs and medical sundries, such as surgical and medical instruments, surgical dressings, and diagnostic products such as needles and thermometers.

Administration and Private Insurance Profits. As we see in Table 1, this category of spending overall amounts to \$282.8 billion for 2017. The largest share of this category of spending goes for private insurance administration and profits, which accounts for \$143 billion, or about 4.3 percent of overall spending. The other large share of spending in this category is for public administration of Medicare and Medicaid programs. These account for \$113.1 billion in spending for 2017, or about 3.4 percent of overall spending.

Public Health Activity. This spending category incorporates government spending for the public provision of health services such as epidemiological surveillance, inoculations, immunization/vaccination services, disease prevention programs, the operation of public health laboratories, and other such functions. Most federal government public health activity emanates from the Health and Human Services Department. The Food and Drug Administration and the Centers for Disease Control and Prevention account for the great majority of federal spending in the area. As we see in Table 1, in 2017, this public health activity amounts to \$84.5 billion, equal to 2.5 percent of total Health Consumption Expenditures.

Current U.S. Health Insurance Coverage

To estimate the current state of health insurance coverage in the U.S., we use data from the U.S. Current Population Survey. This is a household survey jointly administered by the federal government's Bureau of the Census and Bureau of Labor Statistics. Our estimates here are based on data from the 2017 Annual Social and Economic Supplement, which collects information on health insurance status in 2016.

In Table 2, we report the most recently published 2016 figures on insured and uninsured throughout the U.S. As we see, as of 2016, there were 28.1 million residents of the U.S. who were uninsured, amounting to 8.8 percent of the population, while 292.3 million, 91.2 percent of the population, were insured.

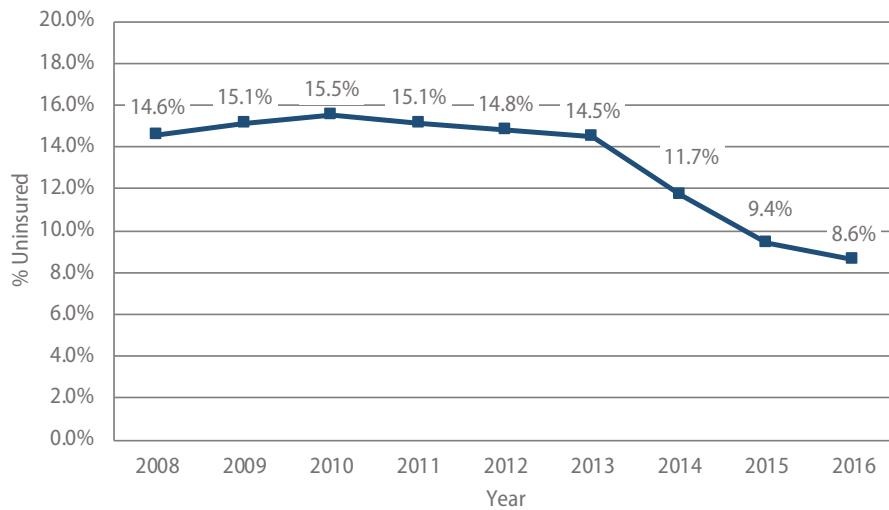
The percentage of the U.S. population that is uninsured has dropped significantly since the enactment of the Affordable Care Act (ACA) in 2010. Figure 1 shows this pattern. As we see, as of 2008, 14.6 percent of the U.S. population had no health insurance. That figure rose to 15.5 percent as of 2010, the year in which the ACA passed into law. Following the enactment of the ACA, the percentage of uninsured has dropped substantially every year, as Figure 1 shows. Yet, despite these significant gains in coverage achieved since the enactment of the ACA in 2010, it remains the case that nearly 30 million U.S. residents are still uninsured as of 2016.

TABLE 2
U.S. Health Insurance Coverage, 2016

	Number of people (in millions)	Share of population
Insured	292.3	91.2%
Uninsured	28.1	8.8%
Total	320.4	100.0%

Source: U.S. Census Bureau. Current Population Survey. Annual Social and Economic Supplement (2017).

FIGURE 1: U.S. Population with No Health Insurance Coverage (%), 2008-2016



Note: The trend data in this figure are based on the U.S. Census Bureau's American Community Survey (ACS) instead of its CPS survey. This is because in 2014, the Census significantly revised its 2014 CPS survey questionnaire, causing a break in that survey's historical trend data. The overall trend based on the ACS data, however, moves in the same direction as the CPS data, and the ACS-based percent uninsured in 2016 is nearly identical to that based on the CPS, i.e. 8.6% vs. 8.8%, respectively.

Current Health Care Expenditures on Uninsured

For the purposes of our overall cost estimates, it is important to recognize that the uninsured do utilize health care services. Providing these services does entail expenditures for the U.S. health care system.

An extensive 2014 study by Coughlin et al., *Uncompensated Care for the Uninsured in 2013*, found that, for the U.S. overall, health care spending on the average non-elderly uninsured person amounted to roughly half the spending for the average insured non-elderly person (\$2,443 versus \$4,876).⁹ The study also reported that, of the \$2,443 in total average spending on the uninsured, \$1,702 was uncompensated, while \$741 was compensated.

This \$1,702 figure, however, does not represent health care spending that is entirely uncompensated (e.g., provided as charity work by health care providers). Instead, this \$1,702 figure includes health care spending that cannot be directly tied to the *individual* who receives care, but may instead be covered by funds directed to health care *providers* through programs that subsidize the overall provision of health care to the uninsured. These programs, including among others, Medicare, Medicaid, Indian Health Services, Veterans Health Administration, ultimately compensate health care providers with roughly 60 percent of this \$1,702 figure.¹⁰ In other words, about \$680 of this \$1,702 figure is truly uncompensated and the remaining \$1,020 is compensated through various programs that support the provision of health care for the uninsured.

Overall then, the total compensated care among the uninsured is about \$1,760 (i.e., \$1,020 + \$741). This figure—the total compensated care among the uninsured—amounts to about 35 percent of the spending on the fully insured ($= \$1,760 / \$4,876$).¹¹ This means that, all else equal, to provide fully compensated health care coverage for the 28.1 million people—8.8 percent of the population—who are presently uninsured, spending on these

people will have to rise nearly 3-fold relative to current spending (i.e. current spending on uninsured/ $0.35 = 2.86$).

Age Distribution of Uninsured Population

To estimate the costs of providing full coverage for the presently uninsured, we need to also take account of the age distribution of the uninsured relative to the insured. This is because the costs of providing insurance for younger people will be lower than the average for the population as a whole.

Table 3 shows the distribution of the uninsured population in the U.S. according to age cohorts. As we see, the cohorts in which the largest share are uninsured are younger adults. Thus, the share of uninsured who are between the ages of 26 – 34 is 22.2 percent and the share of uninsured between 35 – 44 years old is 18.7 percent. These shares are between about 7 – 11 percentage points higher than the shares of insured people within these same age cohorts. For those between the ages of 19 – 25, the share of overall uninsured is 13.9 percent and the share insured is 8.9 percent, a 5 percentage point difference. We return to these figures below in presenting our estimate for providing full coverage to the currently uninsured.

Sources of Insurance Coverage

Table 4 reports on the sources of health insurance for U.S. residents who have some form of insurance as of 2016. As the table shows, 74 percent of the population carry insurance through some form of private insurance plan. The next largest source of insurance is Medicaid, which covers 62.3 million people throughout the U.S., or about 21 percent of the total of insured. Medicare covers 53.4 million people, amounting to 18.3 percent of the insured. The U.S. military provides coverage for 14.6 million people, equal to 5.0 percent of the covered population. Note that people can carry more than one type of insurance coverage among these four alternatives. That is why adding up the percentages for all four types of coverage gives a total of 118.6 percent.

TABLE 3
Distribution of Uninsured Population in United States by Age Cohort, 2016

	Uninsured population		Insured population	
	Number of uninsured people	Share of total uninsured people	Number of insured people	Share of total insured people
Ages 0 – 18	4.2 million	15.0%	73.9 million	25.3%
Ages 19 – 25	3.9 million	13.9%	25.9 million	8.9%
Ages 26 – 34	6.2 million	22.2%	33.5 million	11.5%
Ages 35 – 44	5.3 million	18.7%	34.8 million	11.9%
Ages 45 – 64	7.9 million	28.0%	75.5 million	25.8%
Ages 65 and over	0.6 million	2.1%	48.7 million	16.7%
TOTALS	28.1 million	100.0%	292.3 million	100.0%

Sources: U.S. Census Bureau, Current Population Survey, Annual Social and Economic Supplement (2017).

TABLE 4
Types of Insurance Carried by U.S. Residents

	Number of people (in millions)	Share of total insured
Private insurance	216.2 million	74.0%
Medicaid	62.3 million	21.3%
Medicare	53.4 million	18.3%
Military coverage	14.6 million	5.0%

Source: U.S. Census Bureau, Current Population Survey, Annual Social and Economic Supplement (2017).

Note: Categories are not mutually exclusive. People can carry more than one type of insurance.

Estimates of Underinsurance

As we noted above, the size of the uninsured population in the U.S. dropped significantly after the introduction of the ACA. However, despite these significant gains in health insurance coverage, there remains a very large share of the U.S. population that is *underinsured*. The underinsured are individuals and families who are covered by health insurance, but their insurance policies include deductibles and other forms of cost sharing that are prohibitively expensive—to the extent that they are unable to obtain the health care they require.

An October 2017 study by Sara Collins et al. of the Commonwealth Fund examines the issue of underinsurance in depth, working from their 2016 Biennial Health Insurance Survey.¹² This study presents a clearly defined measure of underinsurance. That is, adults in the survey are defined as underinsured “if they had health insurance continuously for the preceding 12 months but still had out-of-pocket costs or deductibles that were high relative to their incomes,” (p. 2). More specifically, this definition of the “underinsured” includes those for whom out-of-pocket costs, excluding premiums, over the prior 12 months are equal to 10 percent or more of household income; out-of-pocket costs, excluding premiums, are equal to 5 percent or more of household income if income is under 200 percent of the federal poverty level; or if the deductible is 5 percent or more of household income. According to this definition, 28 percent of the U.S. adults in their survey ages 19 to 64 who were insured all year were in fact “underinsured.”

This same Commonwealth Fund study also reports on an additional set of findings from their survey which, in our view, is even more pertinent in establishing a meaningful measure of underinsurance. The study reports on the proportion of U.S. adults who, over the past year, experienced what they term “access problems” with the health care system due to costs despite the fact that they were covered by insurance. More specifically, this is the share of insured adults ages 19 – 64 who “went without needed care in the past year because of cost,” (p. 19). In our view, this is a well-specified, objective measure of those who are being deprived of needed health care for financial reasons, even though they are covered by health insurance.

The Commonwealth Fund survey includes four categories through which people report having been deprived of necessary care because of costs. We show all four categories in Table 5. As we see, the results range from 10 percent of respondents “not receiving specialist care” to 16 percent of respondents who “did not fill a prescription.” As we also show in Table 5, the survey provides an inclusive measure, which is the percentage of respondents

TABLE 5

Measure of Underinsurance in the United States

Share of the insured U.S. adult population which went without needed health care because of cost
Figures are for 2016

Access problems in 2016	Percentage of insured population with access problem
Did not fill prescription	16%
Skipped recommended test, treatment or follow-up	15%
Had a medical problem, did not visit doctor or clinic	15%
Did not get needed specialist care	10%
Inclusive measure: Experienced at least one of four access problems because of cost	29%

Source: Collins, Sara R., Munira Z. Gunja, and Michelle M. Doty. "How Well Does Insurance Coverage Protect Consumers from Health Care Costs?" *The Commonwealth Fund*. October 18 (2017). <http://bit.ly/2KCEIUn>.

who report having "at least one of the four access problems because of cost." As we see, that figure is 29 percent—i.e. 29 percent of U.S. adults who were carrying health insurance nevertheless went without one form of needed health care in 2016.

Thus, based on this survey evidence on access problems, we conclude that, by our working definition, 29 percent of the insured U.S. adult population is underinsured. These are people who will need to be provided with full health care coverage through establishing the single-payer system. In our discussion below, we incorporate the costs to the system of providing these underinsured people with full coverage.¹³

Underinsurance, Cost-Sharing, and Utilization

Over recent decades, numerous studies focused on the U.S. case have shown that people do vary their utilization of health care, at least to some degree, depending on how much they must pay out-of-pocket for their care. The survey evidence that we report above—showing that 29 percent of insured people in the U.S. restrict their own access to health care coverage due to costs—is consistent with this proposition.

The most well-known study that has addressed this issue is the Rand Health Insurance experiment. This project was conducted between 1974 – 82. During those years, nearly 6,000 U.S. individuals were given health insurance, but with different arrangements with respect to cost-sharing. The various types of insurance were assigned randomly to the participating households. The experiment showed that health expenditures tended to fall as the amount of cost-sharing increased.¹⁴ Following from the results of the Rand Experiment and subsequent relevant literature, we would expect average health spending to increase if cost-sharing were reduced, as proposed in the draft Medicare-for-All single payer bill.

But that then raises two more precise questions. The first is, *how much* would we expect utilization rates to rise through the single payer program, relative to current utilization rates? The second is, what is the likely impact in terms of health outcomes in moving from relatively high to relatively low cost sharing arrangements?

The extensive literature that has emerged following from the Rand study is highly informative here. Some of this subsequent literature, building from the Rand study, has utilized additional data and modeling assumptions, to produce a broad finding that, on average, a 10 percent increase in out-of-pocket costs would be associated with a 2 percent decrease in health expenditures.¹⁵ Correspondingly, and more directly relevant for our purposes, this result suggests that a 10 percent *decrease* in out-of-pocket costs would be associated with a 2 percent increase in health expenditures. In technical terminology, this finding is an *elasticity* estimate of how much health expenditures will vary according to the level of out-of-pocket spending, with the elasticity figure expressed as -0.2. The -0.2 figure means, for example, that, given an initial health care spending level of \$1,000, a \$100 increase in health care costs (10 percent increase) to consumers will produce a \$20 reduction (2 percent decline) in the consumers' health care spending. More specifically to the point in assessing the impact of moving onto a single-payer system with no cost sharing, the elasticity figure implies, for example, that a \$100 reduction in consumers' health care costs from the initial spending level of \$1,000 will lead to an increase of \$20 in consumers' health care spending.

At the same time, several studies have raised significant concerns with respect to relying on any single, static estimate of the relationship between out-of-pocket expenditures and overall health care spending such as the -0.2 elasticity. For instance, it has been shown that the extent to which people will alter their health care utilization rates will be responsive to the *specific types* of cost-sharing arrangement being used—that is, to what extent costs are in the form of initial premiums, deductibles tied to receiving treatments, or co-payments charged for treatments in addition to deductibles.¹⁶

The single most important consideration here is that the effects of cost-sharing will vary according to the *size of the deductible relative to the amount of the overall expenditure*. This is because the costs per treatment will fall over the course of a year as patients pay down their annual deductibles. Consider a standard annual deductible. Up to the deductible amount, an individual pays 100 percent of his or her health care costs within a given year, while the insurance carrier pays nothing. However, for each dollar spent above the deductible, the insurance carrier begins to cover a share of total costs, generally paying most, if not all, of the additional costs above the annual deductible amount. Under this sort of standard arrangement with respect to deductibles, if we were to simply assume that health care expenditures were to fall by 2 percent whenever out-of-pocket costs increase by 10 percent, we would be neglecting the effects of how much individuals will need to pay at any given point in a year based on where they stand with respect to their deductible obligations.

Aron-Dine, Einav, and Finkelstein (2013) have examined these considerations as they relate to the viability of using a single generally applicable elasticity figure—i.e. that a 10 percent decrease in out-of-pocket costs would yield a 2 percent increase in health expenditures—derived from the Rand study. They write:

A major challenge for any researcher attempting to transform the findings from experimental treatment effects of health insurance contracts into an estimate of the price elasticity of demand for medical care is that health insurance contracts—both in the real world and in the RAND experiment—are highly nonlinear, with the price faced by the consumer typically falling as total medical spending accumulates during the year (2013, p. 212).¹⁷

Once Aron-Dine et al. take account of the widely-varying level of cost-sharing embedded in health insurance contracts, they find that, working with the Rand study results themselves, elasticities for cost-sharing in fact exhibit wide variation—ranging between -0.04 (i.e. virtually no impact of cost sharing on utilization) to -0.6 (i.e. an impact that is three times greater than the -0.2 elasticity figure frequently as cited as coming from the Rand study; see p. 215). Clearly, according to their findings, the idea that one can reliably assume a uniform impact on health care utilization from the cost-sharing results of the Rand study is not tenable.

A 2017 study by Brot-Goldberg et al. sheds further light on these issues. The authors examined circumstances in which individuals in a self-financed, employer-sponsored insurance plan were moved from a situation with no cost-sharing (i.e. no deductibles or co-pays) to a high-deductible plan with co-pays and the same coverage of health services.¹⁸ The study found that individuals did reduce health care spending in response to the change in cost-sharing. But the reduction in spending was only evident when consumers were *under the deductible*. When consumers were no longer under the deductible amount, there was no evidence of a change in utilization associated with the shift to a high-deductible plan. That is, having to cover the co-payments above the deductible amounts had no further impact on the level of overall health care utilization. This is exactly the type of “non-linear” set of responses on which the Aron-Dine et al. study is focused.

It is also important to note that Brot-Goldberg et al. found that, while under the deductible, consumers cut health care spending across-the-board relative to when they were enrolled in a zero cost-sharing plan, regardless of whether the services being considered were low- or high-value. For example, spending on imaging services such as MRIs and CT scans fell by 22 percent, some of which, the authors suggest, was likely unnecessary. But consumers also cut spending on regular check-ups and other preventive measures by 18 percent.

Considering then both the impact of the deductibles and co-pays, the Brot-Goldberg et al. study found that, in the case study they were investigating, the movement from a zero cost-sharing plan to a high-deductible plan was associated with a decrease in health care spending of “between 11.8 and 13.8 percent, occurring across the spectrum of health care service categories, (2017, p. 1314).” We will refer below to these and related findings in generating an estimate as to how much overall utilization is likely to change under Medicare for All.

The Brot-Goldberg et al. result is also consistent with a broad range of literature that has examined the impact of cost-sharing on both health care treatment and health outcomes. The 2016 survey by Rice and Unruh reports on this literature as follows:

A recent review of 160 articles published between 1974 and 2008 [found] that...in 85 percent of the studies, higher cost sharing for medicines led to reduced adherence to medications. A number of the studies examine preventive services...Moreover, studies indicate that cost sharing has substantial impacts on health (p. 108).¹⁹

A 2015 study by Baiker, Mullainathan and Schartzstein supports this same point, but considers the issue with respect to its impact on health care costs over the long term.²⁰ They find that creating cost-barriers to treatment at any given time can lead to increased overall health care costs because consumers are not receiving the preventive treatments that will improve their health over time. They find that:

The reduced cost of care might in some cases improve the efficiency of the health care system by inducing individuals to use valuable care they would have foregone if they had faced the full cost. Indeed, research suggests that higher copays can dissuade the use of high-value care (care for which health benefits are large relative to costs) as much as of low-value care, suggesting that behavioral hazard is quite prevalent.²¹

The authors point out that areas of the health care system in which we observe substantial underutilization include management of chronic diseases, such as diabetes, high blood pressure, asthma and high cholesterol. These areas of health care are responsible for a large share of total health care costs. Further, the authors note that much of the costs of these diseases is incurred in the late stages and likely involves overuse of care following earlier underuse as the disease progressed.

The Potential Impact of Physician-Induced Demand

The extent to which utilization of health care services may increase under a single-payer system by those who are already fully insured will be affected by how much any utilization increases result from actions by providers—i.e. physicians and hospitals—as opposed to decisions by individual consumers. Under the existing U.S. health care system, there are incentives built into the system’s operations that encourage what is termed “physician-induced demand.” That is, some share of any increase in utilization could result through providers ordering more tests, procedures, and expensive drugs after the costs of such measures are fully covered through insurance, as opposed to patients having to partially cover these additional costs. A recent survey of the literature on this issue by E.M. Johnson describes the term as follows:

Under the physician-induced demand hypothesis, physicians influence patient demand to suit their own interests. They are able to do this because their patients know relatively little about the type or quantity of treatment they need. Faced with payment systems that reward quantity of care on the margin, the inducing physician provides care beyond the level that objective clinical judgment and patient preferences would dictate. In short, inducing physicians create their own demand rather than reacting to market demand (2014, p. 77).²²

Johnson’s conclusion is that the evidence is mixed as to the extent to which physician-induced demand occurs. He explains that it is difficult to establish one overarching pattern as to the extent of physician-induced demand because the incentives for physicians to engage in such practices vary widely according to the administrative framework in which they practice. Yet it is clear from the evidence he reviews that the extent of physician-induced demand will diminish within a health care system that establishes effective controls in the areas of provider fees, pharmaceutical pricing, hospital price-setting, and effective regulation over the level of service provision. That is, the incentive to engage in physician-induced demand will vary according to the extent to which the financial rewards provided by such behavior are limited by regulations.

This same point was emphasized in the 1994 survey article by Thomas Rice and Kathleen R. Morrison, “Patient Cost Sharing for Medical Services: A Review of the Literature and Implications for Health Care Reform.”²³ They find, among other relevant results, that:

It is not possible to project accurately how overall health care expenditures would change if there were a major alteration in cost sharing requirements. Although studies such as the HIE [the Rand study] have calculated demand elasticities, their estimates do not necessarily apply to situations involving widespread changes in cost-sharing requirements. This is because such studies were not able to determine how providers might respond to widespread changes in patient demand (p. 265).

In Chapter 3, we examine the alternative approaches to budgetary management within the Medicare for All system that will be consistent with minimizing physician-induced demand while still operating with limited consumer cost-sharing.

Alternative Estimates of System-Wide Utilization and Cost Increases with Medicare for All

The Medicare for All draft legislation virtually eliminates cost-sharing, including for “deductibles, coinsurance, copayments, or similar charges,” (p.11).²⁴ The only area where the proposed legislation permits cost-sharing is for “prescription drugs and biological products,” (p. 11). But even in such cases, cost-sharing is permitted only under these conditions:

1. It is evidence-based and encourages the use of generic drugs;
2. It does not apply to preventive drugs; and
3. It does not exceed \$200 annually per individual, adjusted for inflation (p. 12).

For the purposes of our analysis, it is reasonable to assume that Medicare for All will operate with effectively no forms of cost-sharing. How much should we therefore expect this virtual elimination of cost-sharing to affect utilization rates?

The research we have reviewed above makes clear that this is a challenging question to answer. To begin with, it is evident that we cannot rely on the single -0.2 elasticity figure often associated with the Rand study as a sole reference point, given the complex non-linearities operating within existing health care plans. We also need to recognize how eliminating cost-sharing can generate systemic cost savings over time, as discussed above, as consumers are encouraged to seek preventive treatment for chronic diseases. These early-stage preventative interventions can reduce the need for higher-cost treatments at later stages of care. Finally, again, the extent of utilization increase under Medicare for All will depend on how much the new health insurance system establishes effective controls for limiting physician-induced demand and related sources of excessive spending. We will review these budgetary design issues in Chapter 3.

The health care systems in other countries do, for the most part, include some forms of cost sharing, though generally to a minimal extent. For example, in Canada, there is no cost sharing for publicly insured physician, diagnostic and hospital services. All prescription drugs provided in hospitals are covered publicly. The largest areas of cost sharing are for long-term care, prescriptions filled outside of hospitals and over-the-counter medications, as well as dental and vision care. In the UK, out-of-pocket payments are limited to services that fall outside the purview of the National Health Service, including examinations for employment

or insurance purposes and the provision of certificates for travel, drugs prescribed outside the NHS, and medical appliances and equipment. In Germany, modest levels of cost-sharing are applied mainly to outpatient prescription drugs, inpatient stays in hospitals and rehabilitation centers and prescribed medical devices. In the United States, by contrast, most private health insurance plans require copayments for physician visits, hospital services, and prescription drugs. Yet, as we will review in Chapter 7, Canada, the UK, and Germany operate their health care systems at between 10 – 11 percent of GDP, while in the U.S., the comparable figure is 17.2 percent.²⁵

Given the various considerations and experiences with cost sharing, for our purposes now, the most reliable approach will be to consider a range of perspectives in estimating how Medicare for All is likely to impact utilization and system-wide costs. In what follows, we therefore present two alternative approaches in some detail, with further references from additional studies. The first approach that we develop in detail builds from the results we discussed above from the Commonwealth Fund survey on underinsurance as well as the Brot-Goldberg et al. study on consumers adjusting from a zero cost-sharing plan to a high-deductible plan. This approach also works from the evidence we cited above on the current level of compensated care for the uninsured, assuming that, under Medicare for All, their spending levels will equal that for those who are presently fully insured. The second approach works from results cited by Kenneth Thorpe in his analysis of the single-payer proposal advanced by Sen. Sanders in his 2016 presidential campaign. We will focus on the data presented by Thorpe on shifts in utilization rates for different population cohorts in moving into zero cost-sharing insurance plans.²⁶ We will refer to these two approaches as, respectively, the “PERI” and “Thorpe” approaches.²⁷

At this point in our study, our approach in considering all of this research is to estimate the overall costs of extending universal full health care coverage throughout the U.S., *assuming that the existing health care system otherwise remains intact*. That is, we are estimating the increases in coverage and costs that would result from Medicare for All, but not the potential savings that could also result through enacting Medicare for All. We consider the prospects for cost savings under Medicare for All in Chapter 3.

The PERI Approach

As noted above, with this approach, we work first from the Commonwealth Fund survey, which, again, found that 29 percent of the insured U.S. population is underinsured by the definition we are using—that is, these are people who were carrying insurance but went without needed care in the past year because of cost considerations. We assume that these individuals are in a situation similar to people in high-deductible insurance plans, as described by Brot-Goldberg et al. Virtually eliminating cost sharing would mean the cost constraint on health care spending would be removed for this 29 percent of the insured population who are “underinsured” by our definition.

The Brot-Goldberg study found that, when individuals moved from a zero cost-sharing plan to a high-deductible plan, their overall utilization declined by between about 12 to 14 percent. We assume that removing the cost-sharing constraint should increase utilization of the underinsured by the same range. In percentage terms, a 12 – 14 percent decrease in spending corresponds with an approximately 14 – 16 percent spending *increase*.²⁸ In the

calculations that follow, we take the high end of this percentage increase range. That is, we assume that the 29 percent of the insured population who are presently underinsured by our definition will increase their health care spending by 16 percent once they no longer face constraints on their health care spending due to cost-sharing obligations.

In working with this high-end estimate of the increase in utilization for the presently underinsured, we are also effectively allowing for some additional increases in utilization among the population that is *fully insured and with no access problems*. The relevant research is mixed as to how much the fully insured with no access problems may increase utilization after cost-sharing is eliminated from their health insurance plans. Most of the evidence suggests that such utilization increases are likely to be modest. We consider this further in our discussion of the Thorpe approach.

In Table 6, panels A – C, we present the results of our cost increase estimate for Medicare for All. Before reviewing the results themselves, it will be useful to first summarize the assumptions under which we derive the results presented in Table 6.

Numbers of insured and uninsured. The most recent published figures on the numbers and percentages of individuals in the U.S. population that are insured and uninsured are based on 2016 (see Table 2). In order to insure that our cost estimates reflect the conditions in 2017 as closely as possible, we apply the 2016 percentages to population figures for 2017.

Spending increase on uninsured. As noted above, current compensated spending on the uninsured is 35 percent of the spending level on the insured. Under Medicare for All, those presently uninsured will receive the same average level of health care spending as those who are presently insured.

Demographic adjustment for uninsured. As we reported in Table 3, the age distribution of uninsured U.S. residents is more heavily weighted toward younger people than with those who are presently insured. The average spending increase for those currently uninsured will therefore be somewhat lower than would be the case if their age distribution matched that for the relatively older insured population. In Appendix 1, we calculate that, assuming full coverage for all under Medicare for All, average spending on those presently uninsured will be 20 percent lower than for those presently insured, due to the demographic disparity between the two groups. We incorporate this adjustment into our cost increase estimate.

Spending increase for underinsured. Working from the Commonwealth Fund survey evidence, we assume that 29 percent of the insured population is underinsured. Following from the Brot-Goldberg et al. study, we then also assume that spending on the underinsured will increase by an average of 16 percent once cost sharing is mostly eliminated through Medicare for All.

Spending on fully insured. We assume that spending by the 71 percent of the insured population that we consider fully insured—i.e. not underinsured—will remain at its current level under Medicare for All. It may be that the spending level for this population cohort will also increase somewhat once cost-sharing is eliminated under Medicare

for All. We indirectly take account of this possibility within the current estimating exercise through deliberately incorporating high-end estimates of both the proportion of underinsured and the spending increases by the underinsured triggered by Medicare for All. But, again, we also return to this question below in the context of the Thorpe approach.

Focusing now on the results themselves in Table 6, we begin in panel A by estimating current spending levels on both the uninsured and insured as of the 2017 data. We include within the insured category both those who are fully insured as well as the underinsured. As we see in panel A, we estimate total spending on the uninsured at \$105.8 billion, with an average spending level of \$3,699 per uninsured person. Total spending on the insured, derived as a residual after subtracting the \$106 billion spent on the uninsured, amounts to about \$3.1 trillion. Average spending on the insured is \$10,559.

In panel B, we then estimate how much costs will increase, still within the existing health care system, to provide full coverage for both the 29 percent of the insured population that is underinsured and the nearly 9 percent that are uninsured. As the table shows, we estimate that bringing the underinsured to full coverage would increase total system costs by \$133 billion. Bringing the uninsured to full coverage would increase system costs by \$167 billion.

TABLE 6
Total U.S. Health Consumption Expenditures in 2017 after Providing Full Coverage for Uninsured and Underinsured

A) Current Expenditures on Uninsured and Insured

<i>Current expenditures</i>	
1. Total 2017 expenditures	\$3,325 billion
2. Total 2017 expenditures minus public health spending	\$3,240 billion
<i>Expenditures on uninsured</i>	
3. Number of uninsured	28.6 million (8.8%)
4. Current compensated spending on uninsured as pct. of spending on fully insured	35%
5. System-wide spending if no uninsured (= \$3,240 billion / [(0.088 x 0.35) + (0.912 x 1.0)])	\$3,437 billion
6. Total spending on uninsured (= 0.088 x 0.35 x \$3,437 billion)	\$105.8 billion
7. Average spending on uninsured (= \$105.8 billion / 28.6 million people)	\$3,699
<i>Expenditures on insured</i>	
8. Number of insured	296.8 million (91.2%)
9. Total spending on insured (= lines 2 – 6)	\$3,134 billion
10. Average spending on insured (= line 9 / line 8)	\$10,559

Sources: See Table 1, Appendix 1 and references on uninsured and underinsured in text.

TABLE 6 (cont.)

Total U.S. Health Consumption Expenditures in 2017 after Providing Full Coverage for Uninsured and Underinsured

B) Providing Full Coverage for Underinsured and Uninsured

Full coverage for underinsured	
1. Percent of insured who are underinsured	29%
2. Underinsured spending, as % of full access spending	86%
3. System-wide cost if zero underinsured (= \$3,134 billion / [(0.29 x 0.86) + (0.71 x 1.00)])	\$3,267 billion
4. Total spending on underinsured (= \$3,267 billion x 0.29 x 0.86)	\$815 billion
5. System-wide cost increase of the insured if underinsured to receive full coverage (= line 3 – \$3,134 billion)	\$133 billion
6. Average expenditure on insured if zero underinsured (= \$3,267 billion / 296.8 million people)	\$11,007
Full coverage for uninsured	
7. Current average compensated spending for uninsured (= Panel A, line 7)	\$3,699
8. Increased average spending on uninsured for full coverage <i>No demographic adjustment</i> (= line 6 – line 7)	\$7,308
9. Increased average spending on uninsured for full coverage <i>With demographic adjustment</i> (= line 8 x 0.8)	\$5,846
10. Total increased expenditure on uninsured for full coverage (= line 9 x 28.6 million people)	\$167.2 billion

Sources: See Table 1, Appendix 1 and references in text on uninsured and underinsured.

C) Total and Percentage Spending Increases with Universal Full Coverage

1. Total spending increase with full coverage for uninsured and underinsured (= \$133 billion for underinsured + \$167 billion for uninsured)	\$300 billion
2. Total system spending with universal full coverage (= \$3,240 billion + line 1)	\$3,540 billion
3. Percentage spending increase on uninsured (= \$167 billion / \$106 billion)	157.5%
4. Percentage spending increase on underinsured (= \$133 billion / \$815 billion)	16.3%
5. Percentage spending increase on all insured (= underinsured + fully insured; \$133 billion / \$3,134 billion)	4.2%
6. Percentage increase in total system spending (= line 1 / \$3,240 billion)	9.3%

Sources: See Table 1, Appendix 1 and references in text on uninsured and underinsured.

TABLE 6 (cont.)

Total U.S. Health Consumption Expenditures in 2017 after Providing Full Coverage for Uninsured and Underinsured

D) Summary of Spending Increases to Provide Full Insurance Coverage for Uninsured and Underinsured within PERI Approach

Population cohorts in terms of health insurance status	Shares of U.S. population within cohort	Current spending on cohort	Increase in spending on cohort through full universal coverage	Total spending on cohort with full universal coverage
(1) Uninsured	28.6 million (= 8.8% of population)	\$106 billion	\$167 billion (= 157.5% spending increase)	\$273 billion
(2) Insured	296.8 million (= 91.2% of population)	\$3,134 billion	\$133 billion (= 4.2% spending increase)	\$3,267 billion
(2a) Underinsured	85.9 million (= 26.4% of population; 29.0% of insured)	\$815 billion	\$133 billion (= 16.3% spending increase)	\$948 billion
(2b) Fully Insured	210.9 million (= 64.8% of population)	\$2,319 billion	\$0 (= 0% increase)	\$2,319 billion
(3) Totals (= rows 1 + 2)	325.4 million (= 100% of population)	\$3,240 billion	\$300 billion (= 9.3% spending increase)	\$3,540 billion

Sources: Panels A – C of Table 6.

Panel C then reports figures for the total spending increase, total spending level after incorporating the spending increases, as well as the percentage spending increases resulting through establishing full universal coverage. As the table shows, we estimate that providing full coverage for the uninsured and underinsured will increase total system costs by \$300 billion. This would raise total system costs to \$3.54 trillion.

In terms of average percentage spending increases, we see in panel C first that the percentage increases will be, respectively, 157.5 percent for the uninsured and 16.3 percent for the underinsured. Combining the spending increase for the underinsured with our assumption of a constant level of spending for the fully insured generates a percentage spending increase for all insured—i.e. the fully insured and the underinsured—of 4.2 percent.

Overall, the total percentage spending increase to achieve full universal coverage, while still assuming no provision for cost savings through Medicare for All, will be 9.3 percent.

Panel D summarizes the results we derived in panels A – C. Thus, panel D again shows that to provide full universal health care coverage under the existing system, spending on the presently uninsured will need to rise by \$167 billion, a 157.5 percent increase; and spending on the presently underinsured will need to rise by \$133 billion, a 16.3 percent increase. These two sources of increased health care spending amount to \$300 billion. Total health care spending would therefore rise from \$3.24 billion to \$3.54 billion, a 9.3 percent increase. This approach assumes that, among the insured population cohort, the 16.3 percent spending increase on the underinsured accounts in full for all spending increases by the presently insured population.

The Thorpe Approach

In January and February 2016, as noted above, Kenneth Thorpe published two short companion papers that analyzed the single-payer proposal that was introduced by Sen. Sanders during the 2016 presidential campaign. Thorpe was specifically responding to a previously released memorandum by Gerald Friedman which had provided a cost estimate of the system on behalf of the Sanders campaign (Friedman 2016a).

In neither of his 2016 papers does Thorpe provide detailed documentation in support of his results. To a large extent, he also does not explicitly separate out sources of spending increases tied to utilization effects on their own as opposed to other factors that would influence the overall health care budget and financing methods under single payer. But in especially the February 2016 article, Thorpe does present clearly some of the main assumptions with respect to utilization increases. We can therefore work with his stated assumptions to derive estimates for spending increases.

Thorpe's approach features assumptions that cover three major population cohorts: the insured non-elderly; Medicare recipients; and the uninsured. His assumptions for each of these cohorts are as follows:

Insured non-elderly. Thorpe estimates spending increases for this cohort, working from two sets of data that he describes:

- The average actuarial value for people with private insurance as of 2016 was 80 percent. This means that, for those with private health insurance, their plans will cover an average of 80 percent of total costs. Out-of-pocket spending for this cohort therefore needs to cover the remaining 20 percent of total costs.²⁹
- When those with this average 80 percent actuarial value plan move into a plan with 100 percent actuarial value—i.e. into a plan with no cost sharing, such as Medicare for All—health care spending by this cohort will increase on average by 7 percent.³⁰

Medicare beneficiaries. Thorpe discusses separately the effects of single-payer with no cost sharing for spending on medical treatment (Medicare Parts A and B) and drugs (Part D). With respect to treatment, Thorpe writes that, “The average Medicare patient pays about 15 percent of costs out of pocket.” He does not specify how much spending on treatment is likely to increase for this cohort. But following from his discussion, it is reasonable to assume that this spending increase would be comparable to, if modestly lower than, that for the non-elderly with insurance coverage at 80 percent of actuarial value—i.e. with 20 percent costs out of pocket. As such, as a somewhat higher-end estimate, the spending increase on medical treatment for Medicare recipients would average 7 percent.

With respect to spending on drugs by Medicare recipients, Thorpe notes that, “the average cost-sharing in a Medicare drug benefit exceeds 25 percent and is thus dramatically higher than the single-payer plan.” As a higher-end estimate following from Thorpe's reference to cost-sharing *exceeding* 25 percent of spending, we assume the current cost-sharing figure on prescription drugs to be 30 percent. From that, we allow that spending on prescription drugs would increase by 11 percent once cost sharing is eliminated under Medicare for All.³¹

The uninsured. For this cohort, Thorpe writes, “The literature on the incremental costs of covering the uninsured shows an average increase in spending of 70 percent. This is likely low... Nonetheless, my average increase for this group was 70 percent.” In part, Thorpe derives his estimate by asserting that “the age distribution of the uninsured mirrors that of the insured population.” In fact, as we have seen in Table 3 above, the age distribution skews younger for the uninsured relative to the insured population. Thorpe’s estimate is therefore biased upward for not incorporating a demographic adjustment. For our purposes, we still work with his 70 percent spending increase estimate for the uninsured under Medicare for All.

In Table 7, we work with these assumptions by Thorpe to derive spending increase figures resulting from universal coverage with no cost sharing. We begin in column 1 of Table 7 with the actual 2017 figures on spending levels by categories and the system as a whole—i.e. the same figures to which we referred in Table 6. In column 2, we then present in rows 1 – 5 the figures on percentage spending increases based on Thorpe’s February 2016 paper. In column 3, we show dollar amounts of spending increases derived from the percentage increase assumptions we show in column 2. Column 4 then shows, within Thorpe’s framework, the total spending level for each cohort that would result under zero cost sharing. Finally, we report totals in row 6 of Table 7. As we see in row 6, working with Thorpe’s assumptions, we estimate that total spending will increase from \$3.24 to \$3.54 trillion. This represents a percentage spending increase of 9.2 percent.

TABLE 7
Spending Increase Estimate for U.S. Universal Health Care: Thorpe Approach
Assumptions based on Zero Cost Sharing Framework

	1. Existing spending level	2. Percent spending increase	3. Spending increase (column 1 x column 2)	4. Total spending (columns 1 + 3)
1. All non-elderly insured (excludes Medicare recipients and uninsured)	\$2,428 billion (= \$3,240 billion - \$706 billion for Medicare - \$106 billion for uninsured)	7.0%	\$170 billion	\$2,598 billion
Medicare spending				
2. Spending on treatment and hospitalization	\$605 billion	7.0%	\$42 billion	\$647 billion
3. Spending on pharmaceuticals	\$101 billion	11.0%	\$11 billion	\$112 billion
4. Medicare, all spending	\$706 billion	7.5% ((\$759 billion - \$706 billion)/\$706 billion)	\$53 billion	\$759 billion
5. Uninsured	\$106 billion	70.0%	\$74 billion	\$180 billion
6. TOTALS FOR ALL COHORTS (= rows 1 + 4 + 5)	\$3,240 billion	9.2% (= (\$3,537 - \$3,240 billion)/\$3,240 billion)	\$297 billion	\$3,537 billion

Sources: See description in text based on Thorpe, Kenneth. “Why Sanders’s Single-Payer Plan Would Cost More Than His Campaign Says.” *American Prospect*. (2016b). <http://bit.ly/2ARGJg1>

Comparing and Combining the PERI and Thorpe Results

Table 8 brings together the results of both the PERI and Thorpe approaches. In panel A of Table 8, we begin by lining up the key results of the two approaches alongside each other to show clearly the sources of the differences between the two sets of estimates. The most critical finding here is that the overall 9.2 percent spending increase estimate derived from the Thorpe approach is nearly equal to the 9.3 percent increase that we estimate with the PERI approach. This proximity between the two sets of results lends support to the conclusion that these findings focused on utilization increases are broadly reliable. We then also show in panel A of Table 8 what the overall spending increase would be under Medicare for All if we were to combine the high-end estimates of both the PERI and Thorpe approaches within each spending cohort. Our aim with this exercise is to show a broader range of spending increase estimates. Later in the study, we will then work with this high-end estimate, as a means of minimizing the possibility that we would understate the likely spending increases that will result through Medicare for All. Throughout the study, our approach is to, if anything, bias our estimates in favor of higher-end cost increases as well as lower-end saving prospects. Finally, in panel B of Table 8, we show total spending increases with the PERI and Thorpe approaches as well as with the combined high-end figures.

TABLE 8
Spending Increase Results for Universal Health Care Coverage with PERI and Thorpe Assumptions

Assumptions based on Zero Cost Sharing Framework

A) Percentage Increases with PERI and Thorpe

1. PERI: <i>Health insurance cohorts</i>	2. PERI: <i>Spending increase assumptions</i>	3. Thorpe: <i>Health insurance cohorts</i>	4. Thorpe: <i>Spending increase assumptions</i>	5. Combining high-end estimates from PERI and Thorpe
All insured	4.2%	Non-elderly insured	7.0%	7.0%
-----		Medicare— combining treatment, hospitalization and drugs	7.5%	7.5%
Uninsured	157.5%	Uninsured	70%	157.5%
Overall percentage spending increase	9.3%	Overall percentage spending increase	9.2%	12.0%

B) Total Spending Increases Based on Alternative Assumptions

	PERI	Thorpe	High-end
Total spending increase	\$300 billion	\$297 billion	\$390 billion
Percentage spending increase	9.3%	9.2%	12.0%
Total spending level	\$3.540 trillion	\$3.537 trillion	\$3.630 trillion

Sources: See Tables 6 and 7.

As panel A of Table 8 shows, first, with the PERI estimate, the spending increase for all insured rises by 4.2 percent. This includes a 16 percent increase for the underinsured and no increase, on average, for those fully insured. With the PERI approach, the spending increase for the uninsured is 157.5 percent. Combining these cohorts generates an overall system-wide spending increase of 9.3 percent—with total system costs rising from \$3.24 to \$3.54 trillion.

As we saw, Thorpe divides the insured into those under Medicare versus the non-elderly. For the non-elderly insured population, he assumes that providing universal coverage with no cost sharing will increase spending by an average of 7 percent. For those on Medicare, when we combine the separate cost increases for medical treatment and hospitalization (Parts A and B) along with that for pharmaceuticals (Part D), this produces an overall estimated cost increase for Medicare of 7.5 percent. Finally, Thorpe assumes that spending on the uninsured will rise by 70 percent. Working from this set of assumptions, the total costs of running the U.S. health care system with universal full coverage and no cost sharing will be just under \$3.54 trillion, a 9.2 percent increase over the \$3.24 trillion figure for 2017 costs.

Combining the high-end estimates from PERI and Thorpe amounts to incorporating the PERI estimate of spending increases for the uninsured into the Thorpe estimates for the non-elderly insured and those covered by Medicare. As we see in column 5 of Table 8A, this adjustment generates an estimated overall spending increase of 12.0 percent. Thus, our estimates of the percentage increase in spending for Medicare for All range between 9.2 percent with the Thorpe approach and 12.0 percent with the combined high-end estimates. The range for total spending is between \$3.54 trillion with the Thorpe approach to \$3.63 trillion through combining the high-end estimates of the PERI and Thorpe approaches.

Coverage for Long-Term Care, Complementary Medicine, Cosmetic Surgery and Non-Prescription Drugs

With our high-end estimate that overall utilization will rise by 12 percent under Medicare for All, we are including all categories of spending included in Health Consumption Expenditures other than public health activity. It is likely that our assumption of a 12 percent utilization increase errs still further on the high side because we are assuming that Medicare for All will fully cover spending increases in the areas of long-term care, complementary medicine, cosmetic surgery and over-the-counter medicines. In fact, spending in these areas may not rise by our average 12 percent figure. At least in part, this would be because these areas of care will not be fully covered under Medicare for All.

To be more specific, Section 204 of the September 2017 draft of the Medicare for All bill describes the long-term care services that will be covered under its provisions. These include, among others, nursing homes, home health care services, rehabilitation, and personal care. Within the CMS Health Consumption Expenditures accounts, spending in these areas are mostly covered within the two categories of nursing home services and home health care. In 2017, spending in these two categories totaled to \$265 billion, i.e. nearly 8 percent of all Health Consumption Expenditures.

As described in Section 204, the scope of long-term services that will be included under Medicare for All are based on a “maintenance of effort” standard relative to current care levels. This suggests that there should be neither any reductions or expansions in the extent

of services provided. In addition, following current practice, the funding would continue to be managed mostly at the state-government level. At the same time, the bill does also include provisions for an increase in long-term care spending based on 1) the percentage increase in health care costs within a given state; 2) the total amount of spending by the State for long-term care in the previous year; 3) the increase in the State's overall population and the share of its population aged 65 and over (p. 18-19). The bill does not specify how these factors should be weighed in establishing the appropriate level of long-term care spending. Given such uncertainties in coverage within the bill, it is prudent to allow, as a high-end approximation, that long-term care spending under Medicare for All will increase by the same 12 percent level that we have applied for other categories of Health Consumption Expenditures.

We apply the same reasoning in considering spending in the categories of cosmetic surgery, over-the-counter non-prescription drugs and complementary medicine. Complementary medicine includes providers such as chiropractors, acupuncturists, massage therapy, and private duty nurses. These categories of spending are mostly included in the CMS Health Consumption Expenditure Accounts under "other professional services" and "other expenditures." For 2017, these two categories total to \$162 billion, or about 5 percent of total Health Consumption Expenditures. The September 2017 draft bill does not specify the extent to which Medicare for All would cover these categories of spending. Current Medicare and Medicaid do cover them to a significant extent, though not in full. Thus, if anything, to again bias our spending estimate on the high side, we assume that these categories of spending will rise by the full 12 percent increase that we have assumed for other categories, and that Medicare for All will cover these spending increases in full.

Conclusion

From the foregoing discussions in this chapter, we conclude that our assumption of a 12 percent increase in overall utilization resulting from the establishment of Medicare for All is likely to be a high-end figure. This is the case, first of all, because we derived the 12 percent average utilization increase figure based on combining high-end assumptions derived both from our own analysis of the literature as well as the 2016 articles by Kenneth Thorpe. In addition, we have also assumed that spending in the areas of long-term care, complementary medicine, cosmetic surgery, and non-prescription drugs will all also rise by the full 12 percent average utilization increase. We make this assumption even though we recognize that, in fact, not all areas of spending within these categories will be covered through Medicare for All.

3. COST SAVING POTENTIAL UNDER MEDICARE FOR ALL

Implementing Medicare for All will generate a full-scale restructuring of the U.S. health care system. Working from the weight of evidence from the relevant research literature, it is reasonable to conclude that a single-payer system in the U.S. will generate substantial cost savings in a range of areas relative to the country's existing system. There will be two broad sources of savings. The first will be savings through changing the basic structural features of the system, including: 1) administration; 2) pharmaceutical pricing; and 3) providers' fee structures. The second broad source of savings will be through the delivery of services. There will be four specific areas of potential savings here: 1) unnecessary services; 2) inefficiently delivered services; 3) missed prevention opportunities; and 4) fraud.

We discuss all of these areas of potential savings in what follows, including in Tables 9, 14, and 15, which summarize our main statistical calculations and findings.

Structural Sources of Cost Savings

Administration

Under the current system, the overall costs—including time, money and personnel—dedicated to billing and insurance-related (BIR) activities are substantial.³² It is widely recognized that the existing system operates with widespread inefficiencies and redundancies. The areas of inefficiency and redundancy include: contracting, claims processing, credentialing providers and payment validation. These high administrative costs result from all parties operating in the system having to deal with a large number of insurance providers with their own sets of rules and claims-processing requirements. Creating a single payment channel has the potential to reduce these inefficiencies and excess costs significantly. There are two broad sources of administrative savings: 1) the reduced administrative costs for providers associated with a move towards a single payer system; and 2) reduced administrative costs and mark-ups associated with the provision of health insurance.

Savings for Providers

Studies of health care administrative costs estimate that the cost of BIR related activities are between 10 and 20 percent of total revenues for physicians and between 4.8 and 10.8 percent of revenues for hospitals.³³ Following the estimation methodology from a 2010 report of the Institute of Medicine (IOM), *The Healthcare Imperative: Lowering Costs and Improving Outcomes* (IOM, 2010), we assume that BIR administrative costs represent 13 percent of the revenues of physicians, clinics, and dentists and 8.5 percent of the revenues of hospitals and of other institutions providing health services (apart from physician and clinical services).³⁴ We show these figures in Table 9.

TABLE 9

Structural Saving Sources through Medicare for All*Administration; Pharmaceutical Pricing; Establishing Medicare Rates for Hospitals, Physicians/Clinics, and Dental*

	1. Current sector spending as share of total health care spending	2. Spending in specific category as share of overall sector spending	3. Saving potential within specific spending category through single-payer	4. Cost saving within specific category as share of total health care expenditures (= columns 1 x 2 x 3)
1) Administration				
Hospitals	34.1%	8.5%	65%	1.9%
Doctors/clinics + dental	24.9%	13.0%	65%	2.1%
Private and public insurance	8.5%	100%	58%	5.0%
2) Total for administration	---	---	---	9.0%
3) Pharmaceuticals— Retail plus non-retail expenditures totals	14.7%	100%	40%	5.9%
4) Medicare rates for hospitals and physicians/clinics —dental rates reflect physician/clinic rate				
Hospitals	34.1%	Blended by Medicare, Medicaid, and private insurance rates	3.1%	1.1%
Physicians/clinics Dental	24.9%	Blended by Medicare, Medicaid, and private insurance rates	7.1%	1.7%
5) Total through setting uniform Medicare rates				2.8%
6) TOTAL SAVINGS POTENTIAL (= rows 2 + 3 + 5)	---	---	---	17.7%

Sources: References cited in text. Appendix 2 provides details on calculating the impact of establishing Medicare rates for providers.

The savings that can be achieved by eliminating administrative inefficiencies for providers are potentially very high. Some estimates suggest the amount of excess BIR costs for physicians and hospitals operating in the U.S. to be on the order of 80 percent.³⁵ The IOM study estimates lower potential cost savings associated with streamlining BIR activities, on the order of 50 percent.³⁶ For the purposes of estimating the savings associated with reducing the inefficiencies of BIR activities under Medicare for All, we assume a mid-range estimate of 65 percent. We show this figure in column 3 of Table 9.

Savings through Insurance Provision

Cost savings can also be achieved by reducing administrative overhead costs associated with providing health insurance. As we show in Table 9, the costs of administering the U.S. health insurance system—both public and private insurance—amount to 8.5 percent of all health care spending at present.

By contrast, estimates of the administrative costs of Medicare are significantly lower—on the order of 2 percent of spending or less. According to the 2018 Medicare Trustees

Report data for the calendar year 2017, the administrative expenses of Medicare Parts A, B, and D totaled \$8.1 billion out of \$710.2 billion in total spending—that is, administration amounted to about 1.1 percent of total spending.³⁷ The average figure is slightly higher between 2010 – 2015 at 1.8 percent.³⁸ These percentages for Medicare administrative expenses derived from the Medicare Trustees Report are likely to be somewhat lower than the actual administrative shares of total expenses. This is because they do not include the net cost of insurance for the private plans administering Medicare Parts C and D. If we adjust for this consideration, the full administrative costs for Medicare Parts A, B, and D is likely to be about 2.0 percent.³⁹

A study of insurance administrative costs in other high-income countries shows that insurance administration costs as a share of total expenditures were lower compared to the U.S.: 1.9 percent in Finland, 2.8 percent in Australia, 3.3 percent in the U.K., 4.1 percent in Canada, and 5.6 percent in Germany.⁴⁰ The average administrative costs as a share of total health care expenditures for these five comparison countries is 3.5 percent.

It is also useful here to consider the trend for health insurance administrative costs over time within the U.S. economy itself. In 1980, the administration of private plus public health insurance in the U.S. accounted for 5.1 percent of total health consumption expenditures. As of 2017, the administration of private plus public health insurance in the U.S. accounted for 8.5 percent of health consumption expenditures with more than 80 percent of the growth in administration and insurance expenditure occurring in the private health insurance sector.⁴¹ All else equal, it would be reasonable to expect that the relative costs of the purely administrative functions should fall over time, given that the costs of information processing have declined dramatically between 1980 and the present. If the cost of private insurance had grown only as fast as GDP (not even assuming a relative improvement in information processing), then public plus private health insurance administrative costs would be at 3.5 percent of U.S. health consumption expenditures at present.⁴² If the functions of private insurance could be delivered at an expense equal to the current expenditure on Government Administration then public plus private health insurance administrative costs would be at 2.9 percent of total health care expenditures at present,⁴³ a reduction of \$167.5 billion.

Given this range of evidence, both for the U.S. and comparison countries, it is reasonable to assume, as a low-end estimate, that moving to Medicare for All in the U.S. could reduce the administrative costs of insurance to 3.5 percent of total spending. We report this conclusion in Table 9, column 3, in which we show the saving potential in administrative costs to be 58 percent (i.e. the share of administrative costs falls from 8.5 percent to 3.5 percent, a decline of about 58.3 percent). This translates into a 5.0 percent decline in total costs for the U.S. health care system under Medicare for All (i.e. $0.085 \times 0.58 = 0.050$).

Pharmaceutical Prices

Comparative Prices

As we reported in Table 1, working from the National Health Expenditure database and projections, expenditures on pharmaceuticals for 2017 were estimated to have been \$338 billion. This equals 10.2 percent of total health care spending for 2017, according to the NHE data.

But the NHE figures do not include non-retail pharmaceutical spending in this category. Non-retail pharmaceutical spending consists primarily of purchases made through hospitals, clinics, nursing homes and physicians' offices. We estimate that the 2017 figure for non-retail

pharmaceutical spending was an additional \$151 billion.⁴⁴ As such, non-retail pharmaceutical spending represented another 4.5 percent of total health care expenditures for 2017, through purchases accounted for by the NHE within the respective spending categories for hospitals, clinics, nursing homes and physician offices. Therefore, in total, retail plus non-retail pharmaceutical spending amounted to \$489 billion in 2017, equal to 14.9 percent of total U.S. health care spending.

On average, pharmaceutical prices in the United States are substantially higher than those in other advanced economies. We can see this in Table 10, which shows comparative figures on pharmaceutical spending per capita for seven high-income OECD countries relative to the U.S. It also reports an average per capita spending figure for these seven countries, as well as an average for 15 European countries, including smaller countries in addition to the six European countries (plus Canada) that we have listed individually. As we see in the table, all seven individual countries spend substantially less per capita than the U.S. on pharmaceuticals. The differential ranges between 31 percent lower for Canada to 64 percent less in the Netherlands. The average differential for the seven comparison countries is 47 percent less than the U.S.⁴⁵ The average differential for 15 European countries, including smaller ones not listed individually, is 50 percent less than the U.S.

Factors in High U.S. Prices

As a matter of accounting, these large disparities in pharmaceutical spending per capita between the U.S. and other OECD countries could be due to some combination of two factors: higher drug prices or greater volume of drug treatments in the U.S. In fact, the most important factor is higher prices. This is illustrated through the data in Table 11, which are taken from a 2016 study by Aaron Kesselheim, Jerry Avorn and Armeet Sarpatiwari. Kesselheim et al. report the prices for seven top-selling prescription drugs, in the U.S., Canada, France, and Germany. We show in the table the price of each of the drugs in the U.S. market as well as the prices relative to the U.S. in Canada, France and Germany. In column 5, we then report the average price differentials for all three countries relative to the U.S. Taking

TABLE 10
Spending on Pharmaceuticals in High-Income OECD Countries

Spending per capita relative to U.S. per capita spending, 2015

Canada	31% less than U.S.
Germany	34% less
France	43% less
Italy	48% less
Spain	51% less
United Kingdom	57% less
Netherlands	64% less
Average for 7 listed countries	47% less than U.S.
Average for 15 European countries	50% less than U.S.

Source: OECD. Pharmaceutical spending (indicator) (2018). <http://bit.ly/OECDRx>.

TABLE 11
Comparative Average Prices for Top-Selling Drugs: The U.S. vs. Canada, France and Germany, 2015

	1) U.S. price after discounts	2) Canada relative to the U.S.	3) France relative to the U.S.	4) Germany relative to the U.S.	5) Average for all three countries relative to U.S.
1) Humira 40 mg biweekly	\$2,504	-53.5%	-60.8%	-30.1%	-48.2%
2) Advair 250 mg, 50 mg daily	\$155	-52.2%	-77.4%	-75.5%	-68.3%
3) Lantus 50 insulin units daily	\$186	-64.0%	-74.7%	-67.2%	-68.9%
4) Crestor 10 mg daily	\$86	-62.8%	-76.7%	-52.3%	-63.9%
5) Januvia 10 mg daily	\$169	-59.8%	-79.3%	-76.9%	-72.2%
6) Sovaldi 400 mg daily	\$17,700	-15.6%	-9.1%	-3.4%	-9.4%
7) Herceptin 450 mg every 3 weeks	\$4,754	---	-46.8%	-33.0%	-39.9%
Average for all 7 drugs relative to the U.S.					-53.0%

Sources: Kesselheim, Aaron S., Jerry Avorn, and Ameet Sarpatwari. "The high cost of prescription drugs in the United States: origins and prospects for reform." JAMA 316, no. 8 (2016): 858-871. <http://bit.ly/2qU4EBB>.

Note: Figures in rows 1-7 of column 5 are simple averages of the figures in columns 2-4 for each drug. The figure in row 8 of column 5 averages the figures in rows 1-7 of column 5.

the average differential by drug for all three comparison countries combined, we see in row 8 that drug prices for these 7 top-selling drugs are, on average, 53 percent lower than in the U.S. Overall then, the differential in prices for top-selling individual prescription drugs in Canada, France, and Germany relative to the U.S. closely corresponds to the difference in pharmaceutical spending per capita within the OECD economies relative to the U.S., with the OECD economies spending roughly 50 percent less per capita than the U.S.

High pharmaceutical prices in the United States are a result of significant market power among key firms and the patent protections granted to specific drugs. Moreover, in the U.S., prescription drugs are priced differently for different pharmaceutical market segments and different payers. This generates price variations for the same pharmaceutical products within the U.S. market. It then also creates the opportunity to negotiate down drug prices under a single-payer system.^{46, 47}

Federal agencies and programs, with the exception of Medicare, typically pay considerably less for prescription drugs than pharmaceuticals acquired through private means (i.e. private insurance or out-of-pocket payments). For example, analysis by the Congressional Budget Office shows that federal agencies pay between 16 and 35 percent less than the lowest private-sector prices.⁴⁸ The single largest factor here is the Medicaid program. In 2017, Medicaid spent \$61 billion on prescription drugs and collected about \$31 billion in rebates, with net drug spending therefore falling by about 50 percent, to roughly \$30 billion.⁴⁹

As another important example, the U.S. Department of Veterans Affairs (VA) oversees the country's largest integrated health care system. It includes a national drug plan for more than nine million veterans and provides 144 million prescriptions per year through this system.⁵⁰ The VA uses a managed formulary to set prices by weighing the additional therapeutic value of a drug to determine the amount of reimbursement. The VA retains the right to refuse reimbursement of a drug if the drug's low therapeutic value does not justify its price. It is precisely through restricting the number of prescription drugs that it is willing to purchase that the VA is able to increase its bargaining power and obtain lower prices. At the same time, the VA has achieved high levels of adherence to drug therapies. The VA system does also include a process to request coverage of prescription drugs not found within its formulary.⁵¹ According to one recent study, the VA pays, on average, 40 percent less than the price paid by the Medicare Part D prescription drug plan.⁵² Another recent study has estimated the VA discount to be 80 percent relative to Medicare Part D.⁵³

One potential concern in using the VA price-setting system as a comparison point for the U.S. health care system overall is that the VA system serves a limited sample of the U.S. population—i.e. veterans, who are all adults, and are mainly male adults. By contrast, the full U.S. population obviously includes young people and women distributed in their normal demographic proportions. It is therefore necessary to also consider pharmaceutical spending patterns in other countries as well—where the full demographic range of a national population is represented—in seeking to establish the savings potential in the U.S. within the overall pharmaceutical spending category. Given this consideration, it is especially notable that, as we have reviewed, the levels of pharmaceutical spending per capita and the prices for top-selling drugs in comparable OECD countries are both roughly one-half the levels found in the United States. These patterns are therefore roughly in line with the lower-end average price reductions achieved by the VA through its formulary system.

Moreover, as with the VA, most European countries exercise bargaining leverage in negotiating drug prices with private companies. The most common practice in Europe is “international reference pricing” (or “external reference pricing”). The European Commission defines external reference pricing as “The practice of using the price(s) of a medicine in one or several countries in order to derive a benchmark or reference price for the purposes of setting or negotiating the price of the product in a given country.”⁵⁴ Other countries, including Japan and Australia, also use this method for regulating drug prices within their national markets. At present, the U.S. stands virtually alone among advanced economies in having no regulatory policies in place to control the price of drugs for the majority of its residents.⁵⁵

The Medicare for All bill does propose a framework for negotiating prices. The bill endorses a prescription drug formulary system, “which shall encourage best-practices in prescribing and discourage the use of ineffective, dangerous, or excessively costly medications when better alternatives are available.” At the same time, similar to the current U.S. VA system, this framework—as stated in the current draft of the bill—will also “promulgate rules regarding the use of off-formulary medications which allow for patient access but do not compromise the formulary,”(p. 54).

We believe that through adopting this policy framework, the U.S. Medicare for All program will be able to reduce pharmaceutical prices in the United States by an average of 40 percent. As we have seen, this level of cost reduction is at the lower end of what is being achieved both through the U.S. VA system and within the seven comparison countries we have cited. It is also critical to recognize that achieving this level of pharmaceutical price

reductions will improve adherence by patients to the drug treatments prescribed for them, and thereby, produce improved overall health care outcomes.⁵⁶

U.S. Pharmaceutical Market Structure

It is important to give attention to the specific structure of the U.S. pharmaceutical market at present in estimating that a 40 percent reduction in average prescription drug prices is a realistic target under Medicare for All. We therefore now examine conditions in three distinct segments of the market: first, drugs dispensed through Medicaid and the VA, where prices are already heavily discounted; then, among the drugs sold outside the Medicaid and VA markets, brand-name drugs, including both specialty and non-specialty brands; and finally, the generic drug market. In Table 12, we show data on the relative size of these three market segments as well as our assessments as to the realistic level of price reductions that can be achieved within Medicare for All in each market segment. This table thus shows how we derive our overall assumption that a 40 percent reduction in average prescription drug prices is achievable through Medicare for All.

Drugs dispensed through Medicaid and the VA. As discussed above, these programs are already able to extract substantial discounts for pharmaceuticals relative to the rest of the U.S. market. We therefore assume that there will be no further discounts for this segment of the market. As we see in Table 12, pharmaceutical spending through Medicaid and the VA account for 6.9 percent of the overall market, with the Medicaid market at 6.0 percent and the VA at 0.9 percent.⁵⁷

TABLE 12
Estimating Overall Savings Potential with U.S. Pharmaceutical Prices in terms of Market Segments

Figures are for 2017

Total U.S. pharmaceutical market = \$488.9 billion

	1. Spending in market segment	2. Percent of \$488.9 billion market	3. Estimated potential price re- ductions through Medicare for All	4. Potential savings through price reductions
Market segments <u>without</u> potential price reductions				
1. Medicaid	\$29.6 billion	6.0%	0	0
2. Veterans Administration	\$4.3 billion	0.9%	0	0
Market segments <u>with</u> potential price reductions				
3. Branded: specialty + non-specialty	\$395.4 billion	80.9%	50%	\$197.7 billion
4. Generics	\$59.6 billion	12.2%	10%	\$6.0 billion
5. Totals	\$488.9 billion (= adding rows 1 – 4)	100% (= adding rows 1 – 4)	41.7% (= weighted average of rows 3 and 4)	\$203.7 billion (= adding rows 1 – 4)

Sources: See references in text.

Brand-name drugs. As we see in Table 12, brand-named drugs in total account for about 81 percent of all pharmaceutical expenditures in 2017. Clearly, this is the market segment in which Medicare for All will need to achieve significant price reductions.

The branded drug market segment can be subdivided further, into specialty and non-specialty branded drugs. The health information company IQVIA (formerly Quintiles IMS) defines specialty drugs as “those which treat chronic, complex or rare diseases.” According to IQVIA, specialty drugs accounted for about 54 percent of the branded drug market in 2017, including both the retail and non-retail, as well as the Medicaid and VA market segments. Non-specialty branded drugs accounted for the other 46 percent of the overall branded market, including spending on branded generics (i.e. an off-patent medicine that continues to be sold under its brand name).

Specialty drugs are often highly expensive, with list prices in the range of \$6,000 per year or higher for a standard treatment. A substantial share of recent increases in overall pharmaceutical spending in the U.S. has been due to a shift toward utilizing such expensive specialty medicines relative to traditional treatments. According to IQVIA, national spending on specialty medicines as a share of total net prescription drug spending more than doubled from 22 percent in 2007 to its current level of 46.5 percent.⁵⁸ Moreover, this trend is occurring disproportionately in the non-retail segment of the market, with specialty drugs accounting for about 37 percent of spending in the retail segment and 60 percent in non-retail settings. Prices have also been rising within the non-specialty branded drug market, if not at the rate of the specialty drugs.

Considering the branded drug market overall, it is reasonable to expect that, through its formulary framework, Medicare for All should be able to achieve price reductions such that prices correspond to the average levels within the comparison OECD economies. That would mean that the average price reduction for branded drugs under Medicare for All would be 50 percent. It is likely that, on average, price reductions will be greater than 50 percent among the specialty branded drugs, and less than 50 percent within the non-specialty branded market segment. We include the overall 50 percent price reduction figure in Table 12.

Generics. Generic drugs are chemically equivalent to its branded counterpart and have exactly the same dosage, intended use, treatment effects, route of administration, risks, and safety as the original drug. Generics account for nearly 90 percent of all prescriptions, but account for less than 15 percent of total drug expenditures. Traditionally, generic prescription drugs have been a source of cost savings for the U.S. health care system due to their lower costs relative to brand-name drugs—on average retail prices are 75 to 90 percent lower than the retail prices of brand-name drugs.⁵⁹ However, even in the generic market, there is growing evidence of rising prices, particularly among older established generics. This is due to increasing concentration and a decreasing number of manufacturers in the generic industry.^{60,61,62} Thus, the U.S. Government Accountability Office (GAO) recently reported that between 2010 and 2015, 300 of the 1,441 established generic drugs analyzed had at least one extraordinary price increase of 100 percent or more.⁶³ It is also becoming apparent that there may be reduced competition and higher prices due to widespread price-fixing, bid rigging and collusion in the generic industry. In an ongoing lawsuit, 46 state attorneys general have sued 18 generic drug manufacturers, alleging coordinated price fixing of 15 generic drugs.⁶⁴

In short, in recent years, drug companies have been able to increasingly exercise market power to raise prices in the generic market, even while generic prices remain significantly

lower on average than those for branded drugs. Given this pattern of price increases with generics, we think that, on balance, a lower-end estimate of the realistic price reduction in this market would be 10 percent.

Working with the distinct situations for these three pharmaceutical market segments in the U.S. at present, in row 5 of Table 12, we derive the result that the overall price reduction that is achievable through the Medicare for All formulary would be in the range of 40 percent. As Table 12 shows, the weighted average price reduction we derive for the overall U.S. pharmaceutical market through our assumptions for each market segment is 41.7 percent. Following from this result, we then follow our standard approach throughout this study of assuming lower-end figures on potential cost savings and higher-end figures on cost increases relative to what the evidence suggests is warranted. Thus, we round down from the 41.7 percent price reduction figure that we derive in Table 12, and assume that Medicare for All could achieve an overall price reduction of 40 percent relative to the current market structure. We include this 40 percent price reduction figure in row 3 of Table 9.

Impact of lower prices on new drug development. The U.S. pharmaceutical industry, along with some researchers supported by the industry, have long held that high drug prices in the U.S. are necessary to incentivize and finance research and development in therapeutic new medications. One widely-cited series of industry-supported papers by DiMasi, Grabowski, Hansen, along with additional co-authors, consistently finds that the costs of innovation in the pharmaceutical industry are extremely high. The publication of these papers span from 1991 – 2016. In their most recent 2016 study, DiMasi et al. found that the R&D costs of 106 randomly selected new drugs amounted to an average of \$1.4 billion in out-of-pocket costs for the drug companies (in 2013 dollars). Total costs rise to \$2.6 billion when the out-of-pocket expenses are capitalized at a 10.5 percent discount rate. Adding the costs of post-approval R&D brings DiMasi et al.’s estimate of total average costs to \$2.9 billion per new drug.⁶⁵

Such results need to be considered seriously in developing a framework for substantially lowering U.S. drug prices under Medicare for All. At the same time, there is considerable evidence in the independent research literature that provides alternative perspectives as to both the total R&D costs involved in producing new therapeutic drugs as well as the extent to which private drug companies are themselves bearing these costs.

To begin with, the research literature finds that most of the financing that undergirds the therapeutic improvements in new drugs is supported in the U.S. by public sources, including especially the National Institute of Health. Thus, a 2018 study by Cleary, Beierlein, Khanuja, McNamee, and Ledley finds that “NIH funding contributed to published research associated with every one of the 210 new drugs approved by the Food and Drug Administration from 2010–2016. Collectively, this research involved more than 200,000 years of grant funding totaling more than \$100 billion. The analysis shows that more than 90 percent of this funding represents basic research related to the biological targets for drug action rather than the drugs themselves.” Cleary et al. also conclude that private pharmaceutical companies have limited incentives “to make investments toward basic research that would negatively impact near-term earnings, offer uncertain competitive advantage, and may not generate profitable products for decades.”⁶⁶ These results are consistent with previous studies that Cleary et al. cite extensively in this 2018 paper.

In addition, many researchers working independently of the pharmaceutical industry have questioned the methodology and findings of the industry-supported research.⁶⁷ For example, a carefully documented study by Light and Warburton (2011) found that the actual costs of new drug development borne by pharmaceutical companies amounted to approximately 5 – 10 percent of the figure derived by DiMasi et al. in the 2003 iteration of their research.⁶⁸ Light and Warburton note that their conclusion is supported by the fact that the average audited costs of all clinical trials submitted by pharmaceutical companies to the Internal Revenue Service in the late 1990s was, in fact, one-half the figure that Light and Warburton had themselves derived.⁶⁹

In addition to these findings on R&D costs, it is also relevant that, to a significant extent, the revenues received by pharmaceutical companies through charging high prices for new drugs are being channeled into financial engineering as opposed to supporting R&D. This includes share buybacks, whose purpose is to increase the stock prices of the firms. Thus, a 2017 study by Lazonick et al., “U.S. Pharma’s Financialized Business Model,” finds that:

In the name of “maximizing shareholder value,” pharmaceutical companies allocate the profits generated from high drug prices to massive repurchases, or buybacks, of their own corporate stock for the sole purpose of giving manipulative boosts to their stock prices. Incentivizing these buybacks is stock-based compensation that rewards senior executives for stock-price “performance” (2017 p. 1).⁷⁰

Considering this range of evidence, the establishment of Medicare for All should encourage opportunities to develop alternative models for supporting new drug development. One starting point would be the framework developed by the Drugs for Neglected Diseases initiative (DNDi).⁷¹ DNDi is a non-profit organization which began operations in 2003, and has since successfully developed effective new drugs for six diseases. The average cost for developing these six new drugs was \$50 million per new drug. DNDi has been able to maintain lower costs through active collaboration with universities, governments as well as the private pharmaceutical companies.⁷²

Physician/Clinics, Dental and Hospital Payments for Services

The Medicare for All bill allows for the negotiation of provider payments for health services. Under the current system, reimbursement rates for service provision vary widely. The variation in rates depends on whether payments are financed through Medicare, Medicaid, private insurance, or out-of-pocket funds. A single-payer system would harmonize these rates, so that rates would not vary based on the type of insurance or source of financing.

One well-established benchmark for determining the harmonized rates under Medicare for All would be the existing Medicare rates. Since 1992, Medicare has implemented a fee schedule that stipulates the payments for specific physician services. These fees are adjusted for geographical differences. Similarly, hospitals receive a set amount per episode of patient care, based on the diagnosis made at the hospital. Medicare rates can accommodate both fee-for-service and capitated payment models.

Medicare rates are lower, on average, than the rates of private insurance plans.⁷³ Medicaid rates are, in turn, lower on average than private insurance rates and Medicare rates.⁷⁴ Creating a single rate system under Medicare for All based on existing Medicare reimbursement rates therefore has the potential to generate savings, as long as the lower rates relative

to private insurance compensate for the higher rates that would be paid for individuals currently covered by Medicaid.⁷⁵

Based on the analysis of the Medicare Payment Advisory Commission in its 2017 report to Congress, Medicare rates for physician and other health services were, on average, 22 percent lower than commercial rates.⁷⁶ A study by the Government Accountability Office (GAO) found that Medicaid fee-for-service (FFS) payments were 27 to 65 percent lower than private insurance and managed care payments ranged between 31 to 65 percent lower.⁷⁷

With regard to total expenditures, rather than simply reimbursement rates, a recent national study of spending under Medicaid found that, controlling for individual demographics and health status, spending under private insurance would be 34 percent higher than under Medicaid for physician services and between 33 and 40 percent higher for hospital services.⁷⁸ Other studies yielded similar findings—spending under Medicaid was between 18 and 25 percent lower than Medicare rates.⁷⁹

Table 9 shows estimated savings under Medicare for All in which existing Medicare rates are used to determine provider payments. The estimates assume that Medicare rates are 22 percent below private insurance rates and that Medicaid spending is 35 percent below private rates for physician and clinical services and 40 percent below for hospital services.

Dental services, for the most part, are not covered through Medicare. We therefore do not have a Medicare-based rate schedule comparable to that for physicians as a reference point. For the purposes of our discussion, we assume that rates on dental services will adjust in conformity with the rate adjustments for physicians—i.e. that dental services under Medicare for All will be compensated at 78 percent of current private rates.⁸⁰

Medicare does also cover services provided by other health care providers, including physician assistants, nurse practitioners, clinical nurse specialists, clinical social workers, physical therapists, occupational therapists, speech language pathologists, clinical psychologists and certified nurse-midwives, and in some cases, podiatrists, optometrists, and chiropractors.⁸¹ Our discussion here is focused on rates for hospitals, physicians and dentists. But we assume that Medicare rates will continue to also be applied to these other provider services under Medicare for All. Establishing uniform Medicare rates for these services will not have a significant impact on our overall Medicare for All budget estimate.

Focusing then on fees for physicians and hospitals, if Medicare rates are 78 percent of private rates and Medicaid rates are 60 percent of private rates for hospitals and 65 percent for physicians, then setting all rates at the Medicare level will reduce payments relative to private insurance, but raise payments relative to Medicaid. Using the share of national health expenditures financed through private insurance, Medicare, and Medicaid/CHIP, we estimate that the net reduction in expenditures on hospital services would be 3.1 percent. Since, as we show in Table 9, hospitals account for 34.1 percent of all health care spending in the U.S., the cost savings for the system overall would be 1.1 percent ($= 3.1 \text{ percent} \times 0.341$). Similarly, we estimate the net reduction in expenditures on physician, clinical, and dental services would be 7.1 percent. This would lower overall U.S. health care costs by 1.7 percent, since physicians/clinics as well as dentists account for 24.9 percent of total health care costs ($7.1 \text{ percent} \times 0.249$). These results are presented in Table 9.

We provide full documentation for our estimates in Appendix 2. In Appendix 2, we also review the results of a 2010 study commissioned by the Medicare Payment Advisory Committee (MedPAC) which estimates the impact on individual physician compensation levels of establishing uniform payment rates under the Medicare fee schedule.⁸² This study estimates

the change in compensation levels according to five specialty areas—primary care; non-surgical, non-procedural; non-surgical, procedural; surgical; and radiology—and 26 subspecialties. We also discuss these findings further in Chapter 6.

Overall Structural Savings Potential

In Table 9, we can then also see the cost saving potential for the overall health care system that would result through the three areas of structural saving that we have reviewed—i.e. administration; pharmaceutical pricing; and rate-setting for hospitals, physicians/clinics, and dentists. As shown in the table, administrative savings would amount to 9.0 percent of total system costs, 5.9 percent savings are attainable through regulating the pharmaceutical market, and 2.8 percent savings can be achieved through establishing Medicare rates throughout the full U.S. health care system. These three sources of saving therefore total to 17.7 percent of total system-wide costs.⁸³

Potential Savings through Service Delivery and Payment-System Design

In addition to the structural sources of savings that can be directly derived through the establishment of Medicare for All—i.e. in the areas of administration; pharmaceutical prices; and payments for services—there are further opportunities to obtain significant savings through the major restructuring of the U.S. health care delivery system.

The 2010 IOM study established what it termed a set of “lower bound” estimates of excess health care costs throughout the U.S. in four areas, in addition to the areas of administrative costs and overpricing by providers fees and of pharmaceutical suppliers that we have reviewed above as potential sources of “structural savings.”⁸⁴ In Table 13, we list these four additional areas of excessive costs along with a brief description of the excessive costs associated with each. As Table 13 shows, the four areas are: 1) unnecessary services; 2) inefficiently delivered services; 3) missed prevention opportunities; and 4) fraud. In combination, the IOM’s lower-bound estimate of excessive costs in these four areas amount to 18.8 percent of total health care spending in the U.S. This is in addition to the IOM’s estimate of about 11 percent excessive costs in the areas of administration and pricing, bringing the IOM’s “lower bound” estimate of excessive costs to about 30 percent. The IOM’s estimates are broadly consistent with several other well-regarded sources addressing this same set of questions. These include Wennberg (2002), Farrell (2007), Bentley et al. (2008), Berwick (2012), OECD (2017), and O’Neill and Scheinker (2018).⁸⁵

Beyond these studies providing global cost estimates, there is an extensive literature supporting these conclusions through detailed studies in each of these areas of potential cost savings. In Appendix 3, we provide further details and key references in support of each of these potential cost savings areas.

Designing Medicare for All to Achieve Cost Savings

While a broad consensus exists in the research literature as to the rough magnitude of excessive costs in the areas of service delivery, a range of analysts also argue that the sources of waste in the existing system are, to a considerable extent, tightly integrated into the operations of the various sectors of the system. Especially within a relatively short time frame of

TABLE 13
Excessive Costs in Health Care Service Delivery
Sources of Service Delivery Excessive Costs Identified by U.S. Institute of Medicine

Category	Sources	Excessive costs as share of U.S. health care spending
Unnecessary services	Overuse beyond evidence-established levels	8.4%
	Discretionary use beyond benchmarks	
	Unnecessary choice of higher-cost services	
Inefficiently delivered services	Mistakes—errors, preventable complications	5.2%
	Care fragmentation	
	Unnecessary use of higher-cost providers	
	Operational inefficiencies at care delivery sites	
Missed prevention opportunities	Primary prevention	2.2%
	Secondary prevention	
	Tertiary prevention	
Fraud	All sources—payers, clinicians, patients	3.0%
Total savings potential from all four categories		18.8%

Source: Institute of Medicine (2010) *The Healthcare Imperative: Lowering Costs and Improving Outcomes: Workshop Series Summary*. Washington, DC The National Academies Press. <http://bit.ly/2vv70vl>

five years or less, it is therefore likely to be difficult to achieve significant savings through waste reduction, even within a dramatically restructured operating framework under Medicare for All.

The 2010 IOM study itself explicitly recognized challenges involved in implementing effective means of controlling waste. Indeed, the concluding chapter of the study is titled “Getting to 10 Percent.” The point of this chapter is to find “ways to reduce health costs by 10 percent within 10 years without compromising health status, quality of care, or valued innovation,” (p. 585). They make clear that they do not believe that the full 30 percent of waste that they identify in the system—with about 19 percent in the four areas of unnecessary services, inefficiently delivered services, missed prevention opportunities and fraud—can be realistically eliminated within a 10-year time frame. For our purposes, it is important to consider what level of savings is realistically achievable through waste reduction within the structure of the Medicare for All proposal. The IOM’s “10 percent in 10 years” approach will provide useful guidance here, along with other research studies.

In fact, the proposed Medicare for All legislation provides a broad framework for the purpose of effectively containing costs while also maintaining high quality in service delivery. To begin with, in Title IV of the draft legislation on “Administration,” the measure states that the “general duties” of the Secretary of Health and Human Services (HHS) include establishing both “methods for determining amounts of payments to providers of covered services,” and “the determination of medical necessity and appropriateness with respect

to coverage of certain services,” (p. 31). The Secretary of HHS is further responsible for formally monitoring and providing an annual report that covers, among other matters “cost containment measures and achievements under this Act” and “quality assurance,” (p. 33). The draft legislation also introduces a series of measures aimed explicitly at controlling fraud and abuse (p. 39).

Title VI of the draft legislation, “Health Budget; Payments; Cost Containment Measures,” provides additional details on the proposed budgetary framework for Medicare for All. This section of the legislation begins with defining a “National Health Budget” in these general terms:

By not later than September 1 of each year...the Secretary shall establish a national health budget, which specifies the total expenditures to be made for covered health care services under this Act (p. 44).

Overall, the Medicare for All proposal does give serious attention to creating a framework for achieving cost controls, including through waste reduction. But the office of the HHS Secretary will still need to develop this framework in far greater detail in order for it to achieve its two basic goals of delivering quality care while concurrently controlling costs.

There are several models and experiences, both within the U.S. health care system and in other countries, which should be considered carefully in developing an effective cost saving framework in service provision within the Medicare for All system. Various analysts offer alternative perspectives on the strengths and weaknesses of these models. These models provide both negative and positive lessons for advancing a viable framework for operating Medicare for All in the most cost-effective manner. It is therefore critical to learn from the experiences and range of views—including perspectives that are sharply divergent from one another—in advancing the most effective financial operating system under Medicare for All.

Cost Saving Approaches within the Affordable Care Act

The Affordable Care Act became law in 2010, but most of its key features were implemented beginning in 2014. The ACA includes measures designed precisely to deliver quality care while also achieving cost savings through developing innovative integrated care systems. This is most prominently the case through the development of Accountable Care Organizations (ACOs). The ACO framework encourages hospitals and physicians to collaborate effectively by offering financial incentives to these providers if they improve both the quality and efficiency of care.⁸⁶

During the program’s first three years, 428 participating ACOs were established and served 9.7 million Medicare beneficiaries in what are called Medicare Shared Savings Program (MSSP) ACOs. To date, the evidence on the performance of these ACOs has been mixed. For example, Song and Fisher (2016) argue that the cost savings from ACOs have been modest to date, but that further savings are still achievable. They do also find that quality improvements have been significant. Hsu et al. (2017) are also cautiously optimistic in their assessment of cost savings to date through the ACO framework. They find, for example, that rates of emergency department visits and hospitalizations have fallen by an average of 6 and 8 percent, respectively through implementing ACO operating systems. The Inspector General for the U.S. Department of Health and Human Services (HHS) recently (2017) reviewed the performance of ACOs across the country. Their assessment was that, to

date, cost savings and quality improvements have occurred, though only to a modest extent. They concluded that “ACOs show promise in reducing spending and improving quality.”⁸⁷ A still more recent report by Saunders, Muhelstein, and McClellan (2017) supports the findings of the HHS report, concluding that “ACOs continue to achieve high quality, and specific MSSP ACOs—especially those with more experience—have reduced costs simultaneously... The challenge is how to extend these promising results more broadly.”

Against these perspectives, Schulman and Richman (2016) write that “based on 3 published evaluations of the ACO program, the experiment so far has failed to produce needed efficiencies,” (2016, p. 707). Sullivan (2016) reports on meetings in October and November 2016 of the Medicare Payment Advisory Commission, the oversight board for the ACO program, in which staff reported that the ACO programs had, as of those meeting dates, failed to control costs.

In addition, a recent large national study by Ryan et al. (2017) concluded that hospital based value payment, “was not associated with improvements in measures of clinical process or patient experience and was not associated with significant reductions in two of three mortality measures.”⁸⁸ In another 2017 study that examined hospital data from 2008 to 2014, Papanicolas et al. noted, “We found no evidence to suggest that implementing Medicare’s Hospital Value-Based Purchasing program accelerated the improvement of patient experience beyond secular trends, even among the hospitals with the poorest performance at baseline. Instead, we found that the rate of improvements in patient experience has slowed since the program was implemented.”⁸⁹

A major problem in implementing the ACO structure, and with the Affordable Care Act more generally, is that the incentives created to control costs are relatively weak, while the opportunities for hospitals and doctors to avoid cost controls and even expand their profit opportunities within the ACO system remain largely intact. Woolhandler and Himmelstein (2017) describe the results to date with ACOs and the ACA more generally as follows:

Proponents claimed that this payment shift would give hospitals and doctors incentives to improve efficiency and save money, since they would share in the savings. They also asserted that the shift would give providers incentives to better coordinate care, upgrading the quality of care. Finally, they emphasized that quality measurement would protect patients against incentives for undercare, and that bonuses based on these metrics would goad providers to improve quality. Unfortunately, there is no evidence that any of these promises have been fulfilled. Medicare has realized no savings, after the cost of bonuses paid to providers has been factored in. And claims for quality improvement are based on providers’ reports of their own performance that are heavily influenced by incentives to “teach to the test,” improving scores on surrogate measures but not actually improving health outcomes.⁹⁰

Ashish Jha, a proponent of ACOs in principle, describes what he sees as its skewed incentive structure—what he terms a “one-sided model”—as currently organized. He writes:

Right now, we have a classic “heads—ACO wins, tails, CMS loses” situation and it simply isn’t financially sustainable. Senior policymakers need to continue to push ACOs into a two-sided model where they can share in savings but also have to pay back losses. Barring that, there is little reason to think that ACOs will bend the cost curve in a meaningful way.⁹¹

Even given this skewed model of risk-sharing under ACOs, evidence is emerging that providers are resistant to a framework that would entail a more evenly-distributed burden of risk-sharing. Thus, a 2018 survey conducted of its members by a provider organization, the National Association of ACOs, found that more than 70 percent of ACO respondents indicated they are likely to leave the Medicare Shared Savings Program, Medicare's largest alternative payment model, as a result of having to assume increased risk.⁹²

Problems with Value-Based Payment Programs

The difficulties that we have summarized specifically with respect to successfully implementing ACOs are part of a broader problem with the establishment of “value-based payment” programs that have been established under both the ACA as well as, more recently, the Medicare Access and CHIP Reauthorization Act of 2015 (MACRA). As an important case in point, MACRA mandated a payment method through which Medicare would assess the quality, value and results of care physicians provided to their patients. Under this model, the physicians that were rated higher according to the MACRA quality standards were rewarded financially while those that were rated poorly were penalized.

The problem with this model is that it is difficult to obtain evidence through which the relative quality of care being provided by physicians is measured reliably. In particular, the measures currently being used fail to account adequately for differences in patients' socioeconomic and health status. These differences, in turn, have the effect of skewing quality scores in favor of practices that care for higher-income, better-educated and less-complex patients.

Thus, a 2017 study by Chen et al. evaluated the first year, 2015, under which Medicare operated the Medicare Physician Value-Based Modifier Program (PVBM).⁹³ The researchers found that practices that served more high-risk patients—whether based on socioeconomic status or medical complexity—were consistently rated as delivering lower quality. One of the authors of the study, Karen E. Joynt Maddox, commented with respect to the paper's findings that “We don't have quality measures that adequately sort out differences in quality vs. differences in patient population.”⁹⁴ A 2018 study by Roberts et al. reached similar conclusions, finding that “Medicare's pay for performance programs” have the potential to “exacerbate health care disparities.”⁹⁵

These findings on the various pay-for-performance programs are especially significant with respect to evaluating the Medicare for All bill as currently drafted and before Congress (i.e. the September 2017 draft). This draft of the bill includes a Section (Section 611(b), p. 47) which mandates that “current and planned payment reforms” established under the ACA and MACRA be carried forward under Medicare for All. Clearly, this feature of the Medicare for All bill will need to be reassessed in light of the evidence that, to date, pay-for-performance programs are reinforcing existing health care disparities according to both socioeconomic and prior medical status.

It is possible that these programs can improve their evaluation methods. Roberts et al., among others, suggest that the MACRA performance standards incorporate appropriate risk-adjusted measures of care quality. But they, and others, also recognize that implementing such effective risk-adjusted measures will be difficult to accomplish, even assuming that policymakers commit to enact such changes in the measurement of care quality.

Cost Saving Potential through Capitation and Global Budgeting

Capitation and global budgeting are separate techniques for managing large-scale health care budgets. Capitation sets budgets at an individual patient level, while global budgeting provides lump sum funding at the level of institutions or even geographic regions. The mandate stipulated within Medicare for All for the HHS Secretary to establish a “national health budget, which specifies the total expenditures to be made for covered health care services,” (p. 44) is broadly consistent with a global budgeting approach. Capitation and global budgeting can also be used in combination. It is therefore appropriate that we address issues around capitation and global budgeting alongside each other.

Vermont Proposal

The idea of combining capitation and global budgeting as an integrated delivery system within the U.S. health care system was examined in detail by Hsiao et al. in their 2011 study on establishing a single-payer health care system for Vermont (2011a, 2011b).⁹⁶ In line with the main findings of the IOM study, Hsiao et al. write that “evidence from both the U.S. and other countries show that fee-for-service (FFS) payments promote health care cost inflation. Because providers are paid for each unit of service they provide, more health care results in higher provider incomes, giving little incentive to constrain unnecessary care,” (2011a, p. 9).

The alternative they develop is what they term a “risk-adjusted capitation-based system paid through ACOs,” a concept that we review below along with variations on it. For now, we note that Hsiao et al. argue that this system would “create incentives to integrate health care delivery and reduce wasteful and unnecessary health spending,” (2011a, p. 10). But Hsiao et al. also acknowledge that “estimating the potential savings from payment reform and the likely integration of the delivery system is difficult,” (2011a, p. 10). In their study, they made what they term a “conservative” assumption that 10 percent savings is feasible through payment reform, with this full savings potential being achievable after 10 years, (2011a, p. 12).

Intermountain Healthcare Capitation Model

James and Poulsen make a similar case in their 2016 paper, “The Case for Capitation.”⁹⁷ This paper also endorses the IOM perspective on waste in the U.S. health care system, but estimates that the level of waste is even higher than that suggested by the IOM. They write that “inadequate, unnecessary, uncoordinated and inefficient care and suboptimal business processes eat up at least 35 percent and maybe over 50 percent of the more than \$3 trillion that the country spends annually on health care. That suggests more than \$1 trillion is being squandered,” (p. 1).

James and Poulsen argue for a population-based capitation system, which is conceptually very close to Hsiao et al.’s notion of “risk-adjusted capitation.” James and Poulsen argue that this approach would differ sharply from previous approaches to introducing capitation via Health Maintenance Organizations (HMOs). They argue that the HMO models were ineffective and unpopular because of their poorly-designed cost control mechanisms. According to James and Poulsen, the standard HMO model still utilized a FFS payment system to pay providers. The HMOs then introduced cost controls through having doctors and nurses based at insurance companies serving as gatekeepers to approve referrals for specialists, surgical procedures, imaging and hospitalizations. This HMO system imposed treatment delays and bureaucratic difficulties for patients.

According to James and Poulsen, a population-based payment (PBP) system “would differ from the capitated method most insurance companies use in significant ways.” They write:

With PBP, care provider organizations would receive a risk-adjusted monthly payment that covers all necessary health services for each person. Eliminating the gatekeeper and the third-party authorization for care that made HMOs so unpopular, PBP would put responsibility for considering the cost of treatment options in the hands of physicians as they consult with patients. Finally, unlike HMOs of the 1990s, PBP would include quality measures and standards, (p. 8).

James and Poulsen offer what they termed as “proof” that the population-based capitation based approach works, through their experience as senior officers of the firm that employs them, Intermountain Healthcare. Intermountain serves about 2 million people in Utah, Idaho and surrounding states. James and Poulsen report that between 2011 and 2015, waste elimination reduced total operations costs by 13 percent, while still generating strong operating margins. They consider this level of savings and profitability to be “merely a good start” toward their goal of eliminating what they see as 35 to 50 percent waste in health care delivery.

James and Poulsen do not claim that the results they have described for Intermountain are directly replicable to the U.S. health care system overall. Moreover, they do not offer comparable “proof” that quality of care or patients’ health outcomes have improved through Intermountain’s capitation framework. Regarding health outcomes and care quality, they rather offer only the qualified general observation that capitated payment systems “contain measures to ensure that each patient receives all necessary and beneficial care, at least to the degree achieved by the current fee-for-service and per case payment systems,” (2016, p. 13). Nevertheless, the experiences they describe do offer valuable perspectives on how to develop workable risk-based capitation payment systems.

Maryland Global Budgeting Framework

Another experiment in shifting the health care funding model that some analysts argue has been successful to date has been the global budgeting framework that has operated in Maryland since 2014. Maryland began innovating with its health-care financing system in 1977, when it first established uniform hospital reimbursement rates for all payers—i.e. private insurers, Medicare and Medicaid. This all-payer rate regulation did achieve payment stability. But it failed to control costs, since hospitals still pushed spending higher by increasing the quantity of services provided.

This is why the state followed up by instituting both quality-based measures for payment as well as global budget caps for hospitals. David Orentlicher concludes that the global budget cap system has been largely successful. He writes that:

For example, they have worked to prevent the need for hospitalization by expanding their chronic care management programs for diabetes, heart disease, lung disease and other conditions. They have also provided more support for patients after discharge to smooth the transition to less acute health care facilities or to home and reduce the need to return to the hospital for additional care (p. 1).⁹⁸

Maryland hospitals have been able to operate within global budgets without an adverse impact on their financial status. Hospital spending on a per-capita basis grew at 1.53 percent per year from 2014 to 2016, below the benchmark set at the long-term projected growth rate

of Maryland's economy (3.58 percent). As a result, Maryland saved \$586 million on inpatient Medicare expenditures and net savings of \$463 million on total Medicare spending during this time period.⁹⁹

In terms of quality measures such as potentially preventable complications (PPCs)¹⁰⁰ and readmission rates, the Maryland performance has also been favorable to date. For example, between 2014 and 2016 Maryland hospitals have reduced PPCs by 44 percent, exceeding the five-year 30 percent reduction target. Maryland has also made significant progress in reducing readmission rates, which historically have been higher than the national average. In 2013, Maryland's Medicare all-cause readmission rate was more than 7.9 percent above the national rate but by 2016 this had dropped to 1.2 percent.

Maryland is currently negotiating a new waiver with CMS called the "Total Cost of Care Model."¹⁰¹ If approved by CMS, as appears likely, it will begin on January 1, 2019 for a 10-year term. This will expand the program beyond hospitals to include doctors, rehabilitation facilities, skilled-nursing centers and others who treat patients insured by Medicare. It will include the same mandates for cost savings for Medicare, and additional quality benchmarks and financial incentives for providers. Essentially, it expands the global budgeting structure to include the entire health care system.

In fact, this expansion of Maryland's global budgeting framework will be critical to the success of this financing model. This is because, what Jessica Galarraga and Jesse M. Pines describe as a "cost-shifting bubble"—with costs shifting out of the regulated hospital sector and onto the less regulated non-hospital areas of health care activity—is undermining the gains achieved through global budgeting within the state's hospital sector.¹⁰² Galarraga and Pines write:

Containing Medicare's all-provider spending growth has proven to be difficult, with total cost of care growth exceeding national rates by 0.7 percent in 2015. Higher overall costs are driven by non-hospital spending, which grew under the GBR [Global Budget Revenue] environment by 4.2 percent as of 2016, vastly exceeding the national rate of 1.9 percent and offsetting savings in hospital spending. Non-hospital spending includes post-acute, long-term, and outpatient care. In response to the capitation of hospital costs, there has been a proliferation of alternative non-hospital sites across the state, including ambulatory surgery and urgent care centers, and an increase in use of skilled nursing facilities. These sites remain fee-for-service and are not included in global payments nor regulated by the HSCRC [the state's Health Services Cost Review Commission]. As a result, instead of GBR reducing overall costs, costs appear to have shifted from hospitals to the less regulated outpatient fee-for-service environment.

Thus, Maryland will need to proceed with its Total Cost of Care Model in order for the state, as Galarraga and Pines put it, to "align incentives across the health care continuum, such that all players have a stake in the delivery of quality and cost-efficient care."

Cross-Country Experience with Global Budgeting

In addition to these developments in implementing capitation and global budgeting models, there is also cross-country evidence identifying both the strengths and weaknesses in operating with these models.

An important case in point is Canada's global budgeting system for funding its hospitals. Global budgeting has been the primary method for paying hospitals in Canada for over 30

years. The system has produced tangible benefits. As analyzed in a 2014 report by the University of British Columbia (UBC) Centre for Health Services and Policy Research, “Current Hospital Funding in Canada: The Limitations of Global Budgets,”¹⁰³ these include the following:

- They provide both policy-makers and hospital administrators with yearly predictability.
- They do not create financial incentives to over-supply or provide unnecessary care.
- They are an effective tool for controlling growth in hospital costs.

At the same time, the UBC lists significant structural problems with global budgeting as a general model. These are:

- To stay within the budget, a hospital may restrict services to patients or be more selective in terms of the patients to whom it provides services (a process known as cream skimming).
- A failure to provide financial incentives to shorten lengths of stays (i.e. moving less acute patients to lower cost care settings).
- Hospitals that do shorten length of stays are penalized because they exchange relatively lower cost patients for higher acuity, higher cost patients.

Rice and Unruh (2016) provide a broad survey of experiences, in Canada as well as many European countries, with global budgeting along with other payment systems. Their overall conclusion is favorable:

The ultimate bundle...is a global payment. This bundle can constitute all costs over a particular period of time. A prominent example is the hospital payment system in most of the Canadian provinces, where typically a hospital receives a single payment from the province for all of the care it provides during the year. Global budgets for hospitals are also common in many European countries. Global budgets are attractive to public payers because they do not require a tremendous amount of administrative effort, they facilitate public budget planning, and they offer a strong incentive for the recipient of the global budget (e.g., a hospital) to control costs (2016, p. 410).

While clearly recognizing these positive features of global budgeting systems, Rice and Unruh also identify challenges, similar to those described in the UBC study:

Disadvantages include the difficulty of coming up with the appropriate total budget for each hospital, because this entails calculating how much the hospital would be spending if it were operating efficiently; concerns that hospitals will stint on hiring appropriate staff, because they are given a fixed budget; and the potential for keeping beds filled with patients who use fewer resources to keep budgets up but costs down (2016, p. 471).

Rice and Unruh do also note that a way of ameliorating this last problem of “keeping beds filled with patients who use fewer resources” is to adjust global payments for hospitals relative to the severity of care required by the population of patients they serve. In short, what Rice and Unruh are suggesting is comparable to the idea of a risk-adjusted capitation system integrated into an overall global budgeting framework.

Controlling Oligopolistic Hospitals' Profit Mark-ups

Even if effective controls can be established on both the prices and the excessive quantity of services delivered in hospitals and other large institutions, it will still be necessary to address the trend of growing market power of large hospital-led delivery systems. Several recent studies have documented the growing concentration in hospital markets across the country from the 1990s and continuing through the 2000s.¹⁰⁴ In turn, this increased market power has enabled the hospitals to exert increased price-setting power, with higher prices providing the basis for larger profit margins. For example, Schulman and Richman find that “Monopoly hospitals, those that dominate a local market with no other competing hospital, have 15.3 percent higher prices than hospitals in more competitive markets, and hospital consolidation is responsible for sharp price increases across markets within states,” (2016, p. 707).¹⁰⁵

The Medicare for All bill does provide a general framework for administering prices in hospitals. But this broad framework can be developed with greater specificity by drawing from the ongoing experiences in the U.S. in controlling excess profits within monopolistic or oligopolistic market settings. The basic approach is straightforward: to directly regulate the rates, or more specifically, the profits, of the oligopolistic business firms. Such rate-setting has been practiced for decades in the electric utility sector of the U.S. economy. The results of such regulations have been broadly successful.¹⁰⁶ Once the system establishes effective controls on both provider rates and provider-induced demand, then input prices for hospitals' operations can be accurately measured. At that point, the system would have the information needed to set a fixed allowable profit margin over the total cost of inputs. For example, a hospital's profit rate could be indexed relative to a standard measure of market rates of return, such as the 10-year U.S. Treasury bond rate.¹⁰⁷

Establishing a Flexible Approach to Controlling Service-Delivery Costs

As we have seen, there is widespread recognition in the literature that the current U.S. health care delivery system is burdened with a high level of waste in the areas identified by the 2010 IOM study—i.e. 1) unnecessary services; 2) inefficiently delivered services; 3) missed prevention opportunities; and 4) fraud. As noted above, the IOM study estimated that, as a lower-end estimate, the level of waste in these four areas of service delivery was about 19 percent of total system costs. Other researchers, in more recent studies that we have cited, have set this figure within the same range as the IOM while some have estimated it to be still higher. Still, more than simply recognizing the extent of waste in service delivery within the U.S. health care system is the challenge of establishing effective approaches to reducing waste and thereby controlling costs.

In the foregoing review, we have considered both the opportunities that are potentially available as well as the challenges that will be faced in accomplishing significant cost savings while still improving quality. The evidence on the various cost control models—including Accountable Care Organizations, capitation, and global budgeting—provides a mixed accounting of successes and failures, both in the U.S. and elsewhere.

As described above, the Medicare for All bill provides an initial broad framework for achieving cost controls. This framework will need to be further developed. Our review of the evidence suggests a framework that effectively combines global budgeting along with features of capitation, fee-for-service, and quality controls is a realistic possibility.

This is the approach supported in the 2012 study by Theodore Marmor and Jonathan Oberlander, “From HMOs to ACOs: The Quest for the Holy Grail in U.S. Health Policy.”¹⁰⁸ The central argument in Marmor and Oberlander’s paper is summarized clearly in the paper’s abstract, as follows:

During the past four decades, American policymakers and analysts have embraced an ever changing array of panaceas to control costs, including managed care, consumer-directed health care, and more recently, delivery system reform and value-based purchasing. Past panaceas have gone through a cycle of excessive hope followed by disappointment at their failure to rein in medical care spending. We argue that accountable care organizations, medical homes, and similar ideas in vogue today could repeat this pattern (p. 1).

Marmor and Oberlander’s positive proposal is that the U.S. policy framework should focus on achieving cost controls through emulating the approaches that have been successful in other countries, as opposed to continuing “the quest for the Holy Grail in U.S. health policy.” They write:

We believe that the U.S. needs less innovation and more emulation. That is, in order to control costs effectively, Americans should focus less on (re)inventing the latest delivery system or payment method, and instead pay more attention to what other countries do to slow health care spending. Global budgets, fee schedules, system-wide payment rules, and concentrated purchasing power may not be modern, exciting, or “transformational.” But they have the advantage of working (p. 4).¹⁰⁹

What is a Realistic Level of Waste Reduction in Service Delivery?

Considering the research and evidence we have reviewed, it is realistic to expect that significant reductions in waste levels are achievable over time in the four areas of service delivery that we have highlighted above—unnecessary services, inefficiently delivered services, missed prevention opportunities, and fraud. But even assuming that an effective cost-containment system is implemented under Medicare for All, it still will be difficult to project the extent of savings that will be attainable over a relatively short period of time, such as 1 – 2 years, as well as within a medium time frame, such as 5 – 10 years. Nevertheless, we can draw on the existing literature to provide some broad parameters as to what is possible.

One area where the prospects for significant savings seem achievable within a short time frame is fraud control. Thus, Hsiao et al. (2011a) argue explicitly that 5 percent savings from reducing fraud within a single payer system are achievable within the first 1 – 2 years of bringing the new system into operations. Hsiao et al. explain that:

A single-payer system also creates a comprehensive claims database that offers a heightened ability by insurers to detect fraud and abuse. The fragmentation of payers in the United States, each with only partial claims information, makes rooting out fraud and abuse much more difficult. We estimated that a single-payer system could save 5 percent of health spending from reduced fraud and abuse, which is consistent with estimates from the Federal Bureau of Investigation and experience in other countries (p. 1237).

Hsiao et al.’s perspective is supported by recent developments in the application of information technology to the area of fraud prevention. Specifically, the application of big-data analytics as a tool for identifying health care fraud has been growing rapidly and is likely

to continue, particularly with recent advances in machine learning, data mining and artificial intelligence.¹¹⁰ These developing detection systems are substantially more efficient than older approaches, which relied largely on manual tools, because of their capacity to rapidly analyze large numbers of claims. In addition, simplifying and centralizing billing and claims processing under Medicare for All will contribute to cost controls for two reasons:

1. It will be easier for advanced automated analytic systems to detect fraud under Medicare for All compared with the current system, which includes numerous state and federal agencies in the public sector along with private insurers that operate within varying regulatory environments in different states; and
2. Medicare for All will reduce the large number of federal and state agencies currently charged with administrative oversight of fraudulent activities.

As we have done elsewhere in the study, it will be prudent here to work with a lower-end figure on cost-saving potential from fraud prevention relative to the estimate derived by Hsiao et al. We therefore assume that savings from fraud prevention within Medicare for All will average 1 percent per year for the initial two years in which the single-payer system operates, when the most obvious failings of the system can be addressed. Thereafter, we assume that further cost reductions through fraud prevention are attainable at a rate of approximately 0.5 percent per year of total system costs for roughly another 8 years.

In addition to the strong prospects for relatively short-term cost savings in the area of fraud prevention, it will be useful to return to the IOM’s 2010 assessment of the realistic prospects for waste reduction within a 10-year time frame—i.e. their discussion of “getting to 10 percent” savings within 10 years. The IOM study offered a range of estimates that the various analysts contributing to the project believed was realistic within a 10-year time frame. In Table 14, we present the range of estimates from the IOM study, specifically for the relevant areas of what the study terms “care-related costs.”¹¹¹

TABLE 14
IOM Range of Estimates for Care-Related Cost Saving Potential within 10-Year Time Frame

Figures reported as percentage of 2017 U.S. Health Care Expenditures of \$3.5 trillion

	Low-end estimate	High-end estimate
1. Prevent medical errors	0.23%	0.35%
2. Prevent avoidable hospital admissions	1.29%	1.41%
3. Prevent avoidable hospital readmissions	0.57%	0.59%
4. Improve hospital efficiency	1.12%	2.35%
5. Decrease costs of episodes of care	0.94%	1.58%
6. Improve targeting of costly services	0.26%	0.59%
7. Increased shared decision making	0.18%	0.26%
Total cost saving potential	4.59%	7.13%

Source: Institute of Medicine, *The Healthcare Imperative: Lowering Costs and Improving Outcomes: Workshop Series Summary*. Washington, DC: The National Academies Press, 2010. Box 22-1, p. 602. <http://bit.ly/2vv70vL>.

As we see in Table 14, the IOM study considered seven areas of care-related costs in which they projected that significant savings were achievable within a 10-year time frame. Adding up the projections for these seven areas, we see that the range of saving potential estimated was between 4.6 – 7.1 percent of total system costs. As a low-end estimate, we assume that average annual savings in these seven areas will be 0.5 percent per year for a decade.

Combining Fraud Prevention and Care-Related Cost Savings

If we take our low-end estimates in both the areas of fraud prevention and service provision, they would add up to 1.5 percent saving per year for the first two years of the program, and 1 percent per year thereafter for at least another 6 years. Further gains would still be possible, especially if we allow that over time, gains of more than 0.5 percent per year are attainable relative to the roughly 19 percent in systemic waste estimated by the IOM. But focusing for now on the initial transition into Medicare for All, we conclude that a realistic low-end estimate of the saving potential in the areas of service delivery in Years 1 – 2 of the new system will be about 1.5 percent per year.

Beyond the initial years under Medicare for All, achieving cost reductions in service delivery in the range of 1 percent per year for 6 – 8 years thereafter would be critical for controlling the longer-term pattern of cost and price increases over time in health care delivery. The cost reductions that we have examined through structural changes in the system—in the areas of administration, pharmaceutical pricing and hospital, physicians/clinics and dental fees—are capable of generating significant one-time cost reductions as well as establishing an improved overall framework for controlling costs over time. But it is still the case that, even with a dramatically restructured health delivery system through Medicare for All, costs can continue to rise excessively through an ineffective delivery system. We return in Chapter 7 below to this issue of achieving cost controls over time through incremental improvements in the service delivery system.

Overall Savings Potential through Medicare for All

In Table 15, we summarize all the sources of potential savings that are achievable through Medicare for All. More specifically, these are savings that are achievable within the first year of operations for Medicare for All. As we see, what we have termed structural savings amounts to 17.7 percent, including 9.0 percent in administrative costs, 5.9 percent through reduced pharmaceutical prices, and 2.8 percent through establishing uniform Medicare rates for all providers. We estimate savings through reducing waste in service delivery as 1.5 percent in Year 1 under Medicare for All. We therefore estimate total potential savings to be 19.2 percent in Year 1.

TABLE 15
Overall Cost Saving Potential through Medicare for All Health Care System

Categories of spending	Cost saving within spending categories as share of total consumption expenditures
<i>Structural categories</i>	
Administration	9.0%
Pharmaceutical pricing	5.9%
Medicare rates for all providers	2.8%
<i>Service delivery categories</i>	
– Unnecessary services	1.5%
– Inefficiently delivered services	in Year 1
– Missed prevention opportunities	
– Fraud	
Total savings potential	19.2%

Sources: See Tables 9, 13, and 14 and accompanying text.

4. FINANCING MEDICARE FOR ALL

Summary of Health Consumption Expenditures under Medicare for All

This chapter examines alternative approaches to financing U.S. health consumption expenditures under Medicare for All. Before proceeding with a consideration of all such financing options, we must first be clear as to our estimates of the overall costs of operating the U.S. health care system under Medicare for All.

In Table 16 and Figure 2, we therefore summarize the main findings we presented both in Chapter 2, which addressed utilization increases under Medicare for All, and Chapter 3, which focused on potential sources of savings. Panel A of Table 16 shows our estimates of: 1) the overall increase in health care demand once the system provides universal coverage; and 2) the potential cost savings that can be achieved under Medicare for All through the channels of a) administrative restructuring; b) pharmaceutical price reductions; c) establishing uniform Medicare rates for hospitals and providers, and d) increasing efficiency in service

TABLE 16
Summary Figures:
Estimated U.S. Health Consumption Expenditures under Medicare for All
Estimates based on 2017 data

A) Key Assumptions for Estimating Overall Costs of Medicare for All

1) Overall increase in health care demand through universal coverage	12.0%
<i>Sources of system-wide cost savings</i>	
2) Administrative restructuring	9.0%
3) Pharmaceutical price reductions	5.9%
4) Uniform Medicare rates for hospitals and physicians/clinics	2.8%
5) Improved service delivery/reduced waste and fraud	1.5%
6) Total cost savings (= rows 2+3+4+5)	19.2%

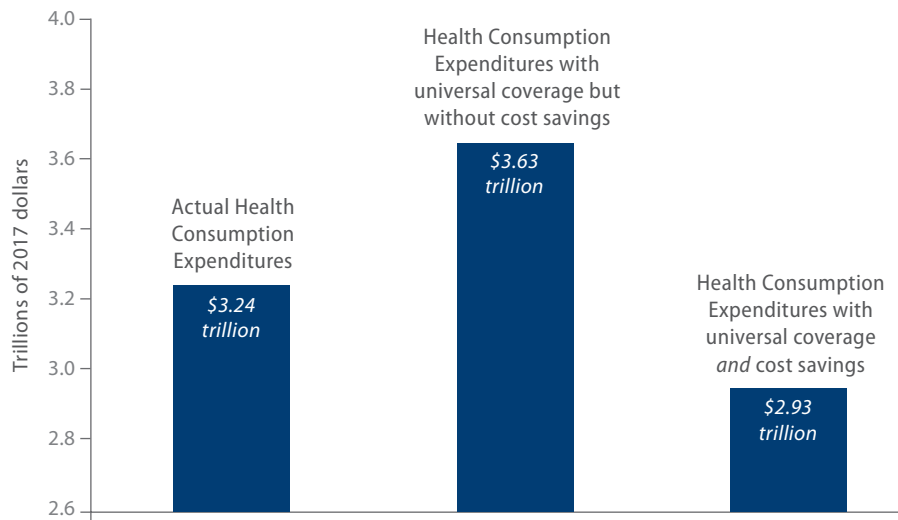
B) Impact of Demand Increases and Cost Savings on Overall Health Care Costs

1) Actual health consumption expenditures in 2017 (figure is exclusive of public health budget)	\$3.24 trillion
2) Health consumption expenditures with universal coverage and existing system (with 12.0 percent increase in demand)	\$3.63 trillion (= row 1 x 1.12)
3) Total cost savings through Medicare for All provisions	19.2%
4) Health consumption expenditures with universal coverage and total cost savings	\$2.93 trillion (= \$3.63 trillion x 0.808)

Sources: See Tables 6, 8 and 15.

FIGURE 2: U.S. Health Consumption Expenditures: Actual and Estimated under Medicare for All

Figures are for 2017, exclusive of public health spending



Source: See Table 16.

delivery and reducing fraud. As panel A of Table 16 shows, we conclude from the Chapter 2 discussion that overall health care demand will increase by 12.0 percent through universal coverage and, from Chapter 3, that cost savings will amount to a total of 19.2 percent.

In panel B of Table 16, we then summarize our estimate for total costs under Medicare for All, based on 2017 figures. We work from the CMS projection for 2017 that Health Consumption Expenditures (excluding public health activity) will be \$3.24 trillion. With universal coverage encouraging increased utilization, Health Consumption Expenditures then rises by 12.0 percent relative to the CMS figure, to \$3.63 trillion. But with Medicare for All also achieving a total of 19.2 percent in savings in the areas of administration, pharmaceutical pricing, provider rates and improved service delivery, Health Consumption Expenditures under Medicare for All then drops down again to \$2.93 trillion.

Overall then, with Medicare for All generating both increased demand in the range of 12.0 percent and cost savings of about 19.2 percent, U.S. Health Consumption Expenditures falls, as of 2017, from the CMS figure of \$3.24 trillion, to \$2.93 trillion under Medicare for All. This would be a net decline in Health Consumption Expenditures of 9.6 percent. We can see these overall results clearly in Figure 2.

Financing Alternatives

We now proceed with considering how to finance this level of health care spending in the U.S. There will be two basic funding sources: 1) existing federal, state, and local government health care programs; and 2) newly-generated federal revenues. We can calculate the levels of newly-generated revenues that will be needed to reach \$2.93 trillion in total financing after we

first establish the amount of funding that will continue to be provided by existing programs. We then consider the distributional impacts on businesses of different sizes and families at different income levels of the transition into Medicare for All—i.e. we show how much businesses and families pay now for health care versus how much they would pay under Medicare for All. As we will see, based on the financing approaches we propose, virtually all businesses and households will reduce their spending on health care through Medicare for All.

Existing Public Sector Funding for U.S. Health Consumption Expenditures

Table 17 shows figures for all sources of funds that finance U.S. health care consumption expenditures as of 2017. As we see, there are four basic categories of funds. The largest, by far, is insurance—i.e. both private and public insurance funding. Total insurance funds account

TABLE 17
Sources of Funds for U.S. National Health Consumption Expenditures

Figures are estimated for 2017

	Billions of dollars	Percentage of health consumption spending
All insurance	\$2,607	78.4%
Private	\$1,187	35.7%
Medicare	\$706	21.2%
Medicaid	\$582	17.5%
- Federal	\$360	10.8%
- State & local	\$222	6.7%
Other health insurance programs	\$133	4.0%
- Veterans	\$71	2.1%
- Defense Dept.	\$44	1.3%
- CHIP	\$18	0.5%
Out-of-pocket	\$365	11.0%
Other third-party payers	\$268	8.1%
Other private revenues	\$138	4.2%
Workers' comp	\$53	1.6%
Other federal programs	\$13	0.4%
General assistance	\$6	0.2%
Worksite health	\$7	0.2%
School health	\$5	0.2%
Indian health service	\$4	0.1%
Maternal health	\$4	0.1%
Vocational rehab	\$1	0.0%
Other	\$37	1.1%
Public health	\$85	2.6%
Total funds for U.S. health consumption expenditures	\$3,325	100.0%

Source: Centers for Medicare and Medicaid Services National Health Expenditure database.

for about \$2.6 trillion, or 78.4 percent of all funding. The next largest category of funding is out-of-pocket spending by health care consumers. This totals to \$365 billion, or 11.0 percent of all funding. The third category is a range of supplemental third-party payers, accounting for \$268 billion, or 8.1 percent of total funding. These supplemental sources include other private revenues, such as philanthropic contributions; funding for workers' compensation; and other smaller federal programs. The fourth category of spending is public health, with the bulk of funding supporting the Federal Food and Drug Administration and the Center for Disease Control. Funding for these programs amounts to \$85 billion, or 2.6 percent of total spending.

In Table 18, we focus only on the public funding sources that will be available to finance Medicare for All. The largest category here is the public insurance funds reported in Table 17. As we see, public insurance funds, consisting mostly of Medicare and Medicaid, amount to about \$1.42 trillion. Funding from the other public third-party payers totals to \$93 billion.¹¹²

TABLE 18
Available Public Sources of Financing for U.S. National Health Consumption Expenditures

	Billions of dollars
1. Public insurance funds	\$1,421
Medicare	\$706
Medicaid	\$582
- Federal	\$360
- State & local	\$222
Other health insurance programs	\$133
- Veterans	\$71
- Defense Dept.	\$44
- CHIP	\$18
2. Other third-party payers	\$93
Workers' comp*	\$53
Other federal programs	\$13
General assistance	\$6
Worksite health	\$7
School health, Indian health, maternal health, vocational rehab	\$14
3. Additional public financing sources	\$370
Elimination of tax subsidy (tax expenditures) for private health insurance	\$332
Funding for federal employee health benefits**	\$38
TOTAL EXISTING PUBLIC FINANCING SOURCES (= rows 1+2+3)	\$1,884

Source: See Table 17.

Note: *Funds from private employers to cover workers' comp health care costs will transfer to Medicare for All funding as opposed to exiting private providers. **Funding for federal employee health benefits include the employer's contributions only.

In addition to these, we include in Table 18 two additional public financing sources. The first results through the elimination of tax subsidies (“tax expenditures”) that are currently provided for people purchasing private health insurance, including through both employment-based and non-group private plans. As we see in Table 18, for 2017, funding for these tax subsidies amounts to \$332 billion.¹¹³ The second is the spending by the federal government to provide health insurance to its own employees. For 2017, this figure is \$38 billion.¹¹⁴

One point of clarification is needed here about our assumptions on funding that are now provided by state and local governments. The first is that, in 2017, as Table 17 shows, state and local governments contribute \$222 billion as their share of overall Medicaid financing. We assume that this level of state and local funding will be maintained under Medicare for All.

Overall then, as Table 18 shows, our bottom-line figure for all existing public funding sources available to finance Medicare for All is \$1.88 trillion (rounded down from \$1.884 trillion). This figure includes, again, 1) all available public insurance funds; 2) funds now provided for other public third-party payers; and 3) federal tax subsidies as well as health insurance spending on federal government employees.

Given our estimate that the costs of providing universal coverage under Medicare for All would be \$2.93 trillion in 2017, we can then conclude that, for the U.S. economy as of 2017, we would need to raise an additional \$1.05 trillion in new taxes to fully fund Medicare for All. We show our simple derivation of this figure in Table 19.

Of course, these new tax revenues *would not constitute a net additional cost or spending burden on the U.S. economy*. These funds would rather be serving to substitute for the loss of revenue into the U.S. health care system that presently come from existing private revenue sources—i.e. primarily private health insurance and out-of-pocket expenditures. These private revenue sources would no longer operate. We explore the net effects of this shift in spending sources later in this chapter. First, however, we consider measures for raising \$1.05 trillion in revenues within the U.S. economy as of 2017.

TABLE 19
Additional Public Revenues Required to Finance Medicare for All, 2017

1. Cost of full universal coverage under Medicare for All	\$2.93 trillion
2. All current public sources of financing	\$1.88 trillion
3. Additional financing required (= rows 1 – 2)	\$1.05 trillion

Sources: See Tables 16 and 18.

New Revenue Sources to Generate \$1.05 Trillion plus Surplus

Aggregate Spending Reduction

As we have seen, our estimate is that, to fully fund Medicare for All within the framework of the 2017 U.S. economy, the federal government will need to raise \$1.05 trillion. This will be in addition to the \$1.88 trillion that is already being provided from existing public sources to fund the U.S. health care system. However, we will assume that the target for additional funding will be *\$1.08 trillion*, i.e. \$30 billion more than our estimate of the additional revenue required. By incorporating this additional \$30 billion into our estimated revenue requirement, we are targeting that Medicare for All will operate with a surplus equal to 1.0 percent above the total system budgetary requirement of \$2.93 trillion.

We can think of this additional \$30 billion as providing a higher-end estimate of the additional overall spending requirements for Medicare for All. This higher-end estimate is consistent with our approach throughout the study—i.e. to work from higher-end estimates of spending needs and lower-end estimates of savings prospects. We can also consider this \$30 billion as a 1.0 percent funding surplus over the system's estimated budgetary requirements. This surplus could then be applied towards creating a rainy-day fund that can help cover possible budgetary shortfalls that might result, for example, during recessions. As needed, these funds could also be applied to help finance transitional programs as Medicare for All is implemented. As we discuss below, this should include Just Transition measures to support workers in both the health insurance industry and related sectors, since large numbers of jobs in these sectors will inevitably become redundant as Medicare for All is implemented.

Even when we assume that our additional revenue target is \$1.08 trillion rather than \$1.05 trillion, it is still the case that financing Medicare for All will entail an overall level of funding that is about 10 percent lower than the funding requirements for the existing U.S. health care system. Specifically, again, current U.S. National Health Care Expenditures exclusive of the public health budget is \$3.24 trillion, while Medicare for All's total funding needs, including the 1.0 percent surplus, is \$2.96 trillion ($(\$2.96 \text{ trillion} / \$3.24 \text{ trillion}) - 1 = -0.09$). In working through the total revenue needs for Medicare for All, it is useful to keep in mind this overall framework as a basic reference. That is, because Medicare for All is able to operate at a funding level that is about 10 percent below the current overall funding level for U.S. health care, it implies that, on average, all households and private businesses will be able to pay into Medicare for All about 10 percent less than they are presently contributing to the U.S. health care system.

As we work through some illustrative funding proposals, it will not be the case that all entities will uniformly see a 10 percent reduction in their health care budgets relative to their existing spending levels. Yet it will necessarily remain true that, in the aggregate, all funding sources will be paying into Medicare for All about 10 percent less than they provide under the existing system.

Revenue-Generating Proposals

There are multiple ways through which the U.S. federal government could raise \$1.08 trillion in additional revenues to finance Medicare for All. These funds would then combine with the existing \$1.88 trillion in existing public financing sources to reach the full \$2.96 trillion funding level for Medicare for All. In this chapter, we examine a few funding combinations as illustrative exercises. An alternative approach has been developed by the

staff of Sen. Sanders.¹¹⁵ We emphasize that additional approaches could also certainly be workable.

As an initial framework, one set of new measures that would be capable of generating a total of \$1.08 trillion in an equitable and efficient manner is as follows:

1. Business health care premiums cut by 8 percent relative to existing spending per worker.

As of 2017, U.S. businesses paid about \$669 billion to provide health care coverage for their employees.¹¹⁶ As a transitional program for the first 2-3 years under which Medicare for All operates, we propose that all businesses that are now contributing to this overall \$669 billion level of funding be able to spend 8 percent less on premiums. Specifically, this would mean that health care premiums under Medicare for All will be defined as being 8 percent less than the spending levels by firms that are providing coverage for their employees. Through this simple framework, all businesses that now provide health care coverage for their employees will be guaranteed to receive proportional benefits during Medicare for All's initial years of operation.

Within this basic framework, we will need to address further detailed issues to make the proposal workable. These include:

- How to treat existing firms that either had not been offering coverage at all to their employees or were only offering coverage to a subset of their workforce?
- How to treat newly created firms?
- What should be the revenue-generating framework for businesses into which Medicare for All converts beyond this 2 – 3 year transition arrangement?

We address these detailed considerations below.

2. 3.75 percent sales tax on non-necessities.

This sales tax will include exemptions for spending on necessities in four areas: food and beverages consumed at home; housing and utilities; education and non-profits. Of course, current spending on health care will also be excluded as a potential source of tax revenues. Overall, these exemptions for necessities amount to about 50 percent of overall consumption spending. This means that, effectively, the tax rate will be 1.875 percent on all consumption spending. We further include a 3.75 percent income tax credit for families currently insured through Medicaid. This will fully offset their 3.75 percent sales tax spending on non-necessities.

One alternative to this sales tax proposal would be to enact a new federal value-added tax (VAT) as a revenue source to fund Medicare for All. Most OECD economies generate a substantial share of the revenue they require for funding health care through some version of a VAT.¹¹⁷ In fact, at a given tax rate, the impact of a VAT in terms of revenue generation and distributional effects will be virtually the same as that of a sales tax, though its administrative features are distinct.¹¹⁸ We have highlighted the sales tax here rather than the VAT primarily because it is easier administratively with the sales tax to differentiate between exempt and non-exempt items. As mentioned above, a critical feature of our sales tax proposal is

that consumer necessities—including again, food and beverages consumed at home; housing and utilities; education and non-profits—will be exempt from taxation. These exemptions allow that the distributive impact of the sales tax will not be regressive—i.e. the tax burden will not fall disproportionately on lower-income families, since such families consume a higher proportion of their income than more affluent families.

3. Net worth tax of 0.38 percent with \$1 million exemption.

As has been widely documented and discussed, wealth inequality has increased sharply in the United States beginning in the early 1980s and continuing to the present. For example, in a 2017 paper, “Income and Wealth Inequality: Evidence and Policy Implications,” Emmanuel Saez, a leading researcher on this issue, offers these pieces of evidence within his broader analysis:¹¹⁹

There was a democratization of wealth in the first part of the 20th century, when the share of wealth going to the bottom 90% doubled, from between 15% and 20% of total household wealth in the 1920s and 1930s to a peak above 35% in the 1980s....U.S. wealth is so concentrated today that the share of wealth owned by the bottom 90% of families is only slightly above 20%, and hence about the same as the share for the top 0.1%....That means that the wealth of the top 0.1% of families is 900 times bigger, on average, than the average wealth of the bottom 90% of families....Today, the bottom 90% of families have about \$80,000 in wealth on average and the top 1% have about \$14 million on average. (2017, pp. 13 – 16).

A net worth tax would be calculated through adding up all assets owned by families and subtracting from this total asset figure all debts. Assets would include: all residences and real estate; liquid assets; pensions; corporate stocks and other types of securities; and unincorporated business equity. This net worth tax would be distinct from, and in addition to, the two existing forms of taxes on assets in the U.S.—i.e. inheritance and real estate taxes. The net worth tax would be a recurring tax on existing levels of families’ net worth. According to a 2015 study published by the European Commission, recurring net worth taxes are in use in about one-third of the EU member countries, including France, Spain, and the Netherlands (Iara 2015, p. 8)¹²⁰

Our proposal is, again, for a recurring net worth tax of 0.38 percent, after exempting the first \$1 million in families’ net worth. Wolff (2017) estimates that the average annual rate of return on net worth between 2010 – 2016 was 5.96 percent for the wealthiest 1 percent of families and 5.81 percent for the next 19 percent of wealthiest families.¹²¹ As such, even without accounting for the \$1 million exemption from the tax base, our proposal would reduce the average return for the wealthiest 1 percent of families from 5.96 to 5.58 percent and from 5.81 to 5.43 percent for the next wealthiest 19 percent of families. As such, our proposed net worth tax would represent a modest counterbalance to the sharply rising trend in wealth inequality that has prevailed in the U.S. since the 1980s.

With the first \$1 million in net worth exempted from this net worth tax, this new obligation would be applicable to only the wealthiest 12 percent of U.S. households.¹²²

4. Taxing long-term capital gains as ordinary income.

Long-term capital gains are gains earned on assets held for one year or longer. Currently, there are three tax rates on long-term capital gains: zero for those in the 10 or 15 percent marginal tax brackets; 15 percent for those in the 25 – 35 percent marginal tax brackets; and 20 percent for those in the top tax bracket. Short-term capital gains are already treated equally for tax purposes as ordinary income.

In Table 20, we show our estimates as to the revenue potential from these four sources. As we see, within our proposed framework, about 58 percent of total revenue required would come from business premiums, amounting to about \$623 billion in total. The remaining 42 percent would come from individuals and family sources, for a total of \$458 billion. Among the individual/family sources, we see that the sales tax will generate \$196 billion and the net worth tax \$193 billion. Taxing long-term capital gains as ordinary income generates the remaining \$69 billion needed to reach the overall revenue total of \$1.08 trillion.

TABLE 20
Revenues Generated through Four Proposed Funding Sources

Revenue sources	Revenue generated	Percentage of total revenue generated
1. Revenues from businesses (= rows 2 + 3)	\$623 billion	57.6%
2. Premiums at 8% cut relative to current premiums	\$615 billion	56.9%
3. Coverage for previously uncovered employees – \$500 per uncovered worker – Exemptions for small businesses	\$8 billion	0.7%
4. Revenues from individuals/families (= rows 5 + 6 + 7)	\$458 billion	42.4%
5. Sales tax at 3.75% on non-necessities only – Exemptions for current Medicaid-eligible families	\$196 billion	18.1%
6. Net worth tax at 0.38% – Exemptions for first \$1 million of net worth	\$193 billion	17.9%
7. Taxing long-term capital gains as ordinary income	\$69 billion	6.4 %
TOTAL REVENUE	\$1.08 TRILLION	100%

Source: See Appendix 4.

5. BUDGETARY IMPACTS ON BUSINESSES AND FAMILIES

This chapter examines the impacts on the budgets of a representative set of business firms and families of financing Medicare for All through the proposals we presented in Chapter 4. We first consider the situations for business firms, then examine the situation for representative families.

Impacts on Businesses

Business Funding Framework with 8 Percent Premium Cuts

Within the overall Medicare for All financing framework we present in Table 20, we have budgeted \$623 billion in revenues coming from all U.S. businesses. This includes the funds coming from the 8 percent premium cuts for all businesses now providing health insurance for their employees. Business premiums at this level would generate \$615 billion. It also includes the new premiums coming from businesses that have not been providing health insurance coverage for their employees. We propose these premiums to be at a low rate of \$500 per previously uncovered worker. This would generate another \$8 billion. Of course, this same \$623 billion total could be raised through alternative approaches as well. Each of the alternative approaches entails both strengths and weaknesses. We now consider here which approach—or combination of approaches—would be most fair and effective.

One alternative approach would be to set a uniform gross receipts tax on all businesses, or at least on businesses whose gross receipts are above a minimal threshold level. The strength of this approach is that the base of total gross receipts in the U.S. business sector is very large, at \$39 trillion. Having such a large tax base means that the rate required to generate \$623 billion in revenues can be low. For example, if we allow that the first \$1 million in revenues for all firms would be exempt from taxation, the gross receipts tax rate required to generate \$623 billion would still be only 1.78 percent of revenues above \$1 million.

The shortcoming with this proposal is that its impact on firms would vary significantly, depending on the firms' respective employment and health care coverage levels relative to their gross receipts. In particular, businesses that are relatively capital intensive, such as a high proportion of the U.S. manufacturing sector, would experience a large increase in their health care premiums relative to their current spending levels. We briefly review evidence on this below.

An second alternative approach would be to increase existing payroll tax rates beyond the current 15.3 percent rate.¹²³ An advantage of this approach would be that business premiums under Medicare for All would be scaled proportionally to their payroll. This approach would therefore not impose a disproportionate burden on relatively capital intensive firms, such as those in manufacturing. Establishing a uniform payroll tax rate of 8.2 percent would generate the necessary \$623 billion in health care premiums. Again, this overall level would be \$46 billion less than the \$669 billion that businesses currently pay in premiums. We briefly review below evidence on the distributional impact of this approach as well.

The disadvantage of establishing a uniform 8.2 payroll tax at the outset under Medicare for All would be that it would produce wide differences among firms as to how much their health care premiums would change relative to their existing spending levels. It is reasonable to expect that, after a transition period of 2 – 3 years, all firms should be contributing proportionate levels of health care premiums relative to their payroll. But to establish this approach in the initial years under Medicare for All could be disruptive to a large share of firms' existing operations.

Considering these various strengths and weaknesses, we have concluded that the 8 percent business premium cut framework will be most effective in funding the first 2 – 3 years of Medicare for All. This framework would both provide proportional benefits to all firms that have been providing health care coverage to their employees while also being minimally disruptive relative to firms' current operating budgets.

In addition, as discussed above, firms that are offering coverage to either none or only a subset of their employees would have to pay a premium of \$500 per uncovered employee. This is a low rate that would impose a modest additional cost on firms that have not been providing coverage. Beyond this, we propose that very small businesses that are not providing coverage would be exempt from the \$500 per worker premium during the 2 – 3 year transition period. The exemption would apply specifically to the first \$125,000 in payroll for firms whose gross receipts are below \$1 million.

We have estimated that the revenue from this \$500 per uncovered worker premium would generate about \$8 billion in revenue. Combining this \$8 billion in revenue with the \$615 billion that businesses would provide after cutting their current health care premium spending by 8 percent would bring total revenue from business sources to the \$623 billion total. Again, this \$623 billion is equal to \$46 billion less than the \$669 billion that businesses currently pay in premiums to private insurance companies.

While this approach is least disruptive and most equitable over a 2 – 3 year transition period, it would not be viable over the longer term. Obviously, the system would still require a provision that would apply to newly established firms. In addition, over time, the fact that businesses would be paying differential rates scaled to the premiums they paid prior to the establishment of Medicare for All would not be fair to firms that had been providing relatively generous coverage to their employees.

We therefore propose that newly established businesses would be required to pay a premium at 8.2 percent of their payroll at the outset under Medicare for All. The revenue from these payroll taxes will be in addition to the \$1.08 trillion already generated through the measures listed in Table 20. These additional funds can be used to finance the increasing demand under Medicare for All that will result through population growth.

This 8.2 percent rate would then also apply to all firms once the 2 – 3 year transition period for Medicare for All has ended. Under this framework, the overall level of revenue generated will be roughly equal to the \$623 billion that would be generated under the transitional program featuring the 8 percent cut in premiums for all firms that had been covering their employees.

Distributional Impacts on Business Firms

We now examine the impact on business firms of various sizes and within different sectors of the economy of both the transition program featuring the 8 percent premium reduction as well as two alternative longer-term proposals—the 8.2 percent payroll tax and a 1.78 percent gross

receipts tax. Our approach will be to directly compare the costs presently incurred by the various business firms versus what they would be spending under Medicare for All.

To generate figures on current spending levels for firms, we need to incorporate the following variables: 1) the number of employees receiving employer-provided health insurance; 2) the average cost per worker of the insurance program; and 3) the tax subsidy businesses receive for covering their employees.

In addition to these, we also take account of the savings businesses will receive through being relieved of having to manage health insurance for their employees. We now discuss this consideration, before proceeding with our overall cost comparisons of current business health care spending versus Medicare for All.

Administrative Savings for Businesses

In assessing the impact of Medicare for All on families as well as businesses, it is important to recognize that the CMS figures for administrative costs that we reported in Table 1 do not include all the administrative costs that families and businesses themselves bear through obtaining and managing their health insurance coverage.¹²⁴ The further administrative costs figures that we calculate for hospitals and doctors/clinics and dentists, as presented in Table 9, also do not take account of administrative costs faced by families and businesses. Eliminating these administrative costs for both families and businesses would provide an additional source of net savings for families and businesses through establishing Medicare for All.

To our knowledge, there are no studies that quantify the costs that are borne by families. Since we are unable to account for these additional administrative savings for families, the net financial impacts on families that we report below are understatements of the relative gains to families that would result through a transition to Medicare for All.¹²⁵

With respect to businesses, a study of the administrative costs of providing health insurance for employees was conducted in 2010 by the employee benefits firm DirectPath, in conjunction with CLC Benefits and Thomas Reuters.¹²⁶ The DirectPath study reports on the range of these administrative costs for firms between the low-end 10 percentile of costs, and including the 25th, 75th and 90th percentiles. The survey breaks down “Total Administrative Fees” into “General,” “Health Management,” “Additional Benefit Administration,” “Disease Management,” and “Other” fees. For our purposes, we will work with only the figures that DirectPath reports for “General Administration.” It is possible that at least some fraction of the additional fees included in the survey may be also included in the CMS accounts. Here again, it is preferable that we err through understating rather than overstating the magnitude of these costs.

As one subcategory within the “General” administrative costs category that are not covered by CMS, a high proportion of firms every year expend time and resources simply on considering alternative insurance arrangements and switching among plans. In fact, according to the Kaiser/HRET Survey of Employer-Sponsored Health Benefits, 59 percent of all firms that provide health benefits to their employees shopped for a new health care plan or insurance carrier in 2017 and 17 percent actually changed their carrier.¹²⁷

The DirectPath survey was conducted only among firms that self-insure, i.e. the firms that manage their own health insurance plans, as opposed to purchasing a plan from an established insurance company. About 61 percent of the people receiving insurance through private-sector jobs are covered through self-insurance arrangements.¹²⁸ We assume that the administrative costs to businesses which purchase plans from insurance companies will be

comparable to those that are self-insured. This is because the primary incentive for firms to establish their own self-insurance arrangements will be to lower costs.

The figures reported in the DirectPath survey are for 2010. In Table 21 below, we show these figures, after adjusting for inflation between 2010 and 2017. As we see in Table 21, the annual cost figures (in 2017 dollars) range between \$169 per employee for the 10th percentile of firms up to \$592 per employee for the 90th percentile. The median cost figure for all firms is \$396 per employee per year.

In incorporating this additional cost category into our estimates on total business costs, we apply the \$396 per worker per year median figure. It is likely that larger firms are able to operate at relatively lower proportional administrative costs than smaller firms through achieving economies-of-scale. But it is also likely that larger firms provide more extensive coverage to their employees, which entail more administration.

In Table 22, we then incorporate this \$396 per employee administrative cost saving figure into our calculations. This becomes one component in our overall estimates of the changes in business costs through shifting from the existing U.S. health care system into Medicare for All.

Relative Cost Estimates for Businesses

In Table 22, we present the detailed calculations as to how our proposed transitional business financing program under Medicare for All—featuring the 8 percent premium reduction for spending on covered workers and a \$500 per worker fee per uncovered worker—will impact the health care spending levels for representative businesses of different sizes. Table 23 then provides a summary of the detailed results in Table 22.

Because the starting point of our proposed transitional financing measure is that all firms will lower their health care premiums under Medicare for All relative to what they now pay for covered workers, it is a given that all firms that have been providing coverage for their employees will experience cost declines under the transitional program. This result is borne out through the figures shown in Table 22.

TABLE 21
Costs to Businesses for Administering Health Insurance
Plans for Employees
General administrative costs only
Figures are annual costs per covered worker for 2010, expressed in 2017 dollars

Cost range	Annual costs per worker
10th percentile	\$169
25th percentile	\$189
75th percentile	\$554
90th percentile	\$592
Median costs—50th percentile	\$396

Source: Direct Path, “The Lab Health Plan Benchmark Data, 2010,” (2017).

Note: Inflation adjustment based on U.S. GDP deflator for 2010.3 and 2017.2.

TABLE 22
Impact of Medicare for All on Businesses by Size

Figures are estimated for 2017

Estimates are for transitional program featuring 8% premium reductions for covered employees

A) Small Businesses: Firms with 0-9 employees with and without health benefits

	0-9 employees (no benefits)	0-9 employees
1. Average number of workers in firm	3 workers	
2. Average payroll	\$117,400	
3. Average gross receipts	\$658,000	
Net health care spending under existing system		
4. # of workers using employer-provided health insurance	0 workers	1 worker
5. # of workers offered employer-provided health insurance but not participating	0 workers	1 worker
6. # of workers not offered employer-provided health insurance	3 workers	1 worker
7. Average cost of health insurance per participating worker	\$8,700	
8. Average firm spending on health insurance (= row 4 x row 7)	\$0	\$8,700
9. Business health care tax subsidy (=7.65% x row 8)	\$0	\$670
10. Total net health care spending (= row 8 - row 9)	\$0	\$8,030
11. Total net health care spending as % of payroll	0%	6.8%
Net health care spending under Medicare for All during transition		
12. 8% reduced health premium spending (= row 10 x 92%)	\$0	\$7,390
13. Per uncovered worker fee* (= \$500 x row 6)	\$0	\$0
14. Business administrative savings (= \$396 x row 4)	\$0	\$396
15. Total net health care spending under Medicare for All (= row 12 + row 13 – row 14)	\$0	\$6,994
Net impact of Medicare for All		
16. Change in health care spending through Medicare for All (= row 15 – row 10)	\$0	-\$1,036
17. Percentage change in health care spending (= row 16/row 10)	0%	-12.9%
18. Change in health care spending as % of gross receipts (= row 16/row 3)	0%	-0.2%

Source: See Appendix 4.

Notes: * Small businesses are exempt from per worker fee.

TABLE 22 (cont.)

Impact of Medicare for All on Businesses by Size*Figures are estimated for 2017**Estimates are for Transitional Program Featuring 8% Premium Reductions for Covered Employees***B) Medium Businesses: Firms with 10-19 employees and 20-99 employees**

	10-19 employees	20-99 employees
1. Average number of workers in firm	13 workers	39 workers
2. Average payroll	\$549,100	\$1.72 million
3. Average gross receipts	\$2.65 million	\$8.57 million
Net health care spending under existing system		
4. # of workers using employer-provided health insurance	6 workers	18 workers
5. # of workers offered employer-provided health insurance but not participating	2 workers	6 workers
6. # of workers not offered employer-provided health insurance	5 workers	15 workers
7. Average cost of health insurance per participating worker	\$8,600	\$8,700
8. Average firm spending on health insurance (= row 4 x row 7)	\$51,600	\$156,600
9. Business health care tax subsidy (= 7.65% x row 8)	\$3,950	\$11,980
10. Total net health care spending (= row 8 - row 9)	\$47,650	\$144,620
11. Total net health care spending as % of payroll	8.7%	8.4%
Net health care spending under Medicare for All during transition		
12. 8% reduced health premium spending (= row 10 x 92%)	\$43,840	\$133,050
13. Per uncovered worker fee (= \$500 x row 6)	\$2,500	\$7,500
14. Business administrative savings (= \$396 x row 4)	\$2,376	\$7,128
15. Total net health care spending under Medicare for All (= row 12 + row 13 - row 14)	\$43,964	\$133,422
Net impact of Medicare for All		
16. Change in health care spending through Medicare for All (= row 15 - row 10)	-\$3,686	-\$11,198
17. Percentage change in health care spending (= row 16/row 10)	-7.7%	-7.7%
18. Change in health care spending as % of gross receipts (= row 16/row 3)	-0.1%	-0.1%

Source: See Appendix 4.

TABLE 22 (cont.)

Impact of Medicare for All on Businesses by Size*Figures are estimated for 2017**Estimates are for Transitional Program Featuring 8% Premium Reductions for Covered Employees***C) Large Businesses: Firms with 100-499 employees and 500+ employees**

	100-499 employees	500+ employees
1. Average number of workers in firm	196 workers	3,298 workers
2. Average payroll	\$9.2 million	\$183.0 million
3. Average gross receipts	\$49.4 million	\$1,210.4 million
Net health care spending under existing system		
4. # of workers using employer-provided health insurance	98 workers	1,652 workers
5. # of workers offered employer-provided health insurance but not participating	35 workers	603 workers
6. # of workers not offered employer-provided health insurance	63 workers	1,043 workers
7. Average cost of health insurance per participating worker	\$8,800	\$8,900
8. Average firm spending on health insurance (= row 4 x row 7)	\$862,400	\$14.70 million
9. Business health care tax subsidy (= 7.65% x row 8)	\$65,970	\$1.12 million
10. Total net health care spending (= row 8 - row 9)	\$796,430	\$13.58 million
11. Total net health care spending as % of payroll	8.6%	7.4%
Net health care spending under Medicare for All during transition		
12. 8% reduced health premium spending (= row 10 x 92%)	\$732,720	\$12.49 million
13. Per uncovered worker fee (= \$500 x row 6)	\$31,500	\$521,500
14. Business administrative savings (= \$396 x row 4)	\$38,808	\$654,192
15. Total net health care spending under Medicare for All (= row 12 + row 13 - row 14)	\$725,412	\$12.36 million
Net impact of Medicare for All		
16. Change in health care spending through Medicare for All (= row 15 - row 10)	-\$71,018	-\$1.22 million
17. Percentage change in health care spending (= row 16/row 10)	-8.9%	-9.0%
18. Change in health care spending as % of gross receipts (= row 16/row 3)	-0.1%	-0.1%

Source: See Appendix 4.

For completeness, we include in Table 22, panel A the case of small firms that are presently providing no health care coverage. It is important to recognize this category of firms since, in fact, they account for the majority of business enterprises in the U.S. at present. In addition, as we see in Table 22, panel A, the average small firm will be exempt from paying any health care premiums for their uncovered employees, since our proposal includes the exemption for small firms from the supplemental \$500 per uncovered worker health care premium.

Beyond this, there are differences in the extent of average net savings received by firms according to their size. As we see in the summary Table 23, the largest net gains would go to the small firms that have been covering at least a share of their workers. Net health care spending for these firms will decline by an average of 12.9 percent through Medicare for All. With medium-sized firms, the average reduction will be slightly less than 8 percent. This is because these firms do not presently provide health care coverage for about 40 percent of their employees. They will therefore pay \$500 per uncovered employee after they receive their 8 percent spending cut relative to their current premium payments. Large firms will receive an average net spending reduction of 9 percent. The average share of uncovered workers with the large firms is about 32 percent. Their \$500 fee per uncovered worker will therefore be smaller than with the medium-sized firms. In addition, because the large firms are presently covering a larger share of their workforce, they will also gain disproportionately through no longer having to administer health insurance plans for their employees.

Alternative: 8.2 Percent Payroll Tax or 1.78 Percent Gross Receipts Tax

In Table 24, we show the summary figures on the distributional impacts of both an 8.2 percent payroll tax and a 1.78 percent gross receipts tax.¹²⁹ As mentioned above, both of these measures would generate about the same \$623 billion in revenues needed to maintain the business sector's 60 percent share of overall funding for Medicare for All. But these alternative approaches differ in their distributional impacts, both between themselves and relative to our approach featuring the 8 percent business premium reduction for the first 2 – 3 years of Medicare for All.

TABLE 23
Summary Figures: Impact of Transition to Medicare for All on Businesses by Size

	Percentage change in health care spending	Change in health care spending as a share of gross receipts
<i>Small businesses—0 – 9 employees</i>		
No health benefits	0%	0%
With health benefits	-12.9%	-0.2%
<i>Medium-sized businesses</i>		
10 – 19 employees	-7.7%	-0.1%
20 – 99 employees	-7.7%	-0.1%
<i>Large businesses</i>		
100 – 499 employees	-8.9%	-0.1%
500+ employees	-9.0%	-0.1%

Source: See Table 22.

TABLE 24

Impact of Transition to Medicare for All on Businesses by Size through:

- 8.2 percent Payroll Tax, with \$50,000 payroll exemption for businesses with less than \$1 million in gross receipts
- 1.78 percent Gross Receipts Tax, with \$1 million gross receipts exemption

	Payroll Tax at 8.2%		Gross Receipts Tax at 1.78%	
	Percentage change in health care spending	Change in health care spending as a share of gross receipts	Percentage change in health care spending	Change in health care spending as a share of gross receipts
Small businesses—0 – 9 employees				
No health benefits	Not applicable	+0.7%	0%	0%
With health benefits	-36.1%	-0.4%	-104.9%	-1.3%
Medium-sized businesses				
10 – 19 employees	-10.5%	-0.2%	-43.4%	-0.8%
20 – 99 employees	-7.6%	-0.1%	-11.7%	-0.2%
Large businesses				
100 – 499 employees	-9.8%	-0.2%	+3.3%	+0.1%
500+ employees	+5.7%	+0.1%	+53.7%	+0.6%

Source: See Appendix 4.

Note: Small businesses that have not provided health care coverage to employees will pay an average of \$5,000 through the 8.2% payroll tax.

With the 8.2 percent payroll tax, we include a \$50,000 payroll exemption for firms with less than \$1 million in gross receipts. Because this exemption is modest, most small firms—with 0 – 9 employees—will be paying payroll taxes, averaging about \$5,000. This will obviously entail a cost increase for the small firms that have not been providing health care coverage for their employees. As we see in Table 24, this average \$5,000 cost increase is still modest relative to the firms' overall operations, at 0.7 percent of gross receipts. By contrast, as we also see, the small businesses that have been offering health care to their employees will experience a net cost reduction of about 36 percent. This is a 0.4 percent cost reduction relative to gross receipts.

The average medium-sized firm, as well as large-sized firm with 100 – 499 employees, will also experience net health care cost reductions through the 8.2 percent payroll tax measure relative to their current health care costs. The cost reductions range between 7.6 – 10.5 percent. The largest firms, with over 500 employees, will face an average cost increase of 5.7 percent relative to their current payments to private insurance companies. But this cost increase would amount to only 0.1 percent of gross receipts.

As noted above, the option of generating \$623 billion through a 1.78 percent gross receipts tax produces more uneven distributional impacts. We have designed this proposal to include an exemption on the first \$1 million in receipts for all firms. Under this approach, small and medium-sized firms would experience lower health care costs relative to what they currently pay for health care. The gains would be very large for the small firms that have been covering their workers—a cost reduction of nearly 105 percent. Medium-sized firms with 10 – 19 employees would also see a substantial 43 percent cost reduction. But large firms would experience cost increases, especially firms with 500 or more employees. These

firms would see health care costs rising by an average of about 54 percent relative to their current health care expenditures. This 54 percent cost increase would still amount to only 0.6 percent of their gross receipts. Nevertheless, in absolute dollars, the cost increase would be large for these firms.

On the basis of these various results, we conclude that the most equitable approach for generating the necessary \$623 billion in revenue from businesses is:

1. Over the initial 2 – 3 years under which Medicare for All operates, reduce premiums for all firms now covering their employees by an average of 8 percent; then
2. Transition to a payroll tax system with the rate set at 8.2 percent.

But we emphasize again that, regardless of the differences in *distributional impacts* between the transitional program featuring the 8 percent premium reduction versus the 8.2 percent payroll tax or the 1.78 percent gross receipts tax, with all three options, the \$623 billion generated will be about \$46 billion lower *in the aggregate* than the \$669 billion that U.S. businesses now pay to private health insurance companies.

Impacts on Families

We consider here the financial impact of Medicare for All on seven representative family types relative to the existing U.S. health care system. These family types are:

- **Low-income families.** a) \$13,000 in family income and currently receiving Medicaid coverage¹³⁰; and b) \$35,000 in family income without health insurance.

The \$13,000 family income level is the average level for families in the lowest 20 percent of the distribution of U.S. family incomes (i.e. the lowest quintile of family income). The \$35,000 family income level is the average for families falling between the 21st – 40th percentiles in family income (the second family income quintile).

- **Middle-income families.** \$60,000 in family income with distinct insurance arrangements: a) underinsured; b) individually insured; and c) insured by employer.

The \$60,000 family income level is the average figure for families falling between the 41st and 60th percentiles in family income (the third family income quintile).

- **High-income families.** a) \$221,000 in family income; and b) \$401,000 in family income.

The \$221,000 family income level is the average figure for those in the 81st to 100th percentiles in family income (the richest 20 percent of families, or top quintile). The \$401,000 family income level is the figure for the richest 5 percent of families.

Our results for families are presented in Table 25, panels A – C, and a summary Table 26.

For families under the existing system, we add up payments for insurance premiums and out-of-pocket costs, then subtract all tax subsidies, to obtain figures for the families' net health care spending. We then calculate these net health care spending figures relative to income levels for each of the representative family types. We then compare these fig-

ures under the existing system with families having to pay the 3.75 percent sales tax under Medicare for All, with the exemptions for necessity purchases along with the 3.75 percent tax credit for current Medicaid recipient families.¹³¹ We also incorporate the impact of the 0.38 percent net worth tax with the \$1 million exemption and the increase in the long-term capital gains tax rate. Under our proposal, long-term capital gains are treated as ordinary income.

Low-, Middle- and High-Income Family Effects

We start in Table 25, panel A with the case of a low-income family, with family income at \$13,000. This family's health insurance is covered by Medicaid. As the table shows, this family is paying \$460 per year in out-of-pocket health care costs in addition to its Medicaid coverage. This \$460 in spending equals 3.5 percent of the family's income. Under Medicare for All, the family's total payments for the single-payer system will be its sales tax spending of \$470 minus the 3.75 percent of income tax credit they receive for being Medicaid eligible. This subsidy amounts to \$488. As such, their net spending on health care is a subsidy of \$18. On balance, this family lowers its health care costs by \$478, equal to 3.7 percent of their family income in moving from Medicaid to Medicare for All.

The uninsured family with an income level of \$35,000 also derives net benefits through Medicare for All. In addition to facing the difficulties experienced by being uninsured, this family pays \$870 in out-of-pocket expenses under the present system, amounting to 2.5 percent of the family's income. Under Medicare for All, this family pays \$600 in sales tax, but is not eligible for the 3.75 percent tax credit. Nevertheless, its health care spending, as a percent of the family's income, falls by 0.8 percent under Medicare for All relative to the existing system.

In Table 25, panel B, we consider the situation for middle-income families which are either: 1) underinsured; 2) insured individually; or 3) insured by their employers. In all cases, the net cost savings for these families is significant under Medicare for All. Thus, the underinsured middle-income family spends \$4,970 in health care, including premiums, out-of-pocket expenditures and tax subsidies under the current system. This amounts to fully 8.0 percent of their income. Health care costs under Medicare for All will fall to 1.6 percent of income for this family due to the \$900 sales tax and \$30 in capital gains tax. In other words, this household saves \$3,860, or 6.4 percent of income, through Medicare for All relative to what they pay at present.

The gains are even larger for the individually insured family. Under the existing U.S. health care system, this family is spending 15.5 percent of its income on health care. They will also spend only 1.6 percent of income, through the sales tax, under Medicare for All—a fall of 14.0 percent in health care costs as a share of family income. Even for middle-income families that receive health insurance through an employer within the present system, their health care costs fall by 2.6 percent as a share of income.

Health care costs do rise for high-income families under Medicare for All relative to the existing system, as we show in Table 25, panel C. This is despite the fact that these families are paying, on average, \$7,040 in health care premiums and \$940 in out-of-pocket expenses under the current system. But these families also benefit greatly through having the cost of their health insurance premiums—including their share as well as the share paid by their employers—treated as exempt from income tax. We estimate that total tax subsidies for high-

TABLE 25
Impact of Medicare for All on Families
Family of 3: 2 adults/1 child; Figures are for 2017

A) Low-Income Families

	Low-income, with Medicaid	Low-income, uninsured
1. Income	\$13,000	\$35,000
2. Wages/salaries	\$6,000	\$26,000
3. Non-exempt spending – Exemptions for food-at-home, housing, utilities, public transportation, education, not-for-profit services.	\$12,500	\$16,100
Health care spending under existing system		
4. Health insurance premium	\$0	\$0
5. Out-of-pocket health care costs	\$460	\$870
6. Tax subsidies	\$0	\$0
7. Total net spending (= row 4 + row 5 – row 6)	\$460	\$870
8. Total health spending as share of income (= row 7/row 1)	3.5%	2.5%
Health care spending under Medicare for All		
9. Sales tax (= 3.75% of non-exempt spending)	\$470	\$600
10. 3.75% income tax credit for Medicaid eligible families	\$488	\$0
11. Total net spending (= row 9 – row 10)	-\$18	\$600
12. Total net spending as share of income (= row 11/row 1)	-0.1%	1.7%
Net impact of Medicare for All		
13. Change in net income through Medicare for All (= row 7 – row 11)	+\$478	+\$270
14. Percentage change in health care costs as share of income (= row 12 – row 8)	-3.7%	-0.8%

Sources and Notes: See Appendix 4.

income families amount to \$8,290 for top 20 percent families and \$11,670 for top 5 percent families. Because of this, under the existing system, the net cost for these families to receive health insurance is actually negative. They receive a net subsidy equal to between 0.1 and 0.9 percent of their income.

Under Medicare for All, high-income families, as with all families, will no longer pay premiums and out-of-pocket for health care. They will also no longer receive tax subsidies to cover these health-care costs. They will pay the 3.75 percent sales tax on non-necessities, as well as the 0.38 percent net worth tax and the increased rate on long-term capital gains. As a result, the top 20 percent families will spend 3.7 percent of their income and the top 5 percent families will spend 4.7 percent of their income to cover their health care coverage

TABLE 25 (cont.)
Impact of Medicare for All on Families
Family of 3: 2 adults/1 child; Figures are for 2017

B) Middle-Income Families

	Underinsured	Individually insured	Insured by employer
1. Income	\$60,000	\$60,000	\$60,000
2. Wages/salaries	\$47,000	\$47,000	\$47,000
3. Non-exempt spending – Exemptions for food-at-home, housing, utilities, public transportation, education, not-for-profit services.	\$24,000	\$24,000	\$24,000
Health care spending under existing system			
4. Health insurance premium	\$4,690	\$15,600	\$4,690
5. Out-of-pocket health care costs (10% of income)	\$6,000	\$4,215	\$2,810
6. Tax subsidies	\$5,900	\$10,500	\$5,000
7. Total net spending (= row 4 + row 5 – row 6)	\$4,970	\$9,315	\$2,500
8. Total health spending as share of income (= row 7/row 1)	8.0%	15.5%	4.2%
Health care spending under Medicare for All			
9. Sales tax (= 3.75% of non-exempt spending)	\$900	\$900	\$900
10. Capital Gains tax	\$30	\$30	\$30
11. Total net spending (= row 9 + row 10)	\$930	\$930	\$930
12. Total net spending as share of income (= row 11/row 1)	1.6%	1.6%	1.6%
Net Impact of Medicare for All			
13. Change in net income through Medicare for All (= row 7 – row 11)	+\$3,860	+\$8,385	+\$1,570
14. Percentage change in health care costs as share of income (= row 12 – row 8)	-6.4%	-14.0%	-2.6%

Sources and Notes: See Appendix 4.

under Medicare for All. This represents a net increase in health care spending of between 3.9 and 5.6 percent for high-income families.

In Table 26, we summarize the main findings shown in Tables 25, panels A – C. This table conveys clearly the extent to which the costs of health care are presently borne disproportionately by lower- and especially middle-income families relative to high-income families under the current system. It also shows how Medicare for All can promote far greater equity in the provision of health care throughout the United States.

Thus, we see that for our representative middle-income families, the net costs of health care under the present system range between 4.2 and 15.5 percent of the families' incomes.

TABLE 25 (cont.)
Impact of Medicare for All on Families
Family of 3: 2 adults/1 child; Figures are for 2017

C) High-Income Families

	Top 20 percent	Top 5 percent
1. Income	\$221,000	\$401,000
2. Wages/salaries	\$178,000	\$297,000
3. Non-exempt spending – Exemptions for food-at-home, housing, utilities, public transportation, education, not-for-profit services.	\$57,500	\$76,200
Health care spending under existing system		
4. Health insurance premium	\$7,040	\$7,040
5. Out-of-pocket health care costs	\$940	\$940
6. Tax subsidies	\$8,290	\$11,670
7. Total net spending (= row 4 + row 5 – row 6)	-\$310	-\$3,690
8. Total health spending as share of income (= row 7/row 1)	-0.1%	-0.9%
Health care spending under Medicare for All		
9. Sales tax (= 3.75% of non-exempt spending)	\$2,160	\$2,860
10. Capital Gains tax	\$550	\$1,790
11. Net Worth tax	\$5,500	\$14,000
12. Total net spending (= row 9 + row 10 + row 11)	\$8,210	\$18,650
13. Total net spending as share of income (= row 12/row 1)	3.7%	4.7%
Net impact of Medicare for All		
14. Change in net income through Medicare for All (= row 7 – row 12)	-\$8,520	-\$22,340
15. Percentage change in health care costs as share of income (= row 13 – row 8)	+3.9%	+5.6%

Sources and Notes: See Appendix 4.

By contrast, high-income families are presently receiving *a net subsidy* of between 0.1 – 0.9 percent of their incomes to support their health care coverage.

Under Medicare for All, net health care spending for middle-income families falls sharply, to an average of 1.6 percent of these families' income level. This represents a reduction in health care spending for middle-income families of between 2.6 and 14.0 percent of income. By contrast, with high-income families, health care costs will rise, but still only to an average of between 3.7 and 4.7 percent of their respective income levels. These spending levels as a share of income are still between roughly one-third and one-fourth those that middle-class families currently pay for health care.

TABLE 26
Summary Figures: Impact of Transition to Medicare for All on Families

	Health care spending as share of income		3. Change in health care spending as share of income (= column 2 – column 1)
	1. Existing system	2. Medicare for All	
<i>Low-income families</i>			
\$13,000 in income with Medicaid	3.5%	-0.1%	-3.7%
\$35,000 in income, uninsured	2.5%	1.7%	-0.8%
<i>Middle-income families:</i>			
\$60,000 in income			
Underinsured	8.0%	1.6%	-6.4%
Individually insured	15.5%	1.6%	-14.0%
Insured by employer	4.2%	1.6%	-2.6%
<i>High-income families</i>			
Top 20 percent: \$221,000 in income	-0.1%	3.7%	+3.9%
Top 5 percent: \$401,000 in income	-0.9%	4.7%	+5.6%

Source: Table 25. Differences in column 3 figures relative to columns (2 -1) are due to rounding.

6. THE TRANSITION INTO MEDICARE FOR ALL

In this chapter, we examine three major issues that will emerge in the transition from the existing U.S. health care system into Medicare for All. These are:

- The administrative challenges in implementing Medicare for All, working from the existing multi-payer, mixed public/private system.
- The impact of the transition on both the incomes of physicians and on the capacity of physicians and other providers to meet the increased demand for health care services. We consider here how the Medicare for All system will be able to fulfill its commitment that all U.S. residents will be able to maintain access to their preferred health care providers.
- Providing a Just Transition for workers who will face displacement due to the elimination of most of the private health insurance industry as well as major cuts in overall administrative requirements under Medicare for All.

We consider these issues in turn. We then conclude by providing a brief integrated assessment as to how the overall transition process could effectively advance, beginning on January 1 of Year 1 under Medicare for All.

The Administrative Transition

If Medicare for All were to pass into law, the U.S. health care system would then face a formidable set of challenges—i.e. transitioning a nearly \$4 trillion enterprise out of its existing mixed public and private multi-payer insurance system into a national public single-payer system. In this chapter, we examine some major considerations that would be faced in undertaking this transition.

In Table 27, we present the most recent data, for 2016, as to the distribution of health insurance coverage in the U.S. according to the *primary sources* of coverage for all U.S. residents. Recall that in Table 4 above, we presented data on health insurance coverage which counted people twice if they were covered through more than one form of health insurance—such as private insurance plus Medicare or Medicaid. For our purposes now, this more simplified set of figures in Table 27, derived by the Henry J. Kaiser Family Foundation working from the official underlying U.S. Census data, will be most useful for our discussion.

As we see in Table 27, as of 2016, 185 million people—56 percent of the population—carry primary coverage with private health insurance companies, mostly through employers (49 percent), with the remaining 7 percent covered through non-group private plans. At the same time, 116 million people—35 percent of the population—have primary coverage with Medicaid, Medicare or some other form of public health insurance. Nine percent remain uninsured.

TABLE 27
Distribution of U.S. Health Insurance Coverage, According to *Primary*
Type of Coverage, 2016

Primary coverage type	Percentage of population with primary coverage type	Total population with primary coverage type
Employer private	49%	162 million
Non-group private	7%	23 million
Medicaid	19%	63 million
Medicare	14%	46 million
Other public	2%	7 million
Uninsured	9%	30 million

Source: Kaiser Family Foundation. Health Insurance Coverage of the Total Population (2016).

Within this existing framework, there will be four main distinct transition paths into the national single-payer system. These are:

1. Out of the existing public plans.
2. Out of employer-based private plans.
3. Out of non-group private plans.
4. Integrating the currently uninsured.

We will need to examine, in turn, the distinct transition issues that will be faced by each of these population cohorts. But before addressing such specific considerations, we need to recognize some important general points. The first is the fact that large-scale transitions out of the full set of public and private insurance programs and into Medicare are already occurring as a matter of course within the U.S. health care system, as U.S. residents become Medicare-eligible at age 65. Between 2011 – 2016, an average of 3.7 million people were newly enrolled in Medicare each year.¹³² Thus, at least at an initial skeletal level, the administrative infrastructure for transition already exists and is functioning effectively. This will be a valuable starting point in transitioning into Medicare for All. At the same time, of course, scaling up the existing operation nearly 90-fold—i.e. moving from 3.7 million individual transitions to 330 million under Medicare for All—will entail a unique set of challenges.

This scaling up of the transition process will be greatly facilitated through effectively utilizing information technology to the maximum extent. All medical records will need to be entered into the system and all beneficiaries should be issued personal electronic health cards through which these records can be accessed by all appropriate parties. In fact, the existing Medicare program has already developed, at least in its early stages, a workable electronic platform for all Medicare beneficiaries called Blue Button 2.0.¹³³ It is currently a free, voluntary program for all Medicare beneficiaries designed to give beneficiaries readily available access to their medical records—all appointments and services provided including prescriptions, doctor's appointments, blood tests, and the like. This system can serve as the framework for rapidly incorporating IT into Medicare for All.

Within these general considerations, the distinct set of issues that will be faced by each of the four population cohorts will include the following:

Transition from Existing Public Plans

To begin with, the 46 million people whose primary coverage is with the existing Medicare system will not face any significant transition issues. For the 63 million people whose primary coverage is with Medicaid and 7 million with other forms of public coverage (as listed in Table 27) the transitions should also not be difficult. The purely administrative transitional matters should, again, be greatly facilitated through utilizing IT effectively. There will be no issues of shifting funding streams from private-sector operations into the public sector, as public agencies would continue to provide beneficiaries with coverage in all cases.

Transition from Employer-Based Private Plans

The transition out of these plans will entail major administrative efforts, involving the health insurance coverage for 162 million people. But the procedures involved in transitioning employees between health plans are already familiar to virtually all businesses that currently provide health insurance coverage. Under the existing U.S. health care system, businesses regularly evaluate and make choices between a range of private health insurance options for their employees. They frequently shift from one plan to another based on their assessments of the various plans. Some businesses also offer employees opportunities to themselves switch between alternative plans offered by the firm during open enrollment periods. Thus, according to a series of recent surveys, approximately 30 percent of employers who provide coverage to their employees cancel their existing insurance contracts within a given year. These employers either switch between alternative private plans or simply stop offering insurance coverage altogether to their employees.¹³⁴ As noted earlier, in 2017, 59 percent of firms offering health benefits shopped for a new plan or health insurance carrier in the past year and 17 percent switched plans.¹³⁵

For the most part, private businesses that have been providing health insurance coverage for their employees do already operate the administrative apparatus capable of moving their employees onto Medicare for All efficiently. Moreover, these businesses have a strong financial incentive to complete the transition quickly. This is because, once they have concluded this one-time transition, they will no longer have to spend time and money managing health insurance issues for their employees. In addition, as we show in Chapter 5, most businesses will net out positively through the transition to Medicare for All, in comparing what they currently pay for health insurance coverage for their employees versus what they would pay in premiums to help finance Medicare for All. The firms will therefore be generating savings for themselves immediately after they have completed the transition for their employees into Medicare for All.

Non-group Private Plans

The 23 million people currently covered in non-group private plans will not have the administrative support of their employers to assist them in transitioning to Medicare for All. These people should be provided the opportunity to transition into Medicare for All through two procedures. The first would be to promote enrollments into Medicare for All using methods similar to those that have been utilized under the Affordable Care Act. In 2017,

Randy Pate, Director of the Center for Consumer Information and Insurance Oversight for CMS described his office's outreach efforts as follows:

CMS will target its advertising and outreach activities to educate consumers on the new dates of the Open Enrollment Period through digital media, email, and text messages. These outreach methodologies have proven the most effective in reaching existing and new enrollees. Outreach will also be targeted based on specific demographic and geographic data. This approach is not only based on previous evaluation of past Exchange outreach efforts, but is also consistent with promotional spending on Medicare Advantage and Medicare Part D...Consumers will continue to have multiple options to assist them in enrolling in coverage for 2018, including healthcare.gov, call centers, agents and brokers, and enrollment directly with an issuer.¹³⁶

It is well known that the ACA experienced significant administrative snags during its initial rollout period. Nevertheless, once recognized, these problems were addressed promptly. The rapid improvements in administration themselves demonstrated the capacity of the public health care bureaucracy to correct problems and improve performance. The result was that an average of 11.3 million people per year have enrolled in a private insurance plan through the ACA between 2014 – 2018—a level of enrollments equal to nearly 50 percent of the 23 million total that would need to move from non-group private plans into Medicare for All. As of 2015, only the second year of the program's operation, enrollment had reached 11.7 million.¹³⁷

But in addition to an ACA-type sign-up campaign, a simple back-up approach would be for those with individual private coverage to become registered into Medicare for All at the time of their initial visit to a health care provider once Medicare for All has been implemented. That is, when patients with private non-group coverage visit their provider initially under Medicare for All, the provider will have the relevant insurance sign-in forms available for people who had not previously entered into the system on their own. This one-time process of registering beneficiaries into Medicare for All should not be significantly more complex than the administrative processing that providers currently experience in interacting with their patients' multiple public and private insurance plans.

Here again, providers will have a strong financial incentive to manage this one-time transitional administrative support. First of all, once Medicare for All has been established and private insurance provision is no longer operative, performing this administrative task will be the only way through which providers will receive payment for the services they provide to patients who had not previously been registered with Medicare for All. In addition, after having performed this one-time transition function, the providers will then become relieved of a substantial share of their ongoing billing and insurance-related (BIR) obligations. As we have discussed above, this will mean a sharp decline in both overhead costs as well as an expansion in the billable treatment hours that providers can offer.

Finally, note that the providers will need to perform this one-time administrative task for only a relatively small share of their patients. As we have seen, people carrying non-group private coverage at present amounts to 23 million people, i.e. 7 percent of the population. Some share of those 23 million people will also register into Medicare for All in response to the ACA-type promotional sign-up campaign. So the proportion of patients visiting a provider's office that will require this type of administrative support is likely to be no more than about 5 percent of all previously insured patients.

Incorporating the Uninsured

The challenge of getting the 30 million uninsured U.S. residents into Medicare for All should be much less difficult than what was done to successfully enroll 11.7 million U.S. residents between 2014 and 2015 through the ACA. As discussed above, we propose a promotional campaign comparable to the ACA initiative to promote enrollments. This campaign should be targeted at the uninsured in addition to those insured through private non-group plans. But, similar to the situation for those carrying non-group private insurance, the uninsured will not be solely responsible for signing themselves into Medicare for All. Rather, Medicare for All should create the option for the uninsured to become enrolled during their initial visit to a provider. Once a patient has been entered into the system, their coverage will begin. They will then remain covered just as with all other residents.

Finally, a critical distinction relative to the ACA enrollment experience is that those currently uninsured will face no direct insurance payments to themselves—premiums, deductibles or co-pays—in order to receive coverage under Medicare for All. There will be no financial disincentives for them to be enrolled in Medicare for All.

Phase-in Period

Under the current draft legislation, the phase-in period would proceed over four years, as follows:

- Year 1: Residents older than 55 and younger than 19 become eligible. Medicare will also expand its coverage to include prescription drugs, dental, vision and hearing aids.
- Year 2: Residents older than 45 receive coverage.
- Year 3: Residents older than 35 receive coverage.
- Year 4: All U.S. residents are entitled to enroll in Medicare.

This type of extended phase-in period will have the advantage of reducing pressure in carrying out the full range of major administrative tasks. The tasks could be implemented incrementally, with the inevitable administrative pitfalls that will emerge—both foreseen and unforeseen—getting corrected over this four-year phase-in period.

At the same time, an extended phase-in period will also face difficulties. For one, under the four-year phase-in, businesses would have to continue to administer private coverage for their employees who were not yet eligible for Medicare for All. A similar set of complications would also be faced for the population cohort currently covered under Medicaid, as well as other public and private plans. In addition, it will certainly be problematic for the U.S. health care system to continue operating with a substantial degree of dependence on the private health insurance companies during the four-year phase-in. The private health insurance companies are already widely perceived as providing unsatisfactory service to both patients and providers. Given that Medicare for All will be displacing the private companies when the new system is fully phased in, it would be reasonable to expect that the quality of service would become still less satisfactory during the phase-in period. There would certainly be no incentive for the private companies to improve their service quality.

It would therefore be sensible to consider the viability of a more rapid transition for at least major components of Medicare for All. To begin with, considering those currently insured through private employer plans, it will likely be easier for businesses to transfer all of their employees at once, as opposed to sorting them by age categories and moving them into Medicare for All according to these age categories. For those currently under private individual plans, if we assume that most of these people will enter the system during their initial visit to a provider after Medicare for All had been implemented, we would have to anticipate that a significant share of this group will not visit a provider within the initial year of operations or any particular time period. As such, providers would need to retain some administrative capacity to move people into Medicare for All for at least 2-3 years. Nevertheless, here again, it will be less burdensome for providers to move their patients into the new system, as needed, when the patients come for their initial visit after Medicare for All is operating, as opposed to sorting their patients' eligibility according to age categories during the four-year phase-in period.

Overall, in terms of administrative challenges, there are strengths and weaknesses that will be associated both with a longer phase-in period—such as the four-year plan proposed under the current Medicare for All bill—and an alternative shorter phase-in approach. These relative strengths and weaknesses will need to be evaluated carefully in developing a detailed transition program for Medicare for All. In addition to these specifically administrative issues, it will also be important to consider the financing issues associated with the phase-in, to which we now turn.

Financing the Transition

It will be critical that the transition to Medicare for All proceed without U.S. residents facing any new taxes while they are still making payments on their existing health insurance plans. This is certainly achievable over a four-year transition period. But it will entail revising both private insurance claims and tax obligations every year for four years. Here again, proceeding with a one-year transition period may present fewer challenges.

What makes the one-year transition viable is that \$1.9 trillion, amounting to roughly 65 percent of all funding needed to operate Medicare for All, will be provided through existing public revenue sources.¹³⁸ Consider, therefore, the following scenario. Medicare for All commences operations on January 1 of Year 1. Private health insurance coverage will have terminated the day before. Nevertheless, as of January 1 of Year 1, the U.S. government will already have in place sufficient revenue streams to provide 65 percent of the Medicare for All budget for Year 1. The remaining roughly \$1 trillion in funding will then be provided through new business premiums and taxes, as discussed in Chapter 4. These additional revenues will flow into the Treasury over the course of Year 1. No funding gaps should therefore emerge in Year 1. Then, as of January 1 of Year 2, the full set of prior and newly established funding sources for Medicare for All will be fully integrated into a single revenue stream.

This financial phase-in structure for Medicare for All could also be stretched out, as a four-year program. But again, the annual step-by-step phase-in process would require four annual adjustments in accounting procedures for both public and private entities. In addition, beyond such strictly accounting considerations, a more rapid phase-in will enable both private businesses and families to receive sooner the full amount of savings that will accrue to them under Medicare for All relative to our existing health care system.

Precedents for Medicare for All Transition

One obvious precedent to consider is the experience with the initial establishment of Medicare in the United States in 1965 – 1966. U.S. Medicare was signed into law by President Lyndon Johnson on July 30, 1965. The program was implemented as of July 1, 1966, i.e. less than one year after the passage of the bill.

In its initial incarnation, Medicare provided coverage for people over 65 and their spouses in two areas: hospital insurance, financed through the already existing Social Security system (Part A); and outpatient physician services, provided on a voluntary basis and financed through beneficiary premiums plus general revenues (Part B). In a 2001 retrospective report *Reflections on Implementing Medicare*, Virginia Reno, then Director of Research at the National Academy of Social Insurance, highlighted five major areas of work that had to be undertaken to successfully implement the new program within a year's time. According to Reno (Gluck and Reno eds., 2001, pp. iv – v), these included:

1. **Enrolling elderly individuals.** While participation in Part A hospital insurance was automatic for current Social Security beneficiaries, new applications were needed from persons age 65 and older who had not yet retired and/or who were not otherwise eligible for Social Security. Because participation in Part B was voluntary, all persons age 65 and older had to be informed about the new program and given a chance to enroll and agree to pay the \$3 monthly premium for coverage.
2. **Enrolling hospitals, nursing homes, home health care agencies, and fiscal intermediaries in Part A.** Providers had to be informed about the program and given a chance to apply for a determination of whether they met standards for participation. Participating hospitals could choose which fiscal intermediary they wished to have administer their federal payments. The Social Security Administration (SSA) negotiated contracts with the intermediaries to cover their administrative costs and work out the details.
3. **Engaging insurance carriers and informing doctors about Part B.** Insurers were given a chance to apply for the job of administering the Part B program, and doctors had to be informed about their own and their patients' rights and responsibilities under the new program.
4. **Coordinating activities within the federal government.** While primary responsibility for implementation was delegated to SSA, many functions had to be performed by other agencies, including the Public Health Service (to advise on quality of care and professional relations), the Welfare Administration (to enroll assistance recipients), the Internal Revenue Service (to contact elderly payers who were not receiving Social Security), the Civil Service Commission (to notify federal retirees about their rights under the program), the General Services Administration (to obtain new field offices), and the Postal Services (to help publicize the new program).
5. **Developing policy.** Many policy details had to be worked out about standards and methods for paying hospitals, doctors and other providers as well as for paying administrative costs to insurers.

The same 2001 publication also includes a dialogue that took place in 1992 between two of the administrators who had been in charge of the implementation project, Robert M. Ball, who was Commissioner of Social Security at that time, and Arthur E. Hess, who was then Director of the Bureau of Health Insurance. Ball and Hess describe the details of the implementation process, concluding that, overall, the project had been a success. For example, Ball offers the following observations:¹³⁹

In hospital insurance, all the aged including everybody in Social Security and the Railroad Retirement program were automatically eligible. But, nevertheless, we had to take 8 million applications for the hospital insurance program from people over 65 who, at that time, weren't as yet Social Security or Railroad Retirement beneficiaries. Since all the elderly had to have a chance to be enrolled for the voluntary plan, we had to get a clear yes or no, supposedly with some understanding, out of every person over 65. We had nine months to do that. ...I didn't think we could even reach 95 percent of the people, but we actually signed up 95 percent (Gluck and Reno 2001, p. 4).

Whatever you think of Medicare, later on or now, it is true that, on July 1, 1966, it went into effect very smoothly and worked well. It started to cost a lot more money than we wanted, but in terms of the administration and the mechanics of it, it was in good shape from the very beginning (Gluck and Reno 2001, p. 9).

Other analysts concur with both parts of Ball's overall assessment of the implementation process—that 1) the purely administrative challenges were successfully accomplished in less than one year, but that 2) a key contributing factor to this administrative success was that the government did not establish effective procedures for controlling costs. For example, Marmor and Sullivan (2015) write as follows:¹⁴⁰

The truth is that in the early years of Medicare's implementation, the program's leaders were not disposed to face the confrontation necessary to restrain costs. They felt they needed the cooperation of physicians and hospitals for Medicare's implementation to proceed smoothly. Vigorous efforts at cost control would have threatened this relationship. Even though they were fully aware of the need for cost control, Medicare's first administrators were initially reluctant to take effective steps to control costs for fear of enraging Medicare providers...The result was quite predictable: efficient implementation of Medicare with inflation built in (pp. 147-48).

Two major lessons emerge from this 1965-66 experience in launching U.S. Medicare in assessing the tasks that will need to be successfully executed in implementing Medicare for All. The first is that the purely administrative challenges are clearly manageable. In this regard, it is important to recall that the 1965-66 launch of U.S. Medicare occurred during an era in which information technologies were vastly inferior to what can be deployed at present.

The second lesson is that the cost savings features of Medicare for All that we have described in Chapter 3 will need to be fully established as a critical component of the implementation process. As we showed in Chapter 3, none of the major sources of cost savings—administrative simplification; controlling pharmaceutical prices; and establishing uniform Medicare fees for providers and hospitals—are themselves difficult to implement in terms

of administration per se. Of course, each of these features of Medicare for All will be challenged politically. But allowing that Medicare for All will have passed into law, such purely political challenges to the new health care system will have been resolved. The remaining implementation issues will then be the administrative ones—i.e. again, issues that we have seen were manageable in 1965-66 with the initial launch of Medicare and should remain so with Medicare for All.

Other Country Experiences

Virtually all high-income countries operate with some form of publicly-operated universal health insurance system.¹⁴¹ All of these countries experienced transitions of various sorts into their existing publicly-controlled insurance systems.

In terms of useful precedents in considering the transition to Medicare for All in the U.S., the most relevant example is perhaps that of Taiwan, which implemented a universal single-payer system fairly recently, in 1995. Of course, Taiwan is a much smaller country than the U.S., with a population in 1995 of 21 million people. This is roughly the size of Florida as of 2017, and only 6 percent of the U.S. population of 325 million in 2017. Taiwan's economy was also at a much lower level of development in 1995 than the U.S. today, with Taiwan's average per capita GDP at about \$13,000 in 1995. This is one-quarter the U.S. per capita GDP level of about \$52,000 as of 2017.

Nevertheless, various features of Taiwan's transition provide valuable precedents for the contemporary U.S. economy. First, the transition was implemented rapidly, within a matter of months. The law establishing the National Health Insurance single-payer system was passed on July 19, 1994, and its operations began on March 1, 1995, seven months later. This was also only two months after the Bureau of National Health Insurance had been established to administer the program.

In addition, prior to the implementation of the National Health Insurance program, the country operated with multiple insurance programs. As of 1994, there were 10 different insurance programs in the country. These included separate programs for labor insurance, government employee insurance, farmers' insurance, and low-income household insurance. In total, these programs covered 57 percent of the population—i.e., 43 percent of the population was uninsured when the single-payer system was passed in 1994. Yet, by the end of 1995, insurance coverage had risen to over 90 percent of the population.

According to Cheng (2003), the process of transition was difficult at first, but the main problems were rapidly overcome:

Chaos and confusion accompanied the NHI's hasty inauguration. It unnerved planners and bureaucrats, who were concerned with the inadequate planning for the NHI's implementation. Providers were in complete shock. The public, however, quickly warmed to the new program. The program's 39 percent public satisfaction rate at inception rose to 60 percent in six months and to 70 percent or higher thereafter, where it remained until late fall 2002 (2003, p. 63).¹⁴²

Taiwan's implementation process was facilitated by the fact that the 10 health insurance programs under its multi-payer system were all government operated. That is, unlike in the U.S. at present, there were no private insurance companies operating in the country. At the same time, the proportion of the uninsured population, at 43 percent, was much higher than the roughly 9 percent of the U.S. population at present. Finally, again, Taiwan as of 1995 did

not have access to anything close to the information technology resources available today in the U.S. to support the transition process.

Overall, the critical lesson to extract from the Taiwan experience is that a successful transition out of a multi-payer system in to a single-payer system can be accomplished rapidly. The Taiwan experience demonstrated this even while close to half of the country's population was uninsured altogether prior to implementing its National Health Insurance system.

As we emphasize above, it may be the case that, on balance, it will be more realistic to proceed with a longer transition period, such as the four-year phase-in proposed in the most recent draft of the Medicare for All bill. But before proceeding with any given phase-in plan, it will be crucial to weigh the various strengths and weaknesses of alternative approaches. The evidence we have reviewed here suggests that a shorter phase-in, such as a one-year program, could be workable, at least with respect to both the administrative and financial aspects of the transition. In the end, it may be that a longer phase-in will be more workable. In any case, it is useful to recognize that a shorter phase-in could be an available option to policymakers.

Impacts on Physicians' Income and Patients' Access to Providers

Transitioning to Medicare for All from the existing U.S. health care system will have a significant impact on physicians and other providers through three channels:

1. Medicare for All will lower provider fees relative to those received based on private insurance rates, but raise fees relative to those based on Medicaid rates.
2. Under Medicare for All, providers will spend significantly less time on administration. This will free up time that can be spent on providing services at billable hourly rates—specifically, at uniform Medicare rates.
3. The increase in utilization of health care services resulting from Medicare for All—including from both the previously uninsured as well as those who had been already insured—will entail, by definition, an overall increase in demand for the services of medical care providers.

In this chapter, we examine how these three factors play out in impacting both physicians' net income as well as the supply of health care services. These factors also raise issues with respect to patients' being able to maintain access to the health care providers of their choice. The Medicare for All bill makes clear that U.S. residents will be entitled to receive health care services from their preferred providers. Section 103 of the draft bill, titled "Freedom of Choice," states explicitly that "Any individual entitled to benefits under this Act may obtain health services from any institution, agency, or individual qualified to participate under this Act" (p. 5). We therefore address this issue as well in what follows.

Physicians' Incomes

Impact of Uniform Medicare Rates

As we discussed in Chapter 3, at present, provider rates through private health insurance are about 22 percent higher than Medicare rates. Medicaid rates, on average, are about 15 percent lower than Medicare rates. We estimated in Chapter 3 that, if uniform Medicare rates were established for all providers, overall payments to physicians will fall, on average, by 7.1 percent per billable hour.

In Chapter 3 and especially Appendix 2, we also discussed the 2010 study by Berenson et al. which, using a different methodology than ourselves, estimated that annual compensation for physicians would fall by a median of 9.1 percent through the establishment of uniform Medicare payment rates. The Berenson et al. study is particularly valuable in also providing estimates of the impact of establishing uniform Medicare rates according to the range of physician specialties and subspecialties. Thus, with the non-surgical, non-procedural categories, Berenson et al. estimate that median annual compensation would fall by a lower-end figure of 6.6 percent, from \$277,379 to \$259,137.¹⁴³ The fall in median annual compensation by specialty would be greatest for radiologists, from \$549,034 to \$433,804 a 21.0 percent decline. According to the Berenson et al. subspecialty breakdown, at the low end of impacts, emergency medicine physicians would experience a 0.2 percent annual median decline and pulmonary medicine compensation would fall by 1.4 percent. At the high end, neurological surgeons would face a compensation decline of 30.6 percent, from \$770,046 to \$534,728. We report the full set of Berenson et al.'s figures on median annual compensation changes in Table A2.2.

Overall then, we can conclude that establishing uniform Medicare payment rates for physicians will entail an average or median decline in compensation in the range of 7 – 9 percent. But the full range of impacts will also vary substantially according to the various categories of physician specialties and sub-specialties.

Estimating the Increase in Billable Hours

As discussed in Chapter 3, under the present U.S. health care system, physicians, as well as their nursing and administrative staff, devote substantial time on BIR activities. Working from the relevant research literature, we estimated in Chapter 3 that BIR administrative costs represent 13 percent of the revenues of physicians, clinics and dentists. We also estimated that the savings associated with reducing inefficiencies of BIR under Medicare for All would average to approximately 65 percent of providers' spending on BIR. We then accounted for these BIR savings as one source of structural savings generated through the transition to Medicare for All.

Reducing the BIR administrative burden will in turn mean that physicians' time will be freed up to treat patients for billable services. How much increased time will become available to physicians and their staff under Medicare for All? It will be useful to review the recent evidence on this in some detail.

According to a 2009 study by Casalino et al., as of 2006, physicians spent 3.0 hours per week interacting with health insurance plans. In addition, their nursing staff spent 19.1 hours, clerical staff spent 35.9 hours, and senior administrators 2.1 hours per physician per week. In a follow-up 2016 study, Casalino et al. found that, as of 2014, physicians spent 2.6 hours per week dealing with "external quality measures," and that staff other than physicians spent 12.5 hours per week dealing with quality measures. These measures include tracking quality measure specifications, developing and implementing data collection processes, entering information into the medical records and collecting and transmitting data.¹⁴⁴

For the most part, the hours spent dealing with external quality measures are distinct from—that is, *in addition to*—those spent on interacting with health insurance plans.¹⁴⁵ It may not be entirely accurate to treat the findings of the two surveys as one integrated set of results, especially because they were conducted eight years apart. But as a rough benchmark, adding the 3.0 hours physicians themselves spent per week on health insurance (as of 2006) and the 2.6 hours on external quality measures (as of 2014), total physician hours on these administrative matters adds to 5.6 hours per week.

Further survey research is either broadly supportive of the Casalino et al. findings or suggests that the administrative burden on physician's hours is still greater. Thus, a separate survey conducted in 2006 by Sakowski et al. (2009) at a large multispecialty medical group found that clinicians were spending close to 3 hours per week on BIR—i.e. the same figure that Casalino et al. found in their 2006 survey.¹⁴⁶ Working from a 2008 survey of physicians, Woolhandler and Himmelstein (2014) found that “the average doctor spent 8.7 hours per week (16.6 percent of working hours) on administration.”¹⁴⁷ Most recently, the Medscape Physicians Compensation Survey for 2018 reports figures on time spent by physicians themselves on “paperwork and administration.” These categories are more general than those reported in the two Casalino surveys that focus on “interacting with health insurance plans” and “reporting quality measures” specifically. But with reference to the general Medscape categories, the result is that, as of 2017-18, 89 percent of physicians spend at least 5 hours per week on paperwork and administration, 70 percent spend at least 10 hours, and 32 percent spend 20 hours or more. As a rough calculation working with the results reported in the 2018 Medscape survey, we estimate that, as of 2017 – 2018, the average amount of time that physicians report spending on paperwork and administration is 15 hours per week.¹⁴⁸

If we assume that all such administrative time spent by physicians themselves were to decrease by 65 percent through Medicare for All, that would amount to 3.6 hours of time saved based on the 2009 and 2016 Casalino studies and 9.7 hours based on the 2018 Medscape survey. The midpoint of these two estimates is 6.6 hours per week.

However, we cannot assume that the current amounts of time spent by physicians on quality measures, as described in the 2016 Casalino study, will decline to the same extent as the time spent on health insurance administration. Medicare for All, by definition, will transform the administration of health insurance at all levels of the system. It might also lead to a streamlining of the various quality measurement reports required of physicians.¹⁴⁹ Whether or not such streamlining takes place will depend on the specific operational features of the new health care system beyond the newly established single-payer insurance arrangements.

Overall, in considering these various factors from the survey evidence, we will want to work with a lower-end figure of the amount of time physicians will have freed to devote to billable hours. We believe that a reasonable lower-end estimate will be, on average, 4 hours per week per physician.¹⁵⁰

According to a 2018 survey by Tawfik et al., the median workweek for physicians in more than 20 specialties is 50 hours.¹⁵¹ As such, a reduction of 4 hours per week per physician in administrative time would amount to about 8 percent of physicians' total work time within the framework of the median 50-hour work week.

Net Changes in Physicians' Incomes

We estimated that, on average, physicians' fees for billable hours will decline by an average or median of between 7 – 9 percent through establishing uniform Medicare rates for all physician services. We have also estimated that physicians will be able to increase bill-

able hours by about 8 percent, due to the decline in the time they are spending now on BIR activities. Roughly speaking then, the two factors will counterbalance each other, on average, across all specialties and subspecialties.

But beyond these average or median figures, it is likely that some physicians will see their incomes increase through moving to uniform Medicare rates with increased billable hours while others will experience some income declines. Those who are likely to experience higher incomes would include physicians in non-surgical, non-procedural practices, including emergency medicine and endocrinology. By contrast, most surgeons and radiologists will experience net income declines, even after factoring in an increase in their billable hours. But it is also the case that the subspecialties in which net income declines are likely to be largest are also generally the fields in which the existing levels of compensation are highest. Thus, as noted above, Berenson et al. estimate that median annual net incomes for radiologists will fall by 21 percent through establishing uniform Medicare rates. If we assume that their billable hours increases by 8 percent through the decline in their administrative time, their net incomes would still then fall by about 13 percent. But even allowing that their incomes were to decline by 13 percent, their median compensation in 2017, at roughly \$400,000 as a lower-end estimate, would still be roughly twice the figure for primary care physicians and well within the top 1 percent of all income earners in the U.S.¹⁵²

International comparative compensation levels. In assessing the extent to which moving to uniform Medicare rates for physicians is equitable, it will be useful to consider some comparative compensation data between physicians in the U.S. relative to those in other advanced economies. We present figures on this in Table 28.¹⁵³ The table shows net pretax earnings for both primary care physicians and orthopedic surgeons in Australia, Canada, France, Germany and the United Kingdom, as well as in the U.S. (the figures are for 2008, expressed in 2017 dollars). As the table shows, with primary care physicians as of 2008, UK physicians earned 14 percent less than their U.S. counterparts. The differential was substantially larger with the other four comparison countries, ranging between 29 percent less in Germany to 50 percent less in Australia. The compensation differentials are substantially greater still for orthopedic surgeons. As Table 28 shows, orthopedic surgeons in the UK earned 27 percent less than their U.S. counterparts in 2008. With the other four comparison countries, the disparity ranged between 54 percent less in Germany to 65 percent less in France.

From these and comparable figures for more recent years, it is clear that, even if all U.S. physicians were paid according to uniform Medicare rates, they would still receive substantially higher compensation levels than their counterparts in other advanced economies.¹⁵⁴ This is especially the case after we take account of the increase in billable hours the U.S. physicians will receive as Medicare for All significantly reduces their uncompensated administrative workload.

Net present value of a U.S. medical career. While physicians trained in the U.S. have significantly higher incomes than their counterparts in other countries, the costs borne by individuals to receive professional medical training is also higher than in other countries. U.S.-trained physicians typically incur high levels of debt to finance their medical educations. A fuller assessment of their compensation levels therefore needs to take account of these costs.

A standard approach in economics for addressing such questions is to estimate the net present value (NPV) of any given activity or project. This entails comparing the streams of net cash flows over time of an activity or project—i.e. incomes that are received relative

TABLE 28
Physician Earnings in the U.S. in Comparison with Five Other Advanced Economies

Pretax Earnings in 2008 Net of Expenses, reported in 2017 U.S. Dollars

	2008 Pretax earnings (in 2017 U.S. dollars)	Earnings relative to U.S.
Primary care physicians		
United States	\$212,421	---
Australia	\$105,702	50% lower
Canada	\$142,429	33% lower
France	\$108,822	49% lower
Germany	\$150,063	29% lower
United Kingdom	\$181,625	14% lower
Orthopedic surgeons		
United States	\$503,724	---
Australia	\$213,591	58% lower
Canada	\$237,527	53% lower
France	\$175,760	65% lower
Germany	\$230,852	54% lower
United Kingdom	\$369,027	27% lower

Source: Laugesen, Miriam J., and Sherry A. Glied (2011) "Higher Fees Paid to U.S. Physicians Drive Higher Spending for Physician Services Compared to Other Countries" *Health Affairs* 30, no.9 1647 – 1656. 2017 U.S. dollars are calculated according to the U.S. CPI-U.

to debts incurred and repaid over time as well as other costs. This net present value analysis also considers the alternative ways in which one can spend both time and money. In the case of a U.S. medical career, we therefore consider the “opportunity costs” one incurs through pursuing a medical career rather than an alternative in, say, accounting or law. One also needs to take account of the net benefits of spending a given amount of money on medical education rather than investing the same funds in financial assets and receiving a typical return over time on these investments.

Two recent efforts at such NPV evaluations of a medical career in the U.S. are the 2017 companion papers by Mircea Marcu et al. and Uwe Reinhardt.¹⁵⁵ These articles show, first, that NPV calculations of a medical career are contingent on a range of variables. These include: the specialty one pursues within the overall medical profession; the amount of debt one incurs to finance medical education and the interest rate one pays on that debt; and the number of years one works earning income as a licensed physician. Nevertheless, after recognizing this range of variables, what emerges from the Marcu et al. and Reinhardt papers is that the NPV of a U.S. medical career will almost certainly be strongly positive. Of course, NPVs will be higher if physicians practice in a more high-paying specialty rather than in, say, primary care or emergency room medicine. NPVs will also rise significantly if one can minimize student debts, but also through even relatively small reductions in the interest rate at which one borrows. NPVs also will be substantially higher if one works as a physician until age 65 rather than, say, age 50. On balance, however, both the Marcu et al. and Reinhardt studies demon-

strate that a medical career in the U.S. is likely to provide highly favorable financial returns over time, even after accounting for the costs of medical school and student loans.

At the same time, Reinhardt does also propose changes in the way medical education is financed in the U.S. that would lower the cost burden for individuals seeking to enter the profession. These include lowering medical school tuition to eliminate the large subsidies that currently support faculty research; raising salaries for medical residents; and allowing physicians to treat their medical education costs as investments in human capital that would be deductible for tax purposes. This would treat medical education investments as equivalent to how businesses currently deduct investments in physical equipment. Through reforms such as these, the NPV of a medical career could rise significantly relative to current levels. Pursuing such reforms could therefore also offset any possible net compensation losses faced by even the most highly-compensated physicians resulting from the establishment of a uniform Medicare-based provider fee structure.¹⁵⁶

Will Increased Utilization Create Supply Shortages?

In Chapter 2, we estimated that—as a higher-end estimate—utilization of health care services will increase by about 12 percent through the transition to Medicare for All, including the utilization increases for those uninsured at present, as well as among those who are currently either under- or fully-insured. This 12 percent increase in demand for health care services will then be 4 percentage points higher than the 8 percent increase in billable hours that physicians will obtain, on average, through the reduction in their BIR obligations.

On average, therefore, the transition into Medicare for All could generate something like a 4 percentage-point shortage in physicians' available hours for treatment in meeting the increased patient demand. This could produce a modest shortage of physicians in the short run. However, any such modest short-run shortages in physicians' available treatment hours could be covered through some combination of the following:

1. Increasing treatment by nursing staff and physician assistants. As noted above, at present, nursing staff devote 19 hours per week per physician on BIR. This administrative load should also decline, on average, by 65 percent. As such, nurses, along with physicians, will have about 12 more hours per week available for treating patients. Indeed, if physicians' practices do not rely more on nurses for treatment under Medicare for All, the alternative will be some job losses for nurses, due to the decline in their administrative responsibilities (we address this potential for job losses below).

This situation would then reinforce a long-term pattern that has already been projected within the existing U.S. health care system, in which, at least through 2025, the supply of nurse practitioners and physician assistants is growing significantly faster than demand.¹⁵⁷ Nurse practitioners and physician assistants are both trained and licensed to diagnose and treat common illnesses and injuries, manage chronic illnesses, prescribe medications, and provide counseling. As an example of the type of increased treatment load that nurses and physician assistants could provide, since 2000, a growing number of U.S. states have granted nurse practitioners greater autonomy in prescribing medicines to patients. Recent research has found that this increased autonomy for nurse practitioners has not led to any decline in patient outcomes.¹⁵⁸

2. Modestly increasing physicians' workweek of billable hours and use of telemedicine. An increase of billable treatment hours of 1 hour per week would itself increase

the system's capacity to treat patients by about 2 percent. This by itself would cover half of the average 4 percentage point gap between the 8 percent increase in physicians' billable hours resulting from the decline in their administrative burden and the 12 percent increase in overall demand for health care services. It is also reasonable to assume that the growing development and dissemination of telemedicine and remote monitoring of patients will ease the burden on physicians, allowing them to treat modestly more patients over an average workweek.

Beyond all such possible modest short-term shortages of available physicians' treatment time resulting from increased utilization of health care services, over the longer-term, this problem can be readily solved by increasing medical school enrollments and expanding the number of medical residency positions. Thus, with a five-year adjustment period, the health care system will be able to adjust fully to any minor short-term shortages in qualified personnel that may arise.

Patients' Access to Preferred Providers

As we have reviewed, the transition to Medicare for All should not generate significant shortages, even in the short-run, in the supply of available treatment time for physicians and other health care providers, including nurse practitioners and physician assistants. This is because the increased demand for physicians' services under Medicare for All will be roughly matched by the major reduction in their administrative workload. As such, there is no reason to expect that, under Medicare for All, U.S. residents will face difficulties in receiving treatment from their preferred providers.

As we have discussed above, modest supply shortages, relative to demand, could emerge in physicians' total available treatment hours during the short-term transition into Medicare for All. This could result if we assume that the total demand for health care services increases by about 12 percent through implementing Medicare for All, while the increase in physicians' treatment hours will increase by 8 percent as their administrative responsibilities decline.

However, a significant share of the overall increase in demand would be coming from patients who had been uninsured prior to the implementation of Medicare for All. Most of the previously uninsured will not have been able to receive treatment on a regular basis by a provider of their choosing. Rather, for the most part, the previously uninsured population cohort will have been receiving care on an irregular basis through emergency rooms or open-access clinics. Thus, the U.S. Center for Disease Control (CDC) reports that, as of their most recent 2015-16 data, a total of 16.8 percent of the adult population between ages 18 – 64 are “without a usual source of health care.” Of that overall group, 51.6 percent of them are also people without health insurance.¹⁵⁹ For this population cohort, Medicare for All will provide them with an initial opportunity to choose a preferred provider. But they will not be in a situation in which they are requesting *increased services* from their *existing preferred provider*.

By contrast, most of insured population will have an established relationship with a preferred provider. Thus, as of the CDC's 2015-16 data, a much lower figure of 11.8 percent of the insured adults between ages 18 – 64 “have no usual source of health care.” In other words, nearly 90 percent of the insured population does receive health care from a usual provider. As we have reviewed in Chapter 2, the increased demand for care produced by Medicare for All among the already insured will be relatively modest in comparison with the increased demand from the uninsured. As such, no difficulties should emerge in terms of the already insured cohort being able to continue to receive care from their preferred providers. It may be possible that, within any given physician's practice, a modest share of the increased overall demand for

services will be supplied by nursing staff and physician assistants. But this increased coverage provided by nurses and physician assistants should represent only a minor change, if any, in the patients' overall coverage. Moreover, these nurses and physician assistants will still be working under the supervision of the patients' same preferred physician.

Just Transition for Displaced Workers

The transition from the existing U.S. health care system to Medicare for All will entail the elimination of most of the private health insurance industry. It will also mean significant reductions in administrative staffing in the work sites of all health services providers. This will include the offices of physicians, dentists, long-term care facilities, other outpatient sites as well as clinics and hospitals. We now consider a framework for creating a Just Transition program for the people currently employed in the private sector health insurance industry and as administrative staffers at the various health care services work sites.

In our discussion of structural sources of savings in Chapter 3, we conclude that the transition to Medicare for All will lead to a sharp decline in the costs of health insurance provision. The public Medicare for All program will displace virtually all private health insurance activities and will also absorb the administrative functions now performed under existing government programs, including Medicare and Medicaid.¹⁶⁰ Our assumption, derived from the relevant literature, is that total insurance administration would fall as a result of this transition, from its current level of 8.5 percent of total health care system costs—including costs due to administering both private insurance firms and public insurance operations—to 3.5 percent of total system costs. This represents a 58.3 percent decline in spending within the health insurance sector, including both public and private sector sub-sectors.

In fact, the requirements for insurance administrative staff employed in the *public sector*—in the areas of Medicare, Medicaid, and other public insurance programs—should also decline modestly under Medicare for All, in parallel with the virtual elimination of private health insurance employment. We reach this conclusion based, again, on our assumption that overall insurance administration will fall by 58 percent from its current level. This implies that, under Medicare for All, *overall* health insurance administrative spending will be only 42 percent of its current level. At present, public insurance administration accounts for about 48 percent of overall insurance administration spending. Thus, for overall health insurance administration to fall to 42 percent of its current overall level, the public sector spending on insurance administration will need to itself decline by 6 percentage points.

Workers currently employed in the public sector side of the current overall health insurance industry whose jobs will become redundant through the implementation of Medicare for All will need to be transferred into other appropriate areas of employment within the public sector. There will be more than sufficient alternative employment opportunities created for these workers as a result of normal attrition rates through retirement within the public sector.¹⁶¹

In terms of the impact on administrative staffing requirements within the health care services industry, we assumed in Chapter 3 that the administrative time devoted to health insurance matters in the work sites of all health care providers, as well as in clinics and hospitals, will decline by 65 percent under Medicare for All. It follows that the clerical staff devoted to these administrative issues in providers' offices, clinics, and hospitals will also fall by approximately 65 percent.

The Just Transition program that we propose includes these elements:

1. **Pension fund guarantees for all affected workers.**
2. **Support for near-retirement workers.** A voluntary path to retirement for health insurance industry workers and administrative staffers in health care services work sites who are above age 60 at the time when Medicare for All is implemented. This path will include 100 percent wage replacement until the workers begin to receive their pensions.
3. **Support for displaced workers.** The remaining private health insurance industry workers, along with about 65 percent of the administrative staff at health care work sites, will face displacement from their current jobs as Medicare for All is implemented. For these workers, we propose: a) an average of one year of 100 percent wage replacement funding; and b) job retraining and relocation support, as needed. This given level of support could also be distributed over a longer time period, as needed.

The Medicare for All bill does recognize the need for Just Transition policies. It also proposes funding for such measures to be at a level of up to 1 percent of the total Medicare for All budget for up to 5 years. The relevant passage in the bill reads as follows:

For up to 5 years following the date on which benefits first become available...up to 1 percent of the budget may be allocated to programs providing assistance to workers who perform functions in the administration of the health insurance system and who may experience economic dislocation as a result of the implementation of this Act (pp. 45 – 46).

As we will see, this proposed funding level is broadly within the range that we estimate will be required to provide adequate Just Transition support for all workers displaced by the transition to Medicare for All. However, it is more likely that the funding support will need to be concentrated within the first two years once Medicare for All is implemented, rather than spread over the 5-year period proposed in the draft legislation.

We recognize that the extent of transitional support that we are proposing is greater than the average level of unemployment insurance and related forms of support provided for workers in the U.S. at present. For example, the net income replacement rate provided for U.S. workers earning the average wage is about 44 percent during the initial phase of unemployment.¹⁶² Our proposal for a more generous average replacement rate is justified on two grounds. The first is that, straightforwardly, the average replacement rates currently provided to workers is not sufficiently generous. It is therefore not an adequate standard for determining an appropriate level of support during the transition from our existing health care system into Medicare for All. In addition, the fact that virtually the entire private health insurance industry workforce, as well as most workers employed as administrative staffers devoted to interacting with the private health insurance industry, will have become redundant means that these workers are likely to face greater difficulties finding new employment opportunities than would be the case under more normal employment fluctuation periods.

We now proceed to estimating the size and costs of these features of a Just Transition program. In the interests of clarity, we will review these issues first as they apply to the private health insurance industry, followed by the health care services industry. We will conclude by totaling the overall costs of the Just Transition program, combining the costs for both the health insurance and health services industries.

Health Insurance Industry Workers

In Table 29, we present data on employment and wages in the private health insurance industry and related activities, overall and broken out by subsectors. As the table shows, as of 2017, there are over 800,000 people employed in the private health insurance industry and related activities.¹⁶³ There are seven subsectors included in the overall industry. In terms of employment levels, the largest sector is the “direct health and medical insurance carriers,” which employs roughly 370,000 workers, equal to just over 40 percent of all employment in the industry. The next largest subsector is “insurance agencies and brokerages” which accounts for another 39 percent of employment in the industry. Thus, the two largest subsectors of the private health insurance industry and related activities account for about 83 percent of all industry employment.

In Table 30, we present data on some key characteristics of the health insurance industry workforce. As we see, the average (mean) wage is \$70,000. The median wage, at \$54,500, is about 28 percent below the average figure. This disparity between the average and median wage reflects the unequal distribution of pay in the industry.¹⁶⁴ We will consider this disparity below, in discussing our Just Transition policy framework.

Table 30 also shows the distribution of employed workers according to age, educational credentials, as well as racial and gender composition. As we can see, nearly half of all workers in the industry are between 30 – 49 years old. About 13 percent are over 60 years old. We estimate that about 80 percent of these older workers will be choosing to retire voluntarily within four years.¹⁶⁵ About 56 percent of employees in the industry have Bachelor’s degrees or higher, and another 30 percent have been to college or have an Associate degree. A solid majority, at 55 percent, of all workers in the industry are female. About 73 percent are white and 27 percent are non-white.

In Table 31, we show the prevalent types of jobs held by private health insurance industry workers. We list all job categories in which 5 percent or more of all workers are

TABLE 29
Employment Data for the U.S. Private Health Insurance Industry and Related Activities, 2017

	Annual average employment
Industry-wide figures	834,000
Sub-sector figures	
1. Direct health and medical insurance carriers	367,000
2. Insurance agencies and brokerages*	321,000
3. Third party administration of insurance funds*	76,000
4. All other insurance related activities*	32,000
5. Claims adjusting*	25,000
6. Reinsurance carriers*	11,000
7. Health and welfare funds	2,000

Source: U.S. Bureau of Labor Statistics. Quarterly Census of Employment and Wages (QCEW). Annual Averages. (2017).

Note: *Employment in these sectors have been adjusted to reflect industry activity related to health insurance specifically, not all types of insurance. See Appendix 6 for details.

TABLE 30
Characteristics of Workers Employed in the Health Insurance Industry and Related Activities
834,000 total workers in industry

Annual wages	
Average wage (mean)	\$70,000
Median wage	\$54,500
Age distribution of workforce	
Pct. less than 29 years old	15.0%
Pct. between 30-49 years old	48.8%
Pct. between 50-59 years old	23.3%
Pct. between 60+ years old	13.1%
Educational credentials	
Share with high school degree or less	13.9%
Share with some college or Associate degree	29.7%
Share with Bachelor's degree or higher	56.5%
Racial and gender composition	
Pct. of female workers	54.8%
Pct. of non-white workers	26.8%

Source: U.S. Census Bureau. Current Population Survey. ORG files. (2015-2017); U.S. Census Bureau. American Community Survey. (2014-2016).

TABLE 31
Health Insurance Industry and Related Activities: Prevalent Job Types
(Job categories with 5 percent or more employment)

Job category	Percentage of total industry employment	Representative occupations
Sales	25.3%	Insurance sales agents, first-line sales supervisors, sales representatives
Office and administrative support	23.9%	Insurance claims processing clerks, secretaries, customer service representatives
Financial specialists	14.5%	Accountants, insurance underwriters, financial analysts
Managers	11.4%	Financial managers, chief executives, computer and information managers
Business operation specialists	11.2%	Claims adjusters, management analysts, human resources workers
Computer and mathematical	7.0%	Software developers, computer system analysts, computer programmers

Source: U.S. Census Bureau. Current Population Survey. (2013-2015).

employed. As Table 31 shows, roughly half of all workers in the health insurance industry are employed in either sales or office support. The other relatively large areas of employment in the industry include financial specialists, managers, business operation specialists, and computer-oriented specialists.

Transition Funding for Health Insurance Industry and Related Activities Workers

As noted above, we propose three types of Just Transition provisions: 1) pension guarantees for all workers; 2) a path to voluntary retirement for workers 60 years old and over; and 3) income, retraining and relocation support for the remaining displaced workers. We consider these in turn.

Pension Fund Guarantees

All pension plans that have been established both for the private health insurance industry workers and the health care industry administrative support staff will need to be honored at all points in the transition to the Medicare for All system. But this should not present significant problems with respect to the pensions for health care industry administrative support workers, since the health care services industry will not be downsizing when Medicare for All is established. To the contrary, as we have discussed, we expect this industry to expand in the range of 12 percent relative to its current operational level due to Medicare for All.

By contrast, the private health insurance firms will face virtual elimination as Medicare for All supplants the existing U.S. health insurance system. As such, there will be an inevitable temptation for firms to transfer resources out of their pension funds, perhaps to support their shareholders and high-level executives or to help cover operating costs as these firms undergo downsizing. The federal government, operating within the Employment Retirement Income Security Act (ERISA) regulatory structure, will have to prohibit such attempts by the private insurance companies and, more generally, carefully monitor the management activities of the affected firms during the transition period.

Once the transfer to Medicare for All is initiated, it will then be necessary that these pension fund assets be transferred into federal government pension fund accounts. The federal government can then manage these pension funds within the same administrative framework that handles the pensions of current federal government employees.

It is important to recognize that, at present, the pension funds for the 20 largest employers in the health insurance industry are all solvent and in relatively strong financial positions. We show this in Table 32, which reports on the funding status (over- or under-funded) for the pension funds of the 20 largest employers in the health insurance industry.¹⁶⁶ We also report on the average net income flows for these firms between 2014 – 2016.

As Table 32 shows, the pension funds for the 10 largest employers in the industry are all overfunded as of 2014, the most recent year for which full data are available. For the 11th – 20th largest employers, 7 of the ten plans are overfunded. The three that are underfunded are Horizon HealthCare Services, Amerihealth Caritas Services, and BCBS of Tennessee. But the level of underfunding is modest with all three of these firms. Moreover, the average income level for these firms between 2014 – 2016 all substantially exceeded the level of pension underfunding.

TABLE 32
Status of Pension Funds for 20 Largest Employers in Private Health Insurance Industry, 2014 – 2016

A) 10 Largest Employers

	Overfunded (+)/ Underfunded (-) status, 2014	Average annual net income (+) or losses (-), 2014-2016 or available years
Aetna	+ \$702.1 million	+\$2.23 billion
Anthem (parent organization of ATH Holding Co)	+\$42.6 million	+\$2.53 billion
BCBS Highmark (Pennsylvania)	+225.4 million	-\$36.4 million
HealthCare Service Co. (HCSC)	+\$434.0 million	-\$80.5 million
BCBS of South Carolina	+\$134.9 million	Not available
BCBS of Michigan	+\$54.9 million	+\$108 million
BS of California	+\$21.8 million	+\$114.7 million
Excellus Health Plan (BCBS New York)	+\$147.9 million	+\$60.5 million
BCBS of Florida (GuideWell)	+\$49.0 million	Not available
CareFirst BCBS (MD, VA, D.C.)	+\$114.7 million	+\$24 million (for 2015-16 only)

Sources: 10K filings for publicly traded companies listed within NAICS code category 524114, the "Direct Health and Medical Insurance Industry." See Appendix 5 for details on the methodology and data sources used in deriving this table.

Notes: Funding status of pension funds were estimated as the average of the reported market and actuarial values of the funds. There were two entries reported for BCBS of Michigan. We report the figures with the modestly larger number of employees.

B) 11th – 20th Largest Employers

	Overfunded (+)/ Underfunded (-) status, 2014	Average annual net income (+) or losses (-), 2014-2016 or available years
Aflac Inc.	+\$1.6 million	+\$2.71 billion
Independence BlueCross LLC	+\$38.9 million	+\$27.3 million
Horizon HealthCare Services (BSBC of New Jersey)	-\$22.0 million	+\$112.9 million
BCBS of Massachusetts	+\$56.9 million	+\$31.8 million
EmblemHealth Services Co. LLC	+\$54.1 million	-\$180.3 million
Premiera BlueCross	+\$43.0 million	+\$38.7 million
BCBS of North Carolina	+\$22.5 million	+\$45.0 million
BCBS of Minnesota	+\$24.2 million	-\$146.3 million
Amerihealth Caritas Services (jointly owned by BCBSMI and Independence BC)	-\$2.8 million	+\$93.0 million (2015 figures only)
BCBS of Tennessee	-\$18.4 million	+\$108.0 million

Sources: 10K filings for publicly traded companies listed within NAICS code category 524114, the "Direct Health and Medical Insurance Industry." See Appendix 5 for details on the methodology and data sources used in deriving this table.

Note: Funding status of pension funds were estimated as the average of the reported market and actuarial values of the funds.

Voluntary Retirement Path for Older Workers

As we saw in Table 30, 13.1 percent of employees in the private health insurance industry are at least 60 years old.¹⁶⁷ That amounts to about 109,300 health insurance industry workers. Following existing patterns in both of these labor markets, we assume that about 80 percent of these workers will choose to voluntarily retire by age 65. This would amount to about 87,400 health insurance industry workers. Our proposal is to provide them with 100 percent wage replacement funding until they move into retirement and begin receiving their pensions at age 65.

To calculate the costs of this policy, we assume that the workers in this age category are distributed evenly between 60 – 64 years old. That means that, on average, each of the employees should be provided with 2.5 years of 100 percent wage replacement support. These older workers will tend to be the most senior employees at their respective firms. Therefore, to roughly approximate the level at which they will receive their wage replacement funds, we take the midpoint figure between the average and median wages in the industry. That is the midpoint between \$54,500 and \$70,000, which is approximately \$62,000.

To provide 87,400 health insurance industry workers with full wage replacement at \$62,000 per year for 2.5 years will amount to a total expenditure by the federal government of about \$14 billion. We show this figure in Table 33.

Support for Displaced Workers

In addition to the older workers choosing to retire, we estimate that a total of about 746,600 health insurance industry workers will face displacement. This includes 724,700 workers who are 59 years old or younger and about 21,900 who are 60 and older who choose not to retire. The specific support program for these workers that we propose includes the following:

TABLE 33
Expenditures on Just Transition Program for Health Insurance Industry and Related Activities Workers

<i>87,400 workers 60 and older choosing retirement path</i>	
Pension guarantees	Regulatory protections— no budgetary impact
2.5 years 100% wage replacement at \$62,000 average annual wage	\$14 billion
<i>746,600 workers facing displacement</i> – 724,700 million 59 and younger – 21,900 60 and older remaining in labor force	
1 year 100% wage replacement at \$54,000/year	\$40 billion
Retraining support at \$10,000 per worker	\$7.5 billion
Relocation support at \$10,000 for 50% of workers	\$3.8 billion
<i>Total Spending for Health Insurance Industry and Related Activities Workers</i>	\$65 billion

Source: See Table 30.

1. **An average of one year of full wage replacement support.** Working now with the median wage figure for the industry of \$54,000, providing an average of one year of 100 percent wage replacement for 746,600 workers will amount to a total of \$40 billion.
2. **An average of one year of job retraining support.** To estimate the costs of this type of support, we assume that one year of retraining support will be approximately equal to the current average level of one year of college tuition plus fees at U.S. public universities. This amounts to about \$10,000. Thus, for all 746,600 displaced workers to receive, on average, one year of this type of support will amount to a total of \$7.5 billion.
3. **Relocation support.** We assume that a reasonable level of relocation support would be \$10,000 per worker. If we assume that roughly half of all displaced workers will require relocation support, this form of support will amount to \$3.8 billion.

The total for these three areas of support for the 746,600 displaced private health insurance industry workers will therefore be about \$51 billion. When we add this figure to the \$14 billion for those phasing into retirement, the total comes to \$65 billion. Table 33 summarizes these results.

Administrative Support Staff in the Health Services Industry

Determining the number of administrative staff currently engaged in insurance-related issues at all health care provider work sites cannot be established directly from U.S. Labor Department statistics, as we did with the health insurance industry. In fact, we need to derive the data for the relevant administrative staff levels at health care provision work sites, working with the available data from the U.S. Bureau of Labor Statistics (BLS) as a starting point. We then also need to incorporate additional data on administrative staffing at health care services work sites, provided both by the BLS as well as the careful 2009 survey on this question by Casalino et al.¹⁶⁸ In Appendix 6, we describe how we have derived our estimate as to the size of this workforce. The conclusion we reach in Appendix 6 is that there are approximately 1.6 million workers currently employed in the full range of health care services work sites that are devoted primarily to health insurance administrative matters. As noted above, we assume that this employment level will fall by about 65 percent, with 35 percent of jobs being retained. This means that employment will fall by about 1.06 million in this area of administrative support staff for health services providers.

In Table 34, we review key characteristics for this workforce. We see first that both the average (mean) and median wages for administrative support workers are significantly lower than those in the health insurance industry. The average wage for administrative support staff is \$39,400 and the median is \$34,500, as opposed to \$70,000 and \$54,400 in health insurance. Among these administrative support staff workers, the gap between the average and median wage is relatively small, again, in contrast with health insurance. This implies that pay levels are fairly uniform in this labor market pool.

There are also large differences among those working as health care industry administrative support staffers relative to those in the health insurance industry in terms of their educational credentials and gender composition. For example, in the administrative support staff labor pool, 19 percent have Bachelor's degrees or higher, as opposed to 56.5 percent in the health insurance industry. Almost 92 percent of the administrative support staff are women, as opposed to 55 percent in the health insurance industry. By contrast, the figures

TABLE 34
Characteristics of Workers Employed in the Office and Administrative Occupations in the Health Care Service Industry

Annual Wages	
Average wage (mean)	\$39,400
Median wage	\$34,500
Age distribution of workforce	
Pct. less than 29 years old	20.7%
Pct. between 30-49 years old	41.8%
Pct. between 50-59 years old	23.2%
Pct. between 60+ years old	14.4%
Educational credentials	
Share with high school degree or less	30.2%
Share with some college or Associate degree	50.8%
Share with Bachelor's degree or higher	19.0%
Racial and Gender Composition	
Pct. of female workers	91.5%
Pct. of non-white workers	35.4%

Source: U.S. Census Bureau. American Community Survey. (2014-2016); U.S. Census Bureau. Current Population Survey. ORG files. (2015-2017).

on age distribution and racial composition differ only modestly between the administrative support staff labor pool and the health insurance industry employees.

In Table 35, we show the five most prevalent job categories in the health care administrative support staff labor market, including secretaries, administrative assistants, information clerks, billing clerks, and first-line supervisors. Together, these five categories account for nearly 70 percent of all employment in this labor market.

Transition Funding for Administrative Support Workers

Older workers choosing retirement. As we saw in Table 34, workers 60 and over comprise 14.4 percent of all administrative support staff in the health services industry. Of the 1.06 million workers total that we estimate will become redundant in this industry as a result of Medicare for All, the total for workers over 60 will then be 152,000. We again assume that 80 percent will choose to retire and 20 percent will want to remain in the labor force through the transition to Medicare for All. That amounts to 122,000 workers choosing to retire. Each of these workers should also receive the same protections as those in the health insurance industry—a guaranteed pension and an average of 2.5 years of 100 percent wage replacement until their pension plan begins at age 65. As we show in Table 36, at a wage level of \$37,000—midway between the mean and median wage among these workers—this level of support for older workers will total to \$11.3 billion.

Support for Displaced Workers. In addition to the older workers choosing to retire, we estimate that a total of about 936,000 administrative support workers will face displacement. This includes 906,000 workers who are 59 years old or younger and about 30,000 who

TABLE 35
Office and Administrative Jobs in Health Care Service Industry:
Prevalent Job Types

Occupation	Percentage of total employment
Secretaries	23.4%
Administrative assistants	18.9%
Information clerks	9.5%
Billing clerks	8.7%
First-line supervisors of office workers	7.4%

Source: U.S. Census Bureau. American Community Survey. (2014-2016).

TABLE 36
Expenditures on Just Transition Program for Administrative Support
Workers in Health Care Services

<i>122,000 workers 60 and older choosing retirement path</i>	
Pension guarantees	Regulatory protections— no budgetary impact
2.5 years 100% wage replacement at \$37,000 average annual wage	\$11.3 billion
<i>936,000 workers facing displacement</i>	
– 906,000 59 and younger	
– 30,000 60 and older remaining in labor force	
1 year 100% wage replacement at \$34,500/year	\$32.3 billion
Retraining support at \$10,000 per worker	\$9.4 billion
Relocation support at \$10,000 for 50% of workers	\$4.7 billion
Total spending for administrative support workers in health services industry	\$57.7 billion

Source: See Table 34.

are 60 and older who choose not to retire. As with the health insurance industry workers, the support program for these workers will include the following:

- 1. An average of one year of full wage replacement support.** Working now with the median wage figure for the industry of \$34,500, providing one year of wage replacement for 936,000 workers will amount to a total of \$32.3 billion.
- 2. An average of one year of job retraining support.** As with the health insurance industry workers, we assume that this level of support will be approximately equal to the current average level of one year of college tuition plus fees at U.S. public universities. This amounts to about \$10,000. Thus, for all 936,000 displaced workers to receive, on average, one year of this type of support will amount to a total of about \$9.4 billion.

3. **Relocation support.** We again assume this level of support will be \$10,000 per worker, and that roughly half of all displaced workers will require relocation support. Thus, for the displaced administrative support workers, this form of support will amount to \$4.7 billion.

Table 36 summarizes the full Just Transition funding for administrative support staff. As we see, the total figure is \$57.7 billion.

In Table 37, we then bring together all components of the proposed Just Transition program. As we see, the total budget includes \$65 billion in support for health insurance industry workers and \$58 billion for administrative support workers in the health service industries. This amounts to \$123 billion.

Two-Year Average Phase-In

The support for retiring workers will naturally phase in over four years, as workers who are 60 and older at the time Medicare for All is implemented begin receiving their pensions at age 65. By contrast, the coverage for displaced workers who are not retiring will need to begin soon after the transition to Medicare for All begins. This is because the overall employment requirements in the health insurance industry and administrative support staff in health services should decline sharply immediately after Medicare for All is implemented. On average, we thus assume that overall Just Transition expenditures will be borne over a 2-year period. As we show in Table 37, this would then mean that overall costs of the program over 2 years would be \$61.5 billion/year. This amounts to about 2.1 percent of the overall costs of operating Medicare for All.

Financing Just Transition Programs

As we saw in Chapter 4, we estimate that the revenue programs we propose will generate \$1.08 trillion overall. When we combine these revenues with the \$1.9 trillion that are available through existing public sources, this would bring total funding for Medicare for All to \$2.96 trillion. This is about \$30 billion in excess of the \$2.93 trillion we estimate will be required to fund Medicare for All as of Year 1. That is, we have designed the funding levels to generate a \$30 billion surplus.

TABLE 37
Overall Costs of Just Transition Program

	Support for health insurance industry and related activities workers	Support for administrative support workers in health services industry	All Just Transition support
Total support	\$65 billion	\$58 billion	\$123 billion
Annual support over 2 years	\$32.5 billion/year	\$29 billion/year	\$61.5 billion/year
Annual support over 2 years as share of overall Medicare for All budget	1.1%	1.0%	2.1%

Source: See Tables 33 and 36.

This \$30 billion surplus can be the first source that can be channeled into funding the Just Transition at \$61.5 billion per year over 2 years. But we would therefore still face a \$31.5 billion funding gap per year over the two-year phase-in period. Thus, to cover this \$31.5 billion funding gap, we propose a 2-year increase in the net worth tax of 0.06 percent, while still retaining the exemption on the first \$1 million in net worth. This would be a sufficient increase to generate the additional \$31.5 billion per year over two years.

The impact of this net worth tax increase would be that the tax would rise to 0.44 percent for two years from the steady-state level that we have proposed of 0.38 percent. In terms of its impact on wealth owners, it would lower the average return from 5.58 percent (with the 0.38 net worth tax) to 5.52 percent for the portfolios of the wealthiest one percent of households, and from 5.43 to 5.37 percent for the next wealthiest 19 percent of households.

The Overall Transition

The transition out of the existing U.S. health care system into Medicare for All will entail formidable challenges. As we have discussed, there will be three major sets of issues to tackle:

1. The overall administrative and financial transition;
2. Changes in the fee structure and billable hours for physicians, along with increased demand for health care services; and
3. The displacement of workers now employed in both the private health insurance and health services industries.

A wide range of problems—anticipated and unanticipated—will inevitably emerge in all three of these areas. We nevertheless conclude that a workable transition process is achievable. That is, the transition can be accomplished while maintaining: 1) a reasonably high level of administrative effectiveness; 2) a flow of revenues sufficient to cover all system-wide budgetary requirements; and 3) a just transition for workers and communities that will be negatively affected in the move from our existing health care system to Medicare for All. This is while the establishment of Medicare for All also advances towards accomplishing its fundamental purpose, i.e. providing universal access to decent health care for all U.S. residents.

Delving a bit more into specifics, we have also concluded that this transition can be made workable while proceeding either within a longer or shorter time frame—that is, focusing on two examples we have reviewed, either within the four-year time frame proposed in the September 2017 draft of the Medicare for All bill or within a one-year period for accomplishing most of the necessary administrative and financial restructuring. There will be both costs and benefits through proceeding with either a longer or shorter transition period. But it will be useful here to briefly bring together here some of the major considerations that we have already discussed in this chapter.

Among other sectors of the economy, the transition will heavily impact government health care bureaucracies, private insurance companies, businesses managing health insurance for their employees, individuals and families currently covered through private plans,

hospitals, the practices of physicians and other providers, and workers who will face job displacement. A longer phase-in period offers the significant benefit of simply providing more time for each of these sectors to successfully implement the full range of transition tasks that they will encounter. But with respect to costs, the longer phase-in period will mean delays for businesses and households in receiving the health care cost savings that will accrue to them under Medicare for All. Under the four-year phase-in, businesses would also have to continue administering private coverage for their employees who were not yet eligible for Medicare for All. It will also certainly be problematic for the U.S. health care system to continue operating with a substantial degree of dependence on the private health insurance companies during a four-year phase-in. At that point, the private insurance companies would be facing a mandated termination of their operations within a few years. They would therefore have little to no incentive to deliver service at high quality levels during their final years in business.

These relative benefits and costs of a four-year transition approach have their mirror image with a shorter phase-in framework. A one-year transition period is, of course, a compressed schedule for overhauling an ongoing \$3.5 trillion operation—nearly 20 percent of the U.S. economy. At the same time, we have reviewed various types of credible evidence suggesting that this one-year time frame is workable. This includes the fact that, at present, roughly one-third of the U.S. population is already covered by public health insurance plans and two-thirds of the overall funding needed to finance Medicare for All will come from available public sources. We have also considered relevant precedents, including the initial establishment of the U.S. Medicare system in 1965-66 without benefit of modern information technologies, and the fact that nearly 4 million people are presently newly enrolling in Medicare each year. As we also saw, Taiwan successfully implemented a transition to its single-payer system in less than one year in 1994-95, also without access to current IT capacities.

Medicare for All will increase overall demand for health care services. Indeed, this follows from the fundamental purpose of the system, to ensure that all U.S. residents have access to decent health care. At present, over one-third of all U.S. residents are either uninsured or underinsured. These population cohorts will therefore benefit substantially the faster they are able to receive access to care under Medicare for All.

Moreover, as we have discussed, this increased demand for services should not create significant shortages in the supply of health care providers, even in the short run. This is primarily because, under Medicare for All, physicians will be able to substantially reduce the amount of time they now spend on administration and to correspondingly increase the time they can devote to patient care. This increase in billable hours will compensate physicians for the per-visit fee reductions many will experience under uniform Medicare-based provider rates. Nurses will be able to shift a major share of their overall workweek out of administration and into patient care. In particular, modest increases in the reliance on nurse practitioners and physician assistants should help physicians manage the increased demand for their services resulting from Medicare for All. It will also expand employment opportunities for nurse practitioners and physician assistants. In turn, this will also counteract the increasing problem of excess supply of qualified people in these fields.

The implementation of Medicare for All will produce significant job losses for workers now employed in the private health insurance industry as well as administrative support staffers devoted to health insurance matters within the health care services industry. Providing fair levels of support and protections for these workers—including pension guarantees, 100

percent wage-replacement income, as well as retraining and relocation support—will need to be a major component of the overall transition process. These job losses will be experienced more sharply under a shorter transition phase-in. Efforts to support displaced workers will also be more demanding within a shorter time period.

Overall then, again, there are costs and benefits associated with both a longer transition period, such as the four-year phase in proposed in the current Medicare for All bill, as well with a shorter transition, such as a one-year phase in. At the appropriate time, the relative strengths and weaknesses of both approaches, and well as others, will need to be explored more fully than is possible in this study.

7. MACROECONOMIC IMPACTS OF MEDICARE FOR ALL

Current U.S. Health Care in Comparative Perspective

The U.S. and Comparison Countries. As we have reviewed in Chapter 2, the current CMS projection for National Health Expenditures for 2017 is \$3.50 trillion. The CMS projection for Health Consumption Expenditures (that is, National Health Expenditures minus spending on research, structures and equipment) is \$3.32 trillion. The CMS projection is that National Health Expenditures will amount to 18.0 percent of GDP and Health Consumption Expenditures will equal 17.2 percent of GDP in 2017.

As is widely discussed, these levels of health care expenditures in the U.S. as a share of GDP greatly exceed those of all other advanced industrial economies. Table 38 reports “total health care spending” as a share of GDP for the U.S. along with eight other large advanced industrial economies. These figures are from the Organization for Economic Cooperation and Development (OECD) for 2015. The reported ratio for the U.S. in these accounts, with total health care at 17.2 percent of GDP, differs slightly from the CMS data. But the key point with this table is the comparison we observe between the U.S. ratio and those for the other eight economies. As we see, the total health spending/GDP ratios for the other eight economies range between 8.9 percent of GDP for Italy and 11.3 percent of GDP for Germany. Germany’s high-end 11.3 percent of GDP figure is fully 34 percent below the 17.2 percent ratio for the U.S.

As we briefly reviewed in Chapter 1, these comparison OECD economies, as well as other countries, also generally perform better than the U.S. in terms of overall health outcomes, even while they are spending a substantially smaller fraction of their national income

TABLE 38
Total Health Spending as Share of GDP for
U.S. and 8 OECD Comparison Countries
Figures are for 2015

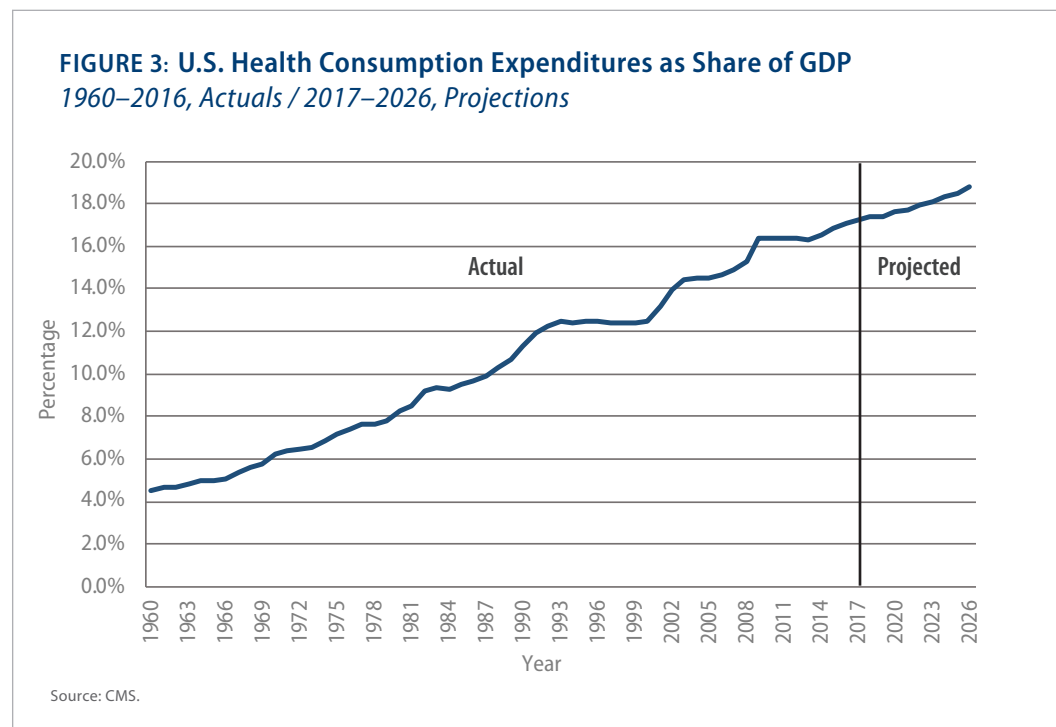
United States	17.2%
Italy	8.9%
Spain	9.0%
Australia	9.6%
United Kingdom	9.7%
Canada	10.3%
Japan	10.9%
France	11.0%
Germany	11.3%

Source: OECD. Health spending (indicator) (2015). <https://data.oecd.org/healthres/health-spending.htm>

on health care. Thus, the 2017 study by Galvani et al. cited in Chapter 1 highlighted the fact that, “34 countries score higher than the USA on the Health Access and Quality Index, a metric based on amenable mortality, or death that could be averted with medical care.” Galvani et al. also emphasize that all 34 countries provide a form of universal care.¹⁶⁹

These results are significant in assessing the recent analysis of Medicare for All by Charles Blahous.¹⁷⁰ As we discuss in more detail in Appendix 7, the Blahous study does conclude that Medicare for All is capable of lowering overall health care costs in the U.S. relative to the existing system by about 3 percent per year. According to Blahous, this would be while Medicare for All also delivers universal health care coverage and, at the sectoral level, reduces costs and administrative burdens for households, businesses and state and local governments. Blahous also suggests that Medicare for All could encourage businesses to channel some of their health care cost savings into wage increases for their employees. Nevertheless, overall, Blahous is highly critical of Medicare for All because it would significantly expand the role of the federal government in the U.S. health care system. But Blahous does not address the evidence presented here, showing that, relative to the U.S., comparison countries consistently operate their respective health care systems at substantially lower costs as a share of GDP while achieving generally superior health outcomes. For the most part, the central governments in these comparison countries play a role in their respective health care systems that is much more in line with a Medicare for All model for the U.S. than the current U.S. operating system.

U.S. Health Care Spending Over Time. It is also the case that, within the U.S. economy itself, health care spending has risen dramatically over time as a share of GDP. In Figure 3, we show the actual ratio of Health Consumption Expenditures as a share of GDP between 1960 – 2016 as well as the figures projected by CMS between 2017 – 2026.



As we see, in 1960, U.S. health care spending equaled 4.5 percent of GDP. Between 1960 – 2016, the ratio rose at an average rate of 2.4 percent per year, reaching 17.1 percent in 2016. As of 1990, the U.S. ratio, at 11.3 percent, was comparable to the figure for the German economy at present. But the U.S. ratio has continued its upward trajectory subsequently. Moreover, as Figure 3 shows, the CMS projects that the ratio is going to continue rising, with its forecast for 2026 being 18.8 percent of GDP. The CMS is therefore projecting that U.S. health care costs as a share of GDP will rise at an average annual rate of 0.9 percent between 2017 – 2026.

How would Medicare for All affect this rising cost trend? We have estimated that under Medicare for All, the overall budget for Health Consumption Expenditures will fall by a net of roughly 10 percent relative to current spending levels, even after providing decent full coverage to all U.S. residents—including the 8.8 percent of the population who are uninsured, and 29 percent of the insured population who are underinsured by our measure, as well as those who are already fully insured but are likely to increase their utilization of health care services under Medicare for All. We derived this result through first estimating, as a higher-end figure, that health care costs would rise by 12.0 percent within our existing health care system through providing full coverage to all U.S. residents. We then estimated that the costs of providing health care under Medicare for All will fall by 19.2 percent relative to the existing system through achieving cost savings in the areas of administration; pharmaceutical pricing; setting Medicare-based uniform fees for hospitals and providers; and through modestly reducing waste in service delivery.

Assuming overall U.S. health consumption expenditures, as scaled to the economy for 2017, did fall by a net of 10 percent, this would mean that the ratio of health consumption expenditures to GDP would also fall, to 15.8 percent.¹⁷¹ This would represent a dramatic decline in the health care spending/GDP ratio for the U.S., especially given that all U.S. residents will then be receiving decent health care coverage. Nevertheless, this 15.8 percent ratio would still be substantially higher than the figures for all the other OECD economies listed in Table 38. Considered in this way, the effects on total system-wide costs of the savings measures implemented in the first year of operating Medicare for All would be relatively modest by international standards.

What are the prospects for achieving further cost reductions within the Medicare for All system beyond the one-time 19.2 percent savings that we project for Year 1 of operations? One primary factor driving the continuing relative increase in health care costs is the aging of the U.S. population.¹⁷² We therefore must specifically consider whether there are features of the Medicare for All system that can contribute toward counterbalancing these ongoing rising cost pressures resulting from an aging population.

The 17.7 percent structural savings that we described in Chapter 3—in the areas of administration, pharmaceutical pricing and fees for hospitals and service providers—will be mostly one-time changes resulting through having established the new Medicare for All operating system. But there should still be considerable scope for further cost savings in the areas of service delivery, i.e. through reducing unnecessary services, inefficiently delivered services, missed prevention opportunities and fraud. Recall that the IOM estimate of total waste in these areas is in the range of 19 percent of total system costs. Other estimates that we reviewed in Chapter 3 suggest still larger potential savings.

We had assumed that in the first year of operating Medicare for All, total savings achievable in these service delivery areas would amount to only about 1.5 percent of overall

spending. But we also noted that further efficiency gains in these areas could be realistically accomplished, at a rate of about 1 percent per year over several years. The IOM and other studies, such as that by Hsiao et al. (2011), also concluded that the full savings potential in these areas would only be achievable incrementally over time.

Thus, beyond the one-time large-scale cost reductions that would be achieved as Medicare for All begins operating, it is reasonable to assume that further gains can be attained at a rate of about 1 percent per year for roughly 8 – 10 years. Further gains in later years are also a realistic possibility, but a consideration of these later prospects is beyond the scope of this study. Achieving cost savings for a decade at a rate of about 1 percent per year itself implies that, all else equal, health care expenditures as a share of GDP should be able to stabilize over time at a figure below 16 percent of GDP. As long as incremental improvements in efficiency can continue over time, this stabilization of the health care spending/GDP ratio should be feasible even after taking account of the rising cost pressures resulting from the aging population.

This would therefore also imply that the overall spending proportions that we estimate for the U.S. economy under Medicare for All within the 2017 economy could remain basically stable over time. Specifically, as long as total health care spending can be roughly stabilized over time as a share of GDP, the rates for business and household health care premiums that we have presented in Chapter 4 would then remain sufficient for fully funding Medicare for All. If further cost savings can be achieved over time in the operations of Medicare for All, this would then imply that the premium rates needed to fund the system could correspondingly decline as a share of GDP.

Comparing 10-Year Health Consumption Expenditure Projections

Working from these conclusions, we can also present a 10-year projection for U.S. Health Consumption Expenditures under Medicare for All. To generate this projection, we utilize the CMS forecast for U.S. GDP over 2017 – 2026. We then assume that, under Medicare for All, Health Consumption Expenditures remain as a fixed 15.8 percent of GDP over the full decade. Table 39 shows the results of this exercise.

Table 39 also shows the CMS projections of Health Consumption Expenditures over 2017 – 2026, operating within our existing health care system. This enables us to compare the CMS projections of Health Consumption Expenditures rising at an average annual rate of 0.9 percent relative to GDP under the existing system with our framework, in which Health Consumption Expenditures remain as a fixed 15.8 percent of GDP under Medicare for All.

As we see, under the existing system, CMS projects that Health Consumption Expenditures will rise from \$3.32 trillion in 2017 to \$5.44 trillion in 2026. This corresponds with a rise of Health Consumption Expenditures from 17.2 percent of GDP in 2017 to 18.8 percent in 2026, according to CMS projections. Cumulative Health Consumption Expenditures under the CMS projection will be \$42.90 trillion between 2017 – 2026.

Following from our conclusion that Health Consumption Expenditures can remain stable at about 15.8 percent of GDP for a decade under Medicare for All, we then derive the result that cumulative Health Consumption Expenditures from 2017 – 2026 will amount to \$37.79 trillion. We therefore estimate that the cumulative savings over the decade from operating U.S. health care under Medicare for All rather than the existing system would be \$5.11 trillion. This savings amount is equal to 2.1 percent of cumulative GDP between 2017 – 2026.

TABLE 39
U.S. Health Consumption Expenditure Projections, 2017 – 2026:

A) CMS Projections under Existing System vs. PERI Projections under Medicare for All

	CMS Projections, 2017 – 2026			4) PERI Health Consumption Expenditures projections through Medicare for All (= 15.8% of GDP annually) trillions	5) Estimated cost savings through Medicare for All vs. existing system (= columns 1 – 4) trillions
	1) CMS Health Consumption Expenditures projection trillions	2) CMS GDP projections trillions	3) CMS Health Consumption Expenditures/GDP projections		
2017	\$3.32	\$19.35	17.2%	\$3.06	\$0.26
2018	\$3.50	\$20.18	17.4%	\$3.19	\$0.31
2019	\$3.69	\$21.16	17.4%	\$3.34	\$0.35
2020	\$3.90	\$22.19	17.6%	\$3.51	\$0.39
2021	\$4.12	\$23.28	17.7%	\$3.68	\$0.44
2022	\$4.35	\$24.35	17.9%	\$3.85	\$0.50
2023	\$4.60	\$25.42	18.1%	\$4.02	\$0.58
2024	\$4.86	\$26.54	18.3%	\$4.19	\$0.67
2025	\$5.12	\$27.71	18.5%	\$4.38	\$0.74
2026	\$5.44	\$28.90	18.8%	\$4.57	\$0.87
TOTALS	\$42.90	\$239.08	17.9% (= Annual average)	\$37.79	\$5.11

Sources: CMS National Health Expenditure Projections 2017 – 2026, "Table 1. National Health Expenditures and Selected Economic Indicators, Levels and Annual Percentage Changes: Calendar Years 2010 – 2026," and "Table 2. National Health Expenditure Amounts and Annual Percentage Change by Type of Expenditure: Calendar Years 2010 – 2026," <https://www.cms.gov/research-statistics-data-and-systems/statistics-trends-and-reports/nationalhealthexpenddata/nationalhealthaccountsprojected.html>; PERI figures derived in text.

Note: Health Consumption Expenditures includes Public Health Activity. We excluded the \$84.5 billion in 2017 Public Health Activity cost calculations of Medicare for All in some previous tables and textual discussions, as noted in text.

B) Summary of Cumulative Results over 2017 – 2026

CMS Projection of cumulative Health Consumption Expenditures under existing system	\$42.90 trillion
PERI projection of cumulative Health Consumption Expenditures under Medicare for All	\$37.79 trillion
Cumulative 10-year savings through Medicare for All	\$5.11 trillion
Cumulative 10-year savings, as % of cumulative GDP	2.1% of GDP

Broader Macroeconomic Considerations

The fundamental aims of Medicare for All is to provide decent health care for all U.S. residents at costs that are affordable for people at all income levels and businesses of all sizes and types. We have shown in the foregoing chapters of this study that these fundamental aims are achievable. But in addition to addressing this most basic set of issues with Medicare for All, we should also consider the ways in which implementing this new health care system could produce broader impacts on the macroeconomic performance of the U.S. economy.

As we have just reviewed, it is reasonable to conclude that overall health care spending in the U.S. should be able to decline to less than 16 percent of GDP through implementing Medicare for All, as opposed to spending about 17.2 percent of GDP as of 2017 under our current system and a projected 18.8 percent as of 2026. We also think it is reasonable to assume that health care spending could be stabilized over time at roughly 16 percent of GDP through incrementally reducing the existing high levels of waste in health care service provision.

Would there be broader macroeconomic benefits—as measured by standard indicators such as GDP growth, productivity growth, and employment creation—through operating the U.S. health care system at a roughly stable level of around 16 percent of GDP, as opposed to having the health care spending share of the economy continue to rise over time, as projected by CMS?

Answers to this question vary widely in the literature.¹⁷³ This is not surprising, given that the answers will necessarily vary depending on what types of economic activities would be receiving additional resources as alternatives to spending a rising share on health care. For example, if, as an alternative to spending a rising share of GDP on health care, a significant share of funds were channeled into expenditures on imported luxury goods, the economy's macro performance would be worse. Neither domestic spending levels, productivity or employment creation would be improved under this scenario. But as another example, if the freed-up resources were channeled into raising productivity through investments in domestic infrastructure, and with high-quality job opportunities and real wages increasing in conjunction with these productivity gains, the economy's long-term macro performance would improve as a result.¹⁷⁴

In short, the overall macro impacts of stabilizing health care spending as a share of GDP through Medicare for All are contingent on a large range of factors. Nevertheless, we can identify some basic considerations that will have significant macroeconomic consequences.

Improved health outcomes will raise productivity. With the establishment of decent universal health care throughout the U.S., we can expect that, on average, health outcomes of the population will improve. This will be a major accomplishment in itself. But it should also produce the additional benefit of increasing productivity growth. This would be due to a significant share of workers missing less time from their jobs and being more effective while at work, because their health care circumstances will have improved.

Medicare for All will support greater income equality. The fact that all U.S. residents will receive decent health care itself represents a major advance in equality in the country. Still, this equalizing effect could be counterbalanced if Medicare for All were financed through increasing the health care spending burden on the non-wealthy and reducing it on the wealthy. But, as we saw in Chapter 5, the combined impact of the revenue-generating measures we have proposed to finance Medicare for All will further support increased income equality. As we saw, middle-income families and small-to-medium businesses will receive the largest relative gains in terms of their health care spending levels under Medicare for All relative to the existing system.

In many circumstances, increasing equality—i.e. reducing inequality—will support improved macroeconomic performance. One well-understood channel is through raising overall demand in the economy. When an economy's overall level of national income is spread more evenly, this will mean that the non-wealthy will have more money to spend. The non-

wealthy will tend to spend a larger fraction of their overall income on goods and services than the wealthy. The wealthy will tend to channel a much larger fraction of their income into purchasing financial assets as opposed to purchasing goods and services. The increased overall spending generated through a more equal income distribution will therefore, in turn, increase overall demand in the economy. This makes markets more buoyant, and encourages private businesses to expand operations.¹⁷⁵

But it does not necessarily follow that reducing inequality will yield positive macroeconomic results. For example, if wealthy households end up with less money to channel into purchasing financial assets, this could cause interest rates to rise. Higher interest rates, in turn, could discourage private businesses from investing in new activities and expanding their operations.

This is not the place to evaluate the evidence on these countervailing set of macroeconomic effects. We can conclude here that establishing Medicare for All will reduce inequality in the U.S. economy. There are, in turn, well-understood channels through which reducing inequality will promote improved macro performance. Whether these channels predominate in determining the overall effects of reducing inequality on macro performance will depend on a range of additional policies and circumstances that we cannot practically evaluate here.¹⁷⁶

Medicare for All should support job creation. As a matter of accounting, job creation in any economy depends on 1) the level of production (GDP) in the economy; and 2) the proportion of overall production costs that are spent on hiring people into jobs. For a given level of production, employment will rise when the economy's productive activities are more labor-intensive—i.e. a higher share of overall production is devoted to hiring workers as opposed to spending relatively more on, among other things, purchasing machines, buildings, land, and energy supplies.

Medicare for All will support relatively higher levels of spending on job creation. As we have seen, net health care costs will fall for small- and medium-sized businesses. The operations of these businesses tend to be more labor-intensive than those for larger-scale businesses. Medicare for All will therefore encourage small- and medium-sized businesses to expand their operations and increase hiring.

Effective Just Transition policies are necessary to support positive macroeconomic outcomes. As we saw in Chapter 6, the private health insurance industry in the U.S., along with related activities, currently employs about 834,000 people. Roughly speaking, another 1.6 million people work as support staff focused on health insurance administration in the health services industry. Without effective Just Transition policies, such as those we outline in Chapter 6, the sharp downsizing of the private health insurance system will produce a shock to the U.S. economy. Unemployment will rise and large numbers of families will face financial distress. Financial markets could then become destabilized. These negative outcomes are certainly avoidable, but only if Just Transition measures are enacted as one major feature accompanying the overall transition to Medicare for All.

As such, a Just Transition program such as we have outlined not only addresses issues of fairness for people employed in the health insurance industry and as administrative support staff in the health services industries. Just Transition policies are equally critical for capturing the broadest possible set of macroeconomic benefits that could result through the transition to Medicare for All.

Appendix 1

Demographic Age Adjustment to Average Health Spending for the Uninsured Relative to the Insured

The age distribution for the uninsured differs from that of the insured. Average health care expenditures also differ by age cohort. Table A1.1 below shows the estimated age distributions for the insured and uninsured populations and the average health care expenditures in each age cohort. Data on the age distributions come from the March 2016 Current Population Survey. Data on average health spending come from the Agency for Healthcare Research and Quality publication, *Concentration of Health Expenditures in the U.S. Civilian Non-institutionalized Population, 2014*, by Emily M. Mitchell (www.ncbi.nlm.nih.gov/books/NBK425792/). The cost estimates are based on the Medical Expenditure Panel Survey data.

Weighted averages of per capita spending were calculated using the two age distributions as weights. The weighted average of health spending using the age distribution of the insured population is \$4,784 (based on 2014 spending levels). The weighted average of health spending using the age distribution of the uninsured population is \$3,797 (also based on 2014 spending levels). The ratio of average spending, given the age distribution of the uninsured population, to average spending based on the age distribution of the insured population is \$3,797 divided by \$4,784, or 79.4 percent. Although the average level of spending is based on 2014 numbers, we assume that the ratio of average spending across the two age distributions has not changed significantly over time.

TABLE A1.1
Health Care Spending Per Capita by Age Cohorts

	Age range			
	0-17	18-44	45-64	65+
Insured	24.2%	33.5%	26.1%	16.2%
Uninsured	13.0%	57.2%	28.0%	1.7%
Average per capita spending (in 2014 dollars)	\$2,076	\$2,691	\$6,439	\$10,496

Source: See Appendix 1 text.

Appendix 2

Estimating Impacts of Establishing Uniform Medicare Fee Schedule for Physicians

In this appendix, we describe the methodology we used to estimate the impact on overall U.S. health consumption expenditures in establishing uniform Medicare fee schedules for physicians, clinics, dentists and hospitals. We then review the estimates by Berenson et al. (2010) as to the impact for individual physicians of establishing uniform Medicare fees, broken out according to 6 specialty and 26 sub-specialty areas. We then also compare the methodologies and results between our own estimates and those of Berenson et al.

Estimating Structural Savings through Paying Uniform Medicare Rates

Our savings estimates for expenditures on physician and hospital services are based on the assumption that providers will be reimbursed at Medicare rates. Medicare rates are estimated to be 78 percent, on average, of private rates. Medicaid rates are estimated to be 65 percent of private rates. Table A2.1 below shows the distribution of spending on physician and hospital services by funding source.

To calculate average savings achieved by moving to Medicare rates, the percent difference between Medicare rates and private insurance rates and the percent difference between Medicare rates and Medicaid rates are multiplied by the share of private insurance and the share of Medicaid in total spending, respectively. Since there is no change in Medicare rates, there is no expenditure savings based on current Medicare expenditures. We do not have data on the average rates for all other payment methods (e.g. out-of-pocket payments). Therefore, we assume that there will be no expenditure savings from the “other payment” category,

TABLE A2.1
Distribution of Spending on Physician and Hospital Services by Funding Source

PHYSICIANS	
<i>Share of expenditures by insurance/payment type</i>	
– Private insurance	43.2%
– Medicare	22.6%
– Medicaid + CHIP + Indian Health	11.9%
– Other payment	22.3%
HOSPITALS	
<i>Share of expenditures by insurance/payment type</i>	
– Private insurance	39.4%
– Medicare	24.7%
– Medicaid + CHIP + Indian Health	18.5%
– Other payment	17.3%

Source: Centers for Medicare and Medicaid Services National Health Expenditure Data, Historical Tables, Table 19.

The weighted average of expenditure savings is 7.12 percent for physicians, along with clinical and dental providers, and 3.11 percent for hospitals. Note that moving to Medicare rates would reduce expenditures currently financed through private insurance, but would raise expenditures currently financed through Medicaid, since Medicare rates are, on average, higher than Medicaid rates. The weighted averages of savings, 7.12 percent and 3.11 percent, reflect these positive and negative sources of savings, producing net positive savings estimates.

Estimating Impacts on Individual Compensation Levels

The 2010 study by Berenson et al. commissioned by the Medicare Payment Advisory Commission (MedPAC) estimated what the change would be in physicians' compensation levels if all payments to physicians were based on their respective Medicare fee schedules.¹⁷⁷ Berenson et al. report results for 26 specialty and subspecialty groups—with the specialty areas being primary care; non-surgical, non-procedural; non-surgical, procedural; surgical; and radiology. Berenson et al. report results both according to hourly rate changes and annual income changes. They also report both median and mean figures. We reproduce in Table A2.2 the main summary results on median annual compensation levels, and focus our discussion here on these median annual figures.

Working with survey data from 2007, the authors found that annual median physician compensation levels would fall by an average of 9.1 percent if Medicare fee rates were uniformly applied across all specialties and subspecialties. In addition to this median annual figure across all specialties, the authors also provide figures for the change in compensation levels according to each of the specialty and subspecialty groups. Thus, with the non-surgical, non-procedural categories, Berenson et al. estimate that median annual compensation would fall by a lower-end figure of 6.6 percent, from \$277,379 to \$259,137.¹⁷⁸ The fall in median annual compensation by specialty would be greatest for radiologists, from \$549,034 to \$433,804, a 21.0 percent decline. According to their subspecialty breakdown, at the low end of impacts, emergency medicine physicians would experience a 0.2 percent annual median decline and pulmonary medicine compensation would fall by 1.4 percent. At the high end with sub-specialties, neurological surgeons would face a compensation decline of 30.6 percent, from \$770,046 to \$534,728.

Comparing Estimating Methodologies

This median annual compensation decline figure of 9.1 percent in the Berenson et al. study differs from our estimate of a 7.1 percent reduction in spending for physicians, clinics and dentists if Medicare compensation rates were established across-the-board. We have not worked through the Berenson et al. methodology in sufficient detail that would enable us to identify definitively all factors contributing to the difference in our respective average figures. From the provisional work we have done, it appears that the primary source of the difference between the two estimates is that the respective estimates use distinct methodologies in deriving central tendencies (means and medians) in the data. In our approach, in deriving mean figures, we weighted expenditure levels according to the overall proportions of health care spending by each category of spending or payment type—i.e. according to the shares of total spending paid through private insurance, Medicare, Medicaid/CHIP or out-of-pocket. By contrast, the Berenson et al. study derives median compensation figures according to the

TABLE A2.2
Estimated Impact on Physicians' Median Income of Transitioning to Uniform Medicare Fee Schedules:

Actual and Simulated Median Annual Compensation of Selected Specialty and Sub-Specialty Groups

Specialty	2007 salary levels expressed in 2017 dollars		
	Actual 2007 median incomes	Simulated incomes under uniform Medicare rates	Percent difference in moving from actual to uniform Medicare rates
Primary Care	\$211,301	\$191,294	-9.5%
Family medicine	\$209,460	\$188,686	-9.9%
Internal medicine	\$211,014	\$194,204	-8.0%
Pediatrics, general	\$215,232	\$194,764	-9.5%
Non-surgical, non-procedural	\$277,379	\$259,137	-6.6%
Emergency medicine	\$280,919	\$280,230	-0.2%
Endocrinology/metabolism	\$228,016	\$237,378	4.1%
Hematology/oncology	\$395,653	\$355,685	-10.1%
Nephrology	\$331,210	\$322,232	-2.7%
Neurology	\$284,597	\$255,165	-10.3%
Physiatry	\$263,625	\$241,841	-8.3%
Psychiatry	\$193,169	\$171,475	-11.2%
Rheumatology	\$223,250	\$218,581	-2.1%
Other Internal medicine/pediatrics	\$303,041	\$297,415	-1.9%
Non-surgical, procedural	\$492,125	\$428,239	-13.0%
Cardiology	\$543,748	\$535,413	-1.5%
Dermatology	\$454,298	\$346,889	-23.6%
Gastroenterology	\$507,014	\$413,504	-18.4%
Pulmonary medicine	\$340,593	\$335,918	-1.4%
Surgical	\$405,375	\$334,572	-17.5%
Obstetrics/gynecology	\$326,024	\$278,148	-14.7%
Ophthalmology	\$313,424	\$268,482	-14.3%
Orthopedics	\$505,957	\$404,631	-20.0%
Otorhinolaryngology	\$435,175	\$306,489	-29.6%
General surgery	\$379,181	\$339,084	-10.6%
Cardiovascular/thoracic surgery	\$516,665	\$491,713	-4.8%
Neurological surgery	\$770,046	\$534,728	-30.6%
Urology	\$490,237	\$389,135	-20.6%
Other surgical specialties	\$397,974	\$301,520	-24.2%
Radiology	\$549,034	\$433,804	-21.0%
Radiology	\$549,034	\$433,804	-21.0%
TOTAL	\$263,108	\$239,125	-9.1%

Source: Berenson, Robert, Stephen Zuckerman, Karen Stockley, Radhika Nath, David Gans, and Terry Hammons (2010) "What if All Physician Services Were Paid Under the Medicare Fee Schedule? An Analysis Using Medical Group Management Association Data" *Medicare Payment Advisory Commission*. Appendix 5.

average number of hours worked and compensation levels for each specialty and subspecialty group. Berenson et al. do not appear to have weighted these relative compensation figures for each specialty and subspecialty according to the aggregate shares of spending based on the insurance or payment types.

In any case, the two sets of estimates are sufficiently close to each other such that we can conclude that, in general, physician compensation levels would fall within the range of 7 – 9 percent, on average through establishing uniform Medicare rates. In addition, we conclude that our approach is more accurate for estimating the *aggregate decline in spending* that would result from establishing uniform Medicare payment rates for all physicians. The Berenson et al. study is particularly valuable in providing evidence as to the impacts of establishing uniform Medicare rates across the range of specialties and subspecialties.

Appendix 3

References on Wasteful Health Care Expenditures in the United States

Introduction

The Institute of Medicine identified approximately 30 percent of health care expenditures in the U.S. as wasteful (IOM, 2010, 2013). These include excess administrative costs, prices that are too high, unnecessary services, inefficiently delivered services, missed prevention opportunities and fraud. Moreover, the waste associated with each of these categories is based on the panel's lower-bound estimates. Donald Berwick, former head of the Centers for Medicare and Medicaid Services (CMS), and Andrew Hackbarth (2012), using similar categories, estimated that between 21 and 47 percent of total health care expenditures were wasted. These estimates are consistent, if not more conservative, than other related studies using different analytic approaches (OECD, 2017; Kelly, 2009; Farrell, 2008; Price Waterhouse Coopers, 2008).

Clearly the health care landscape has changed over the last few years. There had been some slowdown in the growth of health care expenditures, particularly between 2009 and 2013, which many analysts attribute to the Great Recession and to some degree the introduction of the Affordable Care Act. Yet, the CMS is currently projecting national health care expenditures to grow at an annual rate of 5.5% from 2017-2026 (Cuckler et al., 2018). Emerging trends such as the increase in concentration in the hospital and private insurance industries, the evolution of increasingly expensive pharmaceuticals and other factors are pushing prices and expenditures higher and we have little reason to believe that the excess waste identified by IOM, Berwick, the OECD and others has significantly diminished over the past few years.

Basic references on the overall issues of wasteful health care expenditures under the current system in the U.S. include the following:

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Berwick, Donald M., and Andrew D. Hackbarth (2012) "Eliminating waste in US health care" *JAMA* 307, no. 14 1513-1516. <http://dx.doi.org/10.1001/jama.2012.362>

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Farrell, Diana, Eric Jensen, Bob E. Kocher, Nick Lovegrove, Fareed Melhem, Lenny Mendonca and Beth Parish (2008) "Accounting for the cost of US health care: A new look at why Americans spend more" *McKinsey Global Institute*. Washington, DC. <http://bit.ly/2oEed9j>

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Price Waterhouse Coopers Health Research Institute (2008) “The Price of Excess: Identifying Waste in Healthcare Spending”. <http://bit.ly/2qOBh7J>

In addition to the broad system-level studies cited above, the following section provides supportive evidence regarding the magnitude of wasteful health care spending in the areas identified by the IOM, including unnecessary services, inefficiently delivered services, missed prevention opportunities and fraud.

A) UNNECESSARY SERVICES

Total excess = 8.4 percent of national health expenditures

Unnecessary services refer to the provision of services beyond evidence-established levels. It can be defined as the provision of medical care that has no benefit or for which harms outweigh potential benefits. Overuse is driven by providers’ preferences, ignores scientific evidence and occurs systematically because of conflicts of interest and perverse incentives intrinsic to current health care reimbursement mechanisms.

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B) INEFFICIENTLY DELIVERED SERVICES

Total excess = 5.2 percent of national health expenditures

Inefficiency delivered services include health care that is fragmented, disjointed and uncoordinated. It often occurs, for example, in the transition from hospital to home and results in wasted resources and poor patient outcomes.

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C) MISSED PREVENTION OPPORTUNITIES

Total excess = 2.2 percent of national health expenditures

The IOM focused on the potential costs of missed prevention opportunities. These include the inadequate emphasis on disease and injury prevention (primary prevention), the control

or reversal of pre-symptomatic disease (secondary prevention), and better use of effective strategies to prevent disease progression particularly among patients with multiple chronic conditions (tertiary prevention).

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D) FRAUD

Total excess = 3 percent of national health expenditures

Medical fraud is comprised of illegal schemes to divert health care resources for improper payments for goods or services. Fraud can be committed by individual consumers and patients, but the most serious and widespread health care fraud emanates from large-scale illicit behavior by major industry actors, including insurers, health care providers and corporate suppliers.

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Appendix 4

Methodology and References for Revenue Estimates and Distributional Impacts

Estimating Revenue Sources

Lower Business Premiums

Our estimate of the potential revenue based on lower employer health care premium spending from employers is based primarily on national health expenditure data published by the government agency, Center for Medicare and Medicaid Services (CMS) (<https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/National-HealthExpendData/NationalHealthAccountsProjected.html>).

We start with CMS' published estimates that indicate that in 2017, national spending on private health insurance equaled \$1,186.6 billion. Next, we use their 2017 data on the level of such spending that is made up of employer contributions to employer-sponsored private health insurance premiums, including both private employers as well as state and local governments as employers. Their published figures indicate that these employers spent about \$724 billion on their workers' health insurance premiums.

We then take into account that employers receive a tax subsidy from providing their workers compensation in the form of health insurance benefits equal to about 7.65 percent (the employers' current share of payroll tax; see more on this below). As a result, we approximate the net spending by employers on private health insurance—including private employers and state and local government employers—to be \$669 billion.

An 8 percent reduction in such spending by employers is equal to \$615 billion. This is the potential revenue from employers, based on premiums that are 8 percent *less* than what they are currently spending.

In addition to this revenue, we propose that employers pay \$500 per worker at their firm who is uncovered and uninsured (i.e., the worker is not offered insurance by the employer and does not receive insurance coverage elsewhere, from a spouse's health plan for example).

The U.S. Census Bureau estimates that in 2017, 15.7 million workers did not have any health insurance coverage during the year (See Table HI01, "Health insurance coverage status and type of coverage by selected characteristics: 2016," at: <https://www.census.gov/data/tables/time-series/demo/income-poverty/cps-hi.html>). We estimate, therefore, that the revenue generated from \$500 per uncovered worker would equal about \$8 billion. Overall then, these employer premiums would generate approximately \$623 billion.

3.75 Percent Sales Tax on Non-Necessities

In 2017, according to the Bureau of Economic Analysis, total personal consumption expenditures equaled \$13.4 trillion dollars (2017 dollars). Exclusive of health care, expenditures amount to \$11.1 trillion.

We use the share of expenditures on exempt items based on 2016 data to determine the overall available tax base for the sales tax (detailed consumption data have not yet been released for 2017). In 2016, the six categories of necessities—food, housing, utilities, public transport, education, and non-profits—made up 50 percent of total consumption expenditures exclusive of health care. In other words, using the 2017 consumption expenditure level, \$5.57 billion of consumption would be exempt, and the other \$5.57 billion would make up

the tax base for the sales tax. A 3.75 percent sales tax would therefore generate \$209 billion ($\$5.57 \times .0375$).

This tax proposal includes an income tax credit for Medicaid-eligible families, in order to offset entirely this sales tax for these low-income families. Based on the January 2018 issue of the Labor Department's *Monthly Labor Review*, "Program participation and spending patterns of families receiving government means-tested assistance," 25.9 million families received Medicaid assistance in 2017. As shown in the main text, our representative low-income households receiving Medicaid would receive a 3.75 percent income tax credit, or \$487.50. An income tax credit at this level would add up to \$12.6 billion for 25.9 million families ($\$487.50 \times 25.9$ million).

Therefore the tax revenue generated from a 3.75 percent sales tax, net of the low-income tax credit, totals to \$196.2 billion.

Net Worth Tax of 0.38%

Our net worth estimates are based on figures published by the Survey of Consumer Finances (See 2016 SCF Chartbook; <https://www.federalreserve.gov/econres/files/BulletinCharts.pdf>). We also use extrapolations based on the SCF 2016 data published by the website DQYDJ to produce a more detailed breakdown of net worth thresholds than what is available in the SCF's annual Chartbook (<https://dqydj.com/net-worth-percentile-calculator-united-states/>).

We use these figures to generate the potential net worth tax revenue because the highly skewed nature of the distribution of net worth. Table A4.1 shows our basic calculations. Columns 1-4 show the estimates of the net worth percentile threshold and the number of families above that net worth percentile threshold but below the next net worth percentile threshold. In column 5, we approximate the net worth of the average household between consecutive net worth thresholds as equal to the midpoint between the net worth thresholds. We then apply the \$1 million exemption to that net worth level and apply the tax rate of 0.38 percent to the taxable net worth level to estimate a per family net worth tax bill (col. 6). Finally, in column 7, we estimate the total tax revenue generated from the families between the two respective net worth thresholds, to determine a total of \$190 billion in total net worth tax revenue based on 2016 figures. In order to inflate this figure to a 2017 value, we simply adjust by the CPI-U for a total figure for 2017 of \$194 billion.

Elimination of the Preferential Treatment of Long-Term Capital Gains

We have estimated that treating long-term capital gains as ordinary income, and thereby also receiving the same tax treatment as short-term capital gains, would generate an additional \$69 billion in the current U.S. economy. We reach this conclusion by noting, first, that the average marginal tax rate for short-term capital gains was 32.2 percent in 2016, while the average marginal rate for long-term capital gains was 21.3 percent.¹⁷⁹ Thus, treating long-term capital gains the same as short-term capital gains would increase tax revenues on long-term capital gains by 10.9 percentage points. In addition, between 1990 – 2014, realized long-term capital gains averaged 3.25 percent of GDP.¹⁸⁰ According to the Bureau of Economic Analysis (BEA) in 2017, U.S. GDP was \$19.4 trillion. This means that, based on the historic trend, realized long-term capital gains would amount to about \$630.5 billion in 2017. The additional tax revenues generated by treating long-term capital gains the same as short-term capital gains would therefore amount to about \$69 billion ($=\$630.5 \text{ billion} \times 0.109$).

TABLE A4.1
Potential Tax Revenue by Net Worth Percentile, for the Wealthiest 10 Percent of U.S. Households
Based on 2016 data

Net worth percentile	Net worth threshold	% of families	# of Families between net worth thresholds (1,000)	Avg. household assigned net worth= midpoint between consecutive percentile thresholds	Taxable net worth with \$1 million exemption	Tax bill per family (0.38% tax)	Tax revenue across families
90.0%	\$1,182,390	1.0%	1,260	\$1,250,176	\$250,176	\$951	\$1,197,842,688
91.0%	\$1,317,962	1.0%	1,260	\$1,381,770	\$381,770	\$1,451	\$1,827,914,760
92.0%	\$1,445,578	1.0%	1,260	\$1,561,618	\$561,618	\$2,134	\$2,689,024,590
93.0%	\$1,677,657	1.0%	1,260	\$1,854,952	\$854,952	\$3,249	\$4,093,507,782
94.0%	\$2,032,246	1.0%	1,260	\$2,205,116	\$1,205,116	\$4,579	\$5,770,093,014
95.0%	\$2,377,985	1.0%	1,260	\$2,588,087	\$1,588,087	\$6,035	\$7,603,760,556
96.0%	\$2,798,189	1.0%	1,260	\$3,250,983	\$2,250,983	\$8,554	\$10,777,704,210
97.0%	\$3,703,776	1.0%	1,260	\$4,759,998	\$3,759,998	\$14,288	\$18,002,870,424
98.0%	\$5,816,220	1.0%	1,260	\$8,095,125	\$7,095,125	\$26,961	\$33,971,458,500
99.0%	\$10,374,030	0.5%	630	\$13,244,702	\$12,244,702	\$46,530	\$29,313,815,391
99.50%	\$16,115,373	0.40%	504	\$29,602,827	\$28,602,827	\$108,691	\$54,780,134,270
99.90%	\$43,090,281	0.10%	126	\$42,090,281	\$41,090,281	\$156,143	\$19,674,026,543
						Total	\$189.7 billion
						Adjusted to 2017	\$193.7 billion

Source: Board of Governors of the Federal Reserve System. (2018) 2016 SCF Chartbook. Washington DC: Board of Governors of the Federal Reserve System. (2017a). <http://bit.ly/2MqW1g9>; DQYDJ. Net Worth Percentile Calculator for the United States in 2017. <http://bit.ly/networth17>.

Calculating Health Care Spending for Representative Businesses by Firm Size

We provide estimates of the impact of Medicare for All on six representative businesses. To do this we compiled data on six components, estimated for the average business within each business type. These six components include: (1) number of workers, (2) annual payroll, (3) annual gross receipts, (4) cost of health insurance per worker, (5) benefit coverage of workers, and (6) related tax subsidies. We compile these data to determine how we expect health care spending to change from under the existing system to under Medicare for All.

In the following, we explain how we estimate each of these components for our six business types: small business (0-9 employees) providing no health benefits, small business (0-9 employees) providing health benefits, medium business (10-19 employees) providing health benefits, medium business (20-99 employees) providing health benefits, large business (100-499 employees) providing health benefits and large business (500+ employees) providing health benefits.

Employment by Firm Size

We estimate the average number of workers per firm size for U.S. firms from the most recent data available (2014). We assume that the number of employees per firm figures re-

main the same in 2017 as in 2014. These data are from the Statistics of U.S. Business (SUSB) compiled by the U.S. Census Bureau (<https://www.census.gov/data/tables/2014/econ/susb/2014-susb-annual.html>). Unless otherwise stated, our calculations are based on SUSB data by firm size and 3 digit NAICS, aggregated as needed.

Payroll by Firm Size

We need to combine several sources of data to estimate payroll by firm size for 2017. We start with the ratio of payroll to receipts that we can estimate from the 2012 SUSB data. We then inflate this gross receipts figure from 2012 with the level of growth from 2012 to 2017 in nominal GDP. Finally, we can apply the payroll to receipts ratio to our estimate of the 2017 gross receipts figures to estimate the payroll for 2017.

Gross Receipts by Firm Size

The most recent data published on gross receipts by firm size is 2012. As noted above, we adjust these figures to reflect conditions in 2017 by applying the overall level of GDP growth from 2012 to 2017 to the 2012 gross receipts figures.

Average Employer Cost of Health Insurance per Worker

We use 2017 data from the Labor Department's National Compensation Survey data base. Specifically, we use an average figure for the employer's share of family and single premium costs by 2-digit NAICS sector.

Business Health Care Tax Subsidy

Employers receive tax subsidies when they provide part of their workers' compensation through health insurance benefits. The IRS instructs employers (<https://www.irs.gov/pub/irs-pdf/p15.pdf>) that if they pay the cost of "an accident or health insurance plan for their employees, including an employee's spouse and dependents, their payments are not to be treated as wages and are not subject to Social Security, Medicare, and FUTA taxes, or federal income tax withholding." Our estimates of tax subsidies for firms are equal to the taxes they would have had to pay if their spending on their workers' health benefits were included in payroll. We estimate these tax subsidy amounts at the rate of 7.65% of the employers' health insurance benefits spending. This 7.65% rate is equal to the sum of the (1) 6.2% Social Security tax and (2) 1.45% Medicare tax that employers pay on their payroll (<https://www.irs.gov/taxtopics/tc751>). We do not include in the tax subsidy the value of FUTA taxes since these are generally applied only to the first \$7,000 in earnings per worker (<https://www.irs.gov/taxtopics/tc759>).

Estimating the Number of Covered Workers

In our tables, we distinguish between workers who: 1) participate in their employer-sponsored plan, 2) are offered their employer-sponsored plan but do not take it up, and 3) are not offered their employer-sponsored plan.

To divide up workers into these three groups we use the participation rate (share of workers who are offered *and* take-up a health insurance plan from their own employer), the take-up rate (among workers who have access to a health insurance plan offered by their own employer, the share that *use* the benefit), and the access rate (the share of workers who have

access to a health insurance plan offered by their own employer) published by the Labor Department by 2-digit NAICS industry.

For the purposes of these tables which show the potential distributional effects of our financing proposal on businesses by size, we assume that workers who are not offered their employer-sponsored plan are also without health insurance elsewhere. This is an overestimate of the number of uncovered workers since these workers may receive health insurance that is not connected to their own employment. For example, such workers may receive health care benefits from a spouse's plan. According to the Census data cited above, we know that 19.6% of workers—including those who do and do not have access to insurance from their own employer—have employer-sponsored insurance through another family member's employer. Given these figures, we are, as throughout the study, erring here, if anything, on the side of overestimating as opposed to underestimating health care spending levels by business firms under Medicare for All.

This overestimation in our business profiles, however, does not affect our estimate of the revenue we would generate from a \$500 per uncovered worker premium to businesses. This is because we estimate the number of uncovered workers from the U.S. Census which measures the number of workers who do not have any health insurance coverage directly.

Estimating Revenue from Payroll Tax of 8.2 Percent

To determine the overall revenue that would be generated with a payroll tax we begin with the overall current revenue of \$1.21 trillion—approximately 6 percent of GDP (see: <https://taxfoundation.org/federal-tax-revenue-source-1934-2018>). Given that this payroll tax revenue derives from a 15.3 percent rate on payroll, this implies that a 1 percentage-point increase in the payroll tax would raise about \$79 billion ($\$1.21 \text{ trillion} / 0.153 = \79 billion). This implies that an 8.2 percent payroll tax would generate approximately \$648 billion.

Based on SUSB data described above, we estimate what share of payroll tax revenue would be lost when we include an exemption for \$50,000 of payroll for small businesses defined as having \$1 million or less in gross receipts. We estimate that the revenue would fall by 3.1 percent, to just over \$623 billion.

We then apply this 8.2 percent payroll tax, with a \$50,000 payroll exemption for businesses with \$1 million or less in gross receipts, to the business profiles and health care spending as before.

Estimating Revenue from Gross Receipts Tax of 1.78 Percent

We can directly use the gross receipts data, adjusted to 2017 levels, from SUSB data as described above to estimate what the gross receipts tax rate would need to be in order to generate \$623 billion, including a \$1 million exemption.

Calculating Health Care Spending for Representative Households by Income

We provide estimates of the impact of Medicare for All on seven representative families. To do this we compiled data on three components, estimated for the average family within each family type. These three components include: (1) total income and wages, (2) consumer spending, and (3) current health care expenditures and tax subsidies. We use these data to determine how we expect health care spending to change from under the existing system to Medicare for All.

In the following, we explain how we estimate each of these three components for our seven family types: low-income with Medicaid, low-income uninsured, middle-income underinsured, middle-income with an individual-market plan, middle-income with employer-sponsored insurance (ESI), high-income (from the top quintile) with ESI, and high-income (from the top 5 percent) with ESI.

Total Income and Wages

Our estimates for the income levels of each family type come from the 2016 American Community Survey. The ACS is an annual household survey administered by the U.S. Census Bureau and serves as the Census' primary method for collecting detailed information about the U.S. workforce and overall population in between decennial censuses. The ACS is specifically designed to provide estimates at the state and local levels, surveying roughly 3 million households.

For the overall family income values, we use the most recent ACS published estimates of mean incomes by income quintile. For our low-income family with Medicaid we use the average income for the lowest quintile. This figure—\$13,000—is well below the 138% federal poverty line income eligibility threshold for Medicaid in many states. Most states (38) have expanded Medicaid to also cover adults with incomes up to 138 percent of the official federal poverty line (FPL). Regardless of Medicaid-expansion status, children are generally eligible up to 133 percent of the FPL. The FPL for a family of 3 in 2017 is \$20,420. For our other low-income family, we use the mean income of the 2nd lowest quintile. Our middle-income households have the mean income of the middle quintile. Our high-income household has an income equal to the mean for the top quintile. The highest income household has the mean income of the top 5th percentile. The latest U.S. Census Bureau published figures are for 2016. The 2016 figures are adjusted to 2017 values by the average annual growth rate from 2013-2015 of each specific measure.

For our estimates of wage income for our low-income and middle-income families, we use data from the Consumer Expenditure Survey (CEX). The CEX is a national survey administrated by the U.S. Census Bureau for the Labor Department. The survey provides nationally representative data on expenditures, income, and demographic characteristics of consumers in the United States. In particular:

- a. For our middle-income households: we use the CEX estimates to determine the share of wages and salaries as a percent of money income before taxes for households with \$50,000 to \$69,999 before tax income.
- b. For our low-income households: for these households, 1 or 2 member families are disproportionately represented. In order to create a family profile for our 3-person representative household, we specifically look at CEX data for a family of 3. For our lowest income family, we used the wage and salary figure for families with incomes between \$10,000 and \$14,999; for our second lowest income family we used the wage and salary figure for families with incomes between \$30,000 and \$39,999.
- c. For our highest income households (top 20 percent and top 5 percent) we used the CEX figures on the share of wages and salaries as a percent of money income before taxes for households with \$200,000 or more before tax income.

Consumption Spending

In all cases, we use data from the CEX to calculate the expenditures for various categories as a share of income. For the low-income, Medicaid eligible family, we used the CEX table specifically for a family of three, and use the values for consumer units with income between \$10,000 and \$15,000. For the low-income, uninsured family we used the CEX table specifically for a family of three, and use the values for consumer units with income between \$30,000 and \$39,999. For the middle income and top quintile households, we used CEX spending data from the third quintile and top quintile. For the top 5 percent household, we used CEX spending data for households with more than \$200,000. Exempt consumption spending includes: food and beverages consumed at home; housing and utilities; education and non-profits. The Consumer Expenditure published data does not have a non-profit category of spending. Included in this category are the following: cash contributions; contributions to Social Security and pensions; healthcare; personal services (this includes daycare and preschool, eldercare as well as other personal services).

Current Household Spending on Health Care

To determine current spending on health care, we estimate three parts: annual premiums (if insured) that the household pays, out-of-pocket (OOP) costs, and tax subsidies that offset households' current health spending. All figures are adjusted to reflect 2017 values.

Low-income households. We assume these households do not purchase private health insurance. As a result, they do not have an annual health insurance premium, only OOP costs. Studies vary in their methods to estimate OOP costs for Medicaid households and uninsured households. As a result, we identified a range of figures in the research literature. We take an average of the five different estimates we were able to identify for a family of 3. These five estimates come from the following studies:

- 1) Machlin, Steven R. and Kelly Carper (2014) "Out-of-Pocket Health Care Expenses by Age and Insurance Coverage, 2011" Statistical Brief #441, *Agency for Healthcare Research and Quality (AHRQ)*. https://meps.ahrq.gov/data_files/publications/st441/stat441.shtml;
- 2) California Health Care Foundation (2018) "Coverage, Access, and Affordability in California: Key ACA Data 2013-2016". <http://bit.ly/2Msper5>;
- 3) Consumer Expenditure Survey (2015) database;
- 4) Majerol, Melissa, Jennifer Tolbert, and Anthony Camico (2016) "Health Care Spending Among Low-Income Households with and without Medicaid" *Kaiser Family Foundation*. <https://kaiserf.am/2MrHvF4>;
- 5) Catlin, Mary K., John A. Poisal, and Cathy A. Cowan (2015) "Out-of-pocket health care expenditures, by insurance status, 2007–10" *Health Affairs* 34, no. 1 111-116. <http://bit.ly/2MrJ7P8>

Middle-income households. We assume that under-insured and those insured through their employer have the average insurance premium for family coverage as reported by the California Health Care Foundation database, or \$18,760. The typical premium cost-sharing between employer and employee is 25% (employee) and 75% (employer). We assume this cost sharing for our analysis for their health insurance premiums.

For the individual-market insurance plans, we again encounter a range of figures, and therefore use an average of the three estimates we could identify. These include:

- 1) e-health insurance database (accessed at: <https://resources.ehealthinsurance.com/affordable-care-act/much-obamacare-cost-2017>);
- 2) Centers for Medicare and Medicaid Services (2017) “Health Insurance Marketplaces 2017 Open Enrollment Period Final Enrollment Report: November 1, 2016 – January 31, 2017” CMS Press Release. <https://go.cms.gov/2MonDTa>;
- 3) Kaiser Family Foundation (2018) “Marketplace Average Premiums and Average Advanced Premium Tax Credit (APTC)”. <https://kaiserf.am/2qq1PKG>

We inflated each figure to represent a 2017 value, based on past annual growth. We estimate an annual expense of \$15,600.

Households with ESI plans enjoy significant tax subsidies by receiving a portion of their compensation through health insurance benefits, as well as being able to pay their portion of their insurance premium pre-tax, i.e., their premium payment is deducted from their earnings before their tax liability is assessed. These tax subsidies are, therefore, effectively equal to these families’ marginal income tax rate times the value of their insurance premium—including both the employer’s portion as well as the employee’s portion.

For these middle-income households, their marginal income tax rate is 15 percent (federal) and 3.5 percent (household-weighted state average rate). Moreover, these families do not have to pay the worker’s share of payroll tax (7.65%) on the total value of their health premium. This is again because the employer’s contribution to their health premium is not counted as part of payroll and the family’s contribution to their health premium is pre-tax. See Table A4.2 below. For a detailed discussion of tax subsidies for private health insurance see the Kaiser Family Foundation’s Issue Brief, “Tax Subsidies for Private Health Insurance,” by Matthew Rae et al. (October 2014).

TABLE A4.2
Employer-Sponsored Health Insurance Based Tax Subsidies
Middle-Income Families

Assumption: \$60,000 taxable wages

Compensation excluded from taxable income:	
1. Total annual health insurance premium (employer and employee contributions combined)	\$18,760
Tax subsidies due to compensation excluded from taxable income	
2. Federal income tax subsidy (marginal tax rate of 15%) (= \$18,760 * 15%)	\$2,815
3. State income tax subsidy (marginal tax rate of 3.5%) (= \$18,760 * 3.5%)	\$750
4. Employee FICA (employee’s share of payroll tax 7.65%) (= \$18,760 * 7.65%)	\$1,435
Total tax subsidy (= row 2 + row 3 + row 4)	\$5,000

Source: El-Sibaie, Amir. (2018). 2018 Tax Brackets. <https://taxfoundation.org/2018-tax-brackets/>; Scarboro, Morgan. (2018). State Individual Income Tax Rates and Brackets for 2018. <http://bit.ly/2BccY9H>.

Note: We used a weighted average state individual income tax rate (for married, joint filers) to determine the state-level tax subsidy, where we used the number of households per state, published by the American Community Survey, as our weight.

Households that purchase their insurance on the individual market are eligible for certain tax credits and tax deductions, based on their income. Our middle-income households are eligible for the Premium Tax Credit (PTC) since their average income is between 100 percent of the federal poverty line (FPL) and below 400% FPL for a family of 3. The PTC offsets the cost of a family's premium so that it does not exceed 9.56 percent of their income. For our middle-income households, this PTC would offset \$9,864 of their premium (i.e., $\$15,600 - \$60,000 \times .0965$).¹⁸¹

In addition to this tax subsidy, individuals can deduct from their taxable income spending on medical care—including both their insurance premiums and OOP costs—that exceed 10 percent of their income (see below for how we calculate OOP costs). In the case of our middle-income household that purchases their plan on the individual market, about \$13,800 of their health care expenses can be deducted from their taxable income. At their marginal tax rates (see above), this results in an additional \$630 tax subsidy for a total of \$10,490.¹⁸²

To estimate OOP costs, we start with the national average out of pocket spending from, “Out-of-Pocket Spending Trends,” Health Care Cost Institute Issue Brief #9, October 2014. This report provides a per capita estimate of out-of-pocket spending for 2013-14 of \$800, based on the spending of households with employer-sponsored health insurance plans. This report also estimates that this spending has been growing at an annual rate of 4.0 percent.¹⁸³ Based on these figures, we estimate for a family of three with employer provided health insurance, their out-of-pocket spending in 2017 equaled \$2,810 ($\$800 \times 3 \times 1.04^4$). This is the figure we use for those with ESI plans.

For under-insured families, we estimate OOP costs by applying the definition of under-insured (see discussion in main text): OOP costs equal to 10 percent or more of income. This is equal to \$6,000 for our middle-income family. Note that the under-insured families will spend more than 10 percent of their income on their health care expenses, based on this OOP cost definition. As a result, we calculate a tax subsidy for the amount in excess of 10 percent of their income – the amount equivalent to what they pay for the premium, or \$4,690. This tax subsidy is equal to about \$900.

To determine the OOP for the middle-income family that purchases their insurance on the individual market, we use information from the report, “Consumer Cost-sharing in Marketplace vs. Employer Health Insurance Plans, 2015,” by Jon Gabel et al. (published by the Commonwealth Fund, December 2015). According to Gabel et al., ESI plans tend to have cost sharing terms similar to the Gold plans available in the individual marketplace. These plans are supposed to cover all but 20 percent of OOP costs. The most popular metal tier purchased on the individual market is Silver – plans with worse cost-sharing terms than Gold Plans (i.e., higher OOP costs). Silver plans are supposed to cover all but 30 percent of OOP costs. We therefore assume that the OOP costs for the family individually insured has higher OOP costs – 50 percent higher – than the family with an ESI, or \$4,215.

High-income households. For high-income families, we assume that their health insurance is provided through their employer and has a \$28,140 annual premium. We estimate this annual premium by comparing the premium of Platinum to Silver metal plan premiums on the individual market. In other words, we use the Platinum metal tier to approximate a “Cadillac-type” plan. We examined premium estimates available at www.healthpocket.com. According to their premium listings, Platinum plans are roughly 150% that of the Silver plans—where we use Silver plans to approximate the cost of the “average” plan. As a result, we estimate the

ESI premium for our high-income families to equal 150 percent of the ESI premium for our middle-income family, or \$28,140 ($=\$18,760 \times 1.5$). This figure compares reasonably to what has been reported in the news as “Cadillac plans” (see, for example, reporting by National Public Radio (2009) “Cadillac Insurance Plans explained”. <https://n.pr/2MNDtns>).

As we show in the main text, these high-income households with ESI plans benefit the most from tax subsidies. This is because these households tend to choose more expensive health plans, and therefore the dollar amount of their compensation that has no income tax liability is higher than for other households. In addition, the amount these high-income households spend on their health insurance premium pre-tax is also higher than for other households. Finally, these high-income households have higher marginal income tax rates. The marginal tax rates for the “Top 20 percent” family is 24 percent (federal) and 4.5 percent (household-weighted state average rate), and the payroll tax rate is 1.45 percent. For the “Top 10 percent” these rates are 35 percent (federal), 4.7% (household-weighted state average rate), and 1.45 percent (payroll). The payroll tax rate is lower for these families because their income exceeds \$120,000 and therefore this additional compensation would not be subject to the Social Security portion of FICA. The total tax subsidy for “Top 20 percent” family and “Top 5 percent” family from receiving an ESI with an annual premium of \$28,140 is \$8,300 and \$11,700, respectively.¹⁸⁴

The OOP costs for these high-end health plans should be smaller than what is typically purchased by middle-income households. We estimate the OOP costs for these high-end plans by again using the relative difference in cost-sharing between different metal tier plans offered on the individual market. We again compare the costs of silver plans to platinum plans available on the individual market, this time with regard to OOP costs.

As noted above, the average middle-income OOP cost is \$2,810. The typical silver plan has an actuarial value of 70 percent indicating that the plan covers 70 percent of potential OOP costs. Platinum plans, in contrast, cover 90 percent. This suggests that the OOP cost for the high-income households is about 1/3 that of middle-income households, or \$940.

TABLE A4.3
Employer-Sponsored Health Insurance Based Tax Subsidies
High-Income Families: Top 20 Percent

Assumption: \$221,000 taxable wages

Compensation excluded from taxable income:	
1. Total annual health insurance premium (employer and employee contributions combined)	\$28,140
Tax subsidies due to compensation excluded from taxable income	
2. Federal income tax subsidy (marginal tax rate of 24%) ($=\$28,140 \times 24\%$)	\$6,754
3. State income tax subsidy (marginal tax rate of 4.5%) ($=\$28,140 \times 4.5\%$)	\$1,130
4. Employee FICA (employee’s share of payroll tax 1.45%) ($=\$28,140 \times 1.45\%$)	\$408
Total tax subsidy (=row 2 + row 3 + row 4)	\$8,292

Source: See notes to Table A4.2.

TABLE A4.4
Employer-Sponsored Health Insurance Based Tax Subsidies
High-Income Families: Top 5 Percent

Assumption: \$401,000 taxable wages

Compensation excluded from taxable income:	
1. Total annual health insurance premium (employer and employee contributions combined)	\$28,140
Tax subsidies due to compensation excluded from taxable income	
2. Federal income tax subsidy (marginal tax rate of 35%) (=\$28,140*35%)	\$9,849
3. State income tax subsidy (marginal tax rate of 4.7%) (=\$28,140*4.7%)	\$1,410
4. Employee FICA (employee's share of payroll tax 1.45%) (=\$28,140*1.45%)	\$408
Total tax subsidy (=row 2 + row 3 + row 4)	\$11,667

Source: See notes to Table A4.2.

Estimating Capital Gains Tax

To approximate the impact of taxing long-term capital gains as regular income, we use estimates from the Tax Policy Center on the distribution of taxable long-term capital gains across households by income which we reproduce in Table A4.5, in columns 1 and 3 (see: Tax Policy Center (2018) "T18-0053 - Distribution of Individual Income Tax on Long-Term Capital Gains by Expanded Cash Income Percentile". <https://tpc.io/2MLVqCT>).

As noted above, we estimate that taxing long-term capital gains as regular income would raise approximately \$69 billion. To approximate this tax for our representative households, we distribute this new tax revenue across households based on the distribution of taxable long-term capital gains (see columns 1 and 2 of Table A4.5), and then divide by the number of tax filing units (col. 3), to estimate a per tax filing unit change in long-term capital gains tax by income (col. 4).

Estimating Net Worth Tax

The net worth tax exempts \$1 million of net worth. As a result, only our high income and higher income households would be affected by this tax.

To approximate their net worth tax, we use estimates from the Survey of Consumer Finance on the net worth of households in the 90th to 100th net worth percentiles. In particular, we use the data presented in Board of Governors of the Federal Reserve System (2017b) "Changes in U.S. Family Finances from 2013 to 2016: Evidence from the Survey of Consumer Finances" *Federal Reserve Bulletin* 103, no. 3 <https://www.federalreserve.gov/publications/files/scf17.pdf>. The *Bulletin's* Table 1, "Before-tax median and mean family income, by selected characteristics of families, 2013 and 2016 surveys," on p. 4, reports that the median income of households in that 90th -100th percentile net worth bracket, was \$216,000 in 2016. This is approximately the same as our top 20 percent income household. We therefore take the median net worth (\$2.4 million) to approximate the net worth of these high-income households as reported in Table 2, "Family median and mean net worth, by selected characteristics of families, 2013 and 2016 surveys," p. 13. With the

TABLE A4.5
Distribution of Long-Term Capital Gains Tax by Household Income

Income percentile	(1) Current distribution of taxable gains	(2) New tax revenue	(3) # of Tax units	(4) New tax liability per tax unit
Lowest quintile	0.05	\$34.5 million	48,780,000	\$0.00
Second quintile	0.17	\$117.3 million	38,760,000	\$0.00
Middle quintile	1.39	\$959.1 million	34,280,000	\$30.00
Fourth quintile	3.72	\$2.6 billion	28,870,000	\$90.00
Top quintile	93.14	\$64.4 billion	24,300,000	\$2,640.00
All	100	\$67.9 billion*	174,990,000	\$390.00
90-95	4.77	\$3.3 billion	6,020,000	\$550.00
95-99	12.07	\$8.3 billion	4,650,000	\$1,790.00

Source: Data in columns 1 and 3 are from Tax Policy Center, (2018). "T18-0053 - Distribution of Individual Income Tax on Long-Term Capital Gains by Expanded Cash Income Percentile." <https://tpc.io/2MLVqCT>.

Note: *This figure does not sum to \$69 billion due to rounding.

\$1 million exemption and 0.38 percent tax, the new tax for these households would be \$5,500.

The same tables in the *Bulletin* also report the mean net worth for the 90th-100th percentile net worth bracket as \$5.3 million. The respective mean income is \$457,000, slightly more than our higher income households (\$401,000). Therefore, to approximate the net worth of our higher income households, we adjust the \$5.3 figure downward modestly to \$4.7 (i.e., \$401,000/\$457,000 x \$5.3 million = \$4.7 million). With the \$1 million exemption and 0.38 percent tax, the new tax for these households would be \$14,000.

Appendix 5

Detailed Sources for Pension Fund and Income Data for Largest Health Insurance Industry Employers

Sources for Figures Reported in Table 32

Methodology

The firms that we have included in Table 32 are those included under the NAICS code category 524114, “Direct Health and Medical Insurance Industry.” This industry comprises establishments that are primarily engaged in initially underwriting (i.e., assuming the risk and assigning premiums) for health and medical insurance policies.

In fact, employees in other industries will also be affected by the transition out of the currently private health insurance industry through Medicare for All. These would most likely include firms within the following additional NAICS codes:

- **NAICS 524130:** Reinsurance carriers. Establishments in this industry primarily engage in *reinsuring* health insurance policies
- **NAICS 621491:** HMO medical centers. Establishments in this industry provide *both* health care services and underwrite health and medical insurance. HMO centers that do *not* provide care are part of NAICS 524114.
- **NAICS 525120:** Health and welfare funds. This industry comprises legal entities (funds/plans/programs) that provide health and welfare related benefits exclusively for the sponsor’s employees.

However, given the available data sources, it is not possible to identify which firms in these industries have employees whose pensions would likely be affected by a transition to Medicare for All. Even if such firms could be identified, it is also not possible to establish accurately the proportion of individual employees within these firms that would likely face displacement through the transition to Medicare for All. Given these data limitations, we conclude that presenting the relevant financial figures for the 20 largest firms included within NAICS 524114 is the most reasonable approach for addressing the specific concerns within this section of the study. Given this focus, some large firms outside of NAICS 524114 that are nevertheless active in the sector are not included in our listings in Table 32. For example, UnitedHealth is one well-known firm that operates in this sector but is nevertheless classified under NAICS 541990, which refers to “All Other Professional, Scientific, and Technical Services.”

Data Sources on 20 Largest Firms within NAICS 524114

Aetna: SEC filings (10Ks) http://investor.aetna.com/phoenix.zhtml?c=110617&p=irol-sec&seccat01enhanced.1_rs=11&seccat01enhanced.1_rc=10

Anthem: SEC filings (10Ks) <http://ir.antheminc.com/phoenix.zhtml?c=130104&p=irol-sec>

Highmark: Annual reports
<https://www.highmarkhealth.org/annualreport2016/financials/performance.shtml>
<https://www.highmarkhealth.org/annualreport2015/financials/performance.shtml>

HealthCare Services: News websites

<http://www.modernhealthcare.com/article/20160926/NEWS/160929921>

<http://www.modernhealthcare.com/article/20150604/NEWS/150609949>

BCBS of South Carolina: No information

BCBS of Michigan: News websites

<https://mibiz.com/item/24564-blue-cross-blue-shield-of-michigan-posts->

<http://www.crainsdetroit.com/article/20160301/NEWS/160309988/blue-cross-blue-shield-of-michigan-reports-first-financial-loss-in>

BS California: Company financials page

<https://www.blueshieldca.com/about/corporate-info/financial>

Excellus Health Plan: Financial report + news websites

[https://www.excellusbcbs.com/wps/wcm/connect/6942a35e-2829-4947-ae92-534dd8ca8306/2015%2BLifetime%2BHealthcare%2BCo%2BAR%2BFinancial%2BReport-LR%2B5%2B5%2B16.pdf?MOD=AJPERES&CONVERT_TO=url&CACHEID=6942a35e-2829-4947-ae92-](https://www.excellusbcbs.com/wps/wcm/connect/6942a35e-2829-4947-ae92-534dd8ca8306/2015%2BLifetime%2BHealthcare%2BCo%2BAR%2BFinancial%2BReport-LR%2B5%2B5%2B16.pdf?MOD=AJPERES&CONVERT_TO=url&CACHEID=6942a35e-2829-4947-ae92-534dd8ca8306)

[534dd8ca8306](https://www.excellusbcbs.com/wps/wcm/connect/6942a35e-2829-4947-ae92-534dd8ca8306/2015%2BLifetime%2BHealthcare%2BCo%2BAR%2BFinancial%2BReport-LR%2B5%2B5%2B16.pdf?MOD=AJPERES&CONVERT_TO=url&CACHEID=6942a35e-2829-4947-ae92-534dd8ca8306)

<http://rbj.net/2017/03/01/excellus-reports-2016-net-income-of-1-7-percent/>

BCBS of Florida: No information

CareFirst: Company overview + “about” section

<http://www.carefirst.com/aonhewitt/about-carefirst.html>

<https://member.carefirst.com/members/about-us/company-overview.page#tab=the-organization&accordion=financial-results--year-end-2016>

Aflac: SEC filings (10Ks)

<http://investors.aflac.com/financial-reporting/sec-filings.aspx>

Independence BlueCross: News websites

<http://www.philly.com/philly/business/IBC-posts-67-million-profit-for-2016.html>

<https://globenewswire.com/news-release/2015/04/06/721870/10127683/en/Independence-Health-Group-reports-2014-financial-results.html>

Horizon HealthCare Services: annual reports

https://www.horizonblue.com/sites/default/files/2017-05/horizon-bcbsnj-2016_annual_report.pdf

https://www.horizonblue.com/sites/default/files/2016-09/horizon-bcbsnj-2015_annual_report.pdf

BCBS Mass: Annual reports

<http://newsroom.bluecrossma.com/2017-03-01-Blue-Cross-Blue-Shield-Of-Massachusetts-Announces-2016-Financial-Results>

<http://annual-report-2015.bluecrossma.com/assets/Combined-Financials-December-2015-1.pdf>

EmblemHealth: News reports

http://www.crainnewyork.com/article/20170303/HEALTH_CARE/170309958/emblemhealths-profit-is-fueled-by-real-estate-sale

<http://www.modernhealthcare.com/article/20150626/NEWS/150629904>

Premiera BlueCross: Audited financials

<https://www.premiera.com/wa/visitor/about-premera/financials/>

BCBS of North Carolina: Company media center

<http://mediacenter.bcbsnc.com/news/blue-cross-posts-positive-2016-net-income-despite-continued-aca-losses>

<http://mediacenter.bcbsnc.com/news/blue-cross-blue-shield-of-north-carolina-reports-financial-results-for-2014>

BCBS Minnesota: News websites

<http://www.prnewswire.com/news-releases/blue-cross-and-blue-shield-of-minnesota-announces-2016-financials-300433429.html>

<http://www.prnewswire.com/news-releases/blue-cross-and-blue-shield-of-minnesota-announces-2015-financials-300244788.html>

<https://globenewswire.com/news-release/2015/04/01/721252/10127305/en/Blue-Cross-and-Blue-Shield-of-Minnesota-Reports-2014-Results.html>

AmeriHealth Caritas: News website

http://www.philly.com/philly/business/20160707_AmeriHealth_Caritas_posts_strong_results.html

BCBS Tennessee: Financial summaries + news website

<https://www.bcbst.com/docs/why-bcbst/about-us/Financial-Summary.pdf>

<http://www.timesfreepress.com/news/business/aroundregion/story/2017/jun/02/bluecross-boosts-membership-staff-record-high/431347/>

Appendix 6

Estimating Displaced Workers

This appendix describes how we estimate the number of workers who we expect will be displaced with the implementation of Medicare for All. These include workers in the health insurance and related activities industry as well as the administrative staff at all health care provision work sites that are engaged with health insurance administration issues.

Workers in Health Insurance and Related Activities

Our employment figures are based on data from the Labor Department's Quarterly Census of Employment and Wages (QCEW)—a near census of private sector employment. Annual average employment data from the QCEW are available up to the 6-digit NAICS level. At this level of detail, however, some sectors (e.g., insurance agencies and brokers) include activities related to not only to health insurance, but also other types of insurance such as property and title insurance. Table A6.1 presents the list of 6-digit NAICS sectors we consider engaged in the provision of health insurance and related activities. Among the sectors listed in Table A6.1, five sectors include activities across other types of insurance, in addition to health insurance. These five sectors are: (1) insurance agencies and brokerages, (2) third party administration of insurance funds, (3) all other insurance related activities, (4) claims adjusting, and (5) reinsurance carriers. As a result, only a subset of the jobs in these sectors would be affected by the implementation of Medicare for All.

We use the ratio of employment of direct *health* insurance carriers to the employment of direct insurance carriers of *all* types to approximate the share of jobs across these five sectors that is related specifically to health insurance. In Table A6.2, we show the distribution of employment across insurance carrier companies. The data in Table A6.2 indicate that employment in direct *health* insurance carriers as a share of employment in all insurance companies is about 40 percent.

In Table A6.3, we apply this figure, 40 percent, to the employment levels of the five sectors that involve other types of insurance, in addition to health insurance. We then take as our

TABLE A6.1
6-Digit NAICS Sectors that Include Health Insurance and Related Activities

Sectors
1. Insurance agencies and brokerages
2. Direct health and medical insurance carriers
3. Third party administration of insurance funds
4. All other insurance related activities
5. Claims adjusting
6. Reinsurance carriers
7. Health and welfare funds

Source: U.S. Census Bureau.

TABLE A6.2
Distribution of Insurance Carrier Employment by Type of Insurance, 2017

6-Digit NAICS Industry	Annual average employment	% of Employment across all types of insurance
Direct health and medical insurance carriers	366,933	40%
Direct property and casualty insurers	466,394	51%
Direct title insurance carriers	62,507	7%
Other direct insurance carriers	15,349	2%
Total direct insurance carriers	911,183	100%

Source: U.S. Quarterly Census of Employment and Wages (QCEW), 2017 annual averages.

TABLE A6.3
Employment Adjusted to Approximate Health Insurance Related Activities Only

(1) Sub-sector figures	(2) Total employment figures	(3) Need to adjust?	(4) Employment in health insurance related activities only
1. Insurance agencies and brokerages	803,609	Yes	321,444 (=col. 2 x 40%)
2. Direct health and medical insurance carriers	366,609	No	366,609
3. Third party administration of insurance funds	190,022	Yes	76,009 (=col. 2 x 40%)
4. All other insurance related activities	81,154	Yes	32,462 (=col. 2 x 40%)
5. Claims adjusting	61,628	Yes	24,651 (=col. 2 x 40%)
6. Reinsurance carriers	27,316	Yes	10,926 (=col. 2 x 40%)
7. Health and welfare funds	2,221	No	2,221
Industry-wide figures	1,632,344		834,322

Sources: See Tables 29, A6.1, and A6.2.

estimate of the number of displaced workers in health insurance and related industries to be the sum of: (1) employment in “Direct health and medical insurance carriers,” (2) employment in “Health and welfare funds,” and 40 percent of employment in the remaining five sectors.

Administrative and Office Workforce in Health Care Services Work Sites

The health care sectors that we include for our estimate are listed in Table A6.4. As column 1 of Table A6.4 shows, these include, as broad categories: Doctors’ Offices; Other Outpatient Services; Hospitals; and Long Term Care.

A 2009 study by Casalino et al. provides a careful analysis of the proportion of an average workweek that administrative staffers devote to health insurance matters. However, the

TABLE A6.4
Office and Administrative Support Workers as Percentage of Health Care Diagnosticians and Practitioners, 2017

1. Health care sector	2. # of Workers in office and administrative support occupations	3. # of Health diagnosing and treating practitioners	4. Office and admin. support workers as a % of health diag. and treating practitioners (= column 2/3)
Doctors' offices			
Offices of Physicians; Offices of Dentists; Offices of Other Health Practitioners	1,308,370	1,151,520	114%
Other outpatient services			
Outpatient Care Centers; Medical and Diagnostic Laboratories; Home Health Care Services; Other Ambulatory Health Care Services	359,110	483,010	74%
Hospitals			
General Medical and Surgical Hospitals; Psychiatric and Substance Abuse Hospitals; Specialty (except Psychiatric and Substance Abuse) Hospitals	739,900	2,401,340	31%
Long-term care			
Nursing Care Facilities (Skilled Nursing Facilities); Residential Intellectual and Developmental Disability, Mental Health, and Substance Abuse Facilities; Continuing Care Retirement Communities and Assisted Living Facilities for the Elderly; Other Residential Care Facilities	161,150	272,420	59%

Source: U.S. Bureau of Labor Statistics

Casalino et al. study is focused on measuring health-insurance related administrative time for physicians' practices only.¹⁸⁵ According to this study, "clerical staff" engaged in health insurance administration matters devote, on average, 35.9 hours per week per physician (p. w536). We assume that the average workweek for physicians is 50 hours. This means that clerical staffers working on health care administration spend 72 percent of an average work week per physician on health insurance matters (i.e. 35.9 hours/50 hours = 0.72).¹⁸⁶

A source providing a broader range of evidence on these staffing levels is the U.S. Bureau of Labor Statistics (BLS). The BLS Occupational Employment Statistics database reports figures on the level of "Office and Administrative Support Occupations" and of "Health Diagnosing and Treating Practitioners" for each of the health care subsectors that we list in Table A6.4. In columns 2 and 3 of Table A6.4, we show the levels of employment for both the Office and Administrative Support Occupations and the Health Diagnosing and Treating Practitioners. In column 4 of Table A6.4, we then report the ratio between the level of staffing for administrative support occupations relative to health care diagnosticians and practitioners.

We assume that these ratios are overstatements of the figures on which we are focused, which is administrative staff *involved with health insurance administration issues only*. As evidence for such an overstatement, with "Doctors' Offices," we see in Table A6.4, that the ratio of

overall administrative support staff to diagnosticians/practitioners is 114 percent. This ratio is 42 percentage points higher than the 72 percent ratio that we derive based on Casalino et al.'s (2009) estimates of the time administrative staff in physicians' offices spend engaged in *health insurance administration issues only*.

Based on this, in Table A6.5, we generate figures for adjusted "office and administrative support workers" as a share of "diagnosticians and treating practitioners." As we see in Table A6.5, we derive this adjusted figure as being equal to the ratio provided by the BLS figures x 0.63. We multiply the BLS-derived ratios by 0.63 since this is the factor that relates the ratio of the administrative support staff in physicians' offices devoted to health insurance issues (72 percent, as derived from Casalino et al. 2009) to the ratio of all administrative support staff relative to all physicians (114 percent, as derived from the BLS). That is, 72 percent is equal to 114 percent multiplied by 0.63. In column 3 of Table A6.5, we show our adjusted percentages for administrative staff *working on health insurance matters* as a share of diagnosticians and practitioners. As we see, these percentages range between 72 percent in Doctors' Offices to 20 percent in Hospitals.

Working from these adjusted ratios in Table A6.5, we then, in Table A6.6, generate an estimate of total office staff engaged in health insurance administration at all health care provision work sites. As we can see, that total figure is 1,627,639, with 829,094 workers in Doctors' Offices, 227,563 in Other Outpatient Services, 468,864 in Hospitals, and 102,118 in Long-Term Care.

TABLE A6.5
Adjusted Ratio of Office Administration and Support Workers to Health Care Diagnosticians/Practitioners

1. Health care sector	2. Office and admin. support workers as a % of health diag. and treating practitioners (BLS)	3. Adjusted office and admin. support workers as a % of health diag. and treating practitioners (column 2 x 0.63)
Doctors' offices	114%	72%
Other outpatient services	74%	47%
Hospitals	31%	20%
Long-term care	59%	37%

Source: BLS, Casalino, Lawrence P, Sean Nicholson, David N. Gans, Terry Hammons, Dante Morra, Theodore Karrison, and Wendy Levinson. (2009) "What does it cost physician practices to interact with health insurance plans?" *Health Affairs* 28, no. 4: 533-543. See Appendix 6 text for details.

TABLE A6.6
Estimated Number of Administrative Support Staff Engaged in Health Insurance Plan Interactions, 2017

1. Health care sector	2. <i>Adjusted office and admin. support workers as % of health diagnosticians/ practitioners</i>	3. # of Office and admin. support workers	4. Estimated # of office and admin. support workers engaged in health insurance plan interactions (columns 2 x 3)
Doctors' offices	72%	1,151,520	829,094
Other outpatient services	47%	483,010	227,563
Hospitals	20%	2,401,340	468,864
Long-term care	37%	272,420	102,118
TOTALS	---	4,308,290	1,627,639

Source: Tables A6.4 and A6.5.

Appendix 7

Review of Blahous and Urban Institute Studies of Medicare for All

This appendix provides a brief review of two studies that have examined some of the economic impacts of implementing Medicare for All in the United States. These two studies are the July 2018 paper by Charles Blahous of the Mercatus Center at George Mason University (Blahous 2018) and the May 2016 report published by the Urban Institute.

The Blahous Study

The July 2018 study by Blahous estimates the costs of the September 2017 Medicare for All bill—i.e., the bill that is the focus of this study as well. Blahous presents four decade-long projections in estimating the overall costs of Medicare for All. Two of his projections run from 2019 – 2028 and the other two from 2022 – 2031. Blahous cites a range of sources in presenting his estimates of both the utilization increases and the potential sources of savings that would result through establishing Medicare for All as an alternative to the existing U.S. health care system. But he does not provide a detailed review of the relevant literature on which his estimates are based.

For the most part, the Blahous assumptions with respect to both utilization increases and potential cost savings are within range of those we have derived in this study. We can see this in Tables A7.1 – A7.2, in which we present a comparison of the Blahous figures relative to our own. Table A7.1 compares estimates for utilization increases and Table A7.2 shows the respective cost savings assumptions. In Table A7.3, we provide summary statistics on Blahous’s four overall cost estimates for Medicare for All relative to the figures developed by CMS.

As we see in Table A7.1, the Blahous estimate for overall utilization increases is 11.3 percent. This figure is modestly lower than the 12.0 percent estimate that we derived from a combination of the high-end utilization increase figures from both our own literature review as well as the figures we cite from Kenneth Thorpe’s work. As the table shows, Blahous’s assumptions with respect to individual population cohorts—i.e. the non-elderly insured, those insured through traditional Medicare and the uninsured—are different than what we have

TABLE A7.1
Blahous Assumptions vs. PERI/Thorpe:
Health Care Utilization Increases under Medicare for All

Percentage increase in utilization

	Blahous	PERI/Thorpe
Non-elderly insured	11%	7%
Insured through traditional Medicare	16%	7.5%
Uninsured	89%	158%
Overall utilization increase	11.3%	12.0%

Sources: Blahous, Charles (2018) “The Costs of a National Single-Payer Healthcare System” Mercatus Center George Mason University. https://www.mercatus.org/system/files/blahous-costs-medicare-mercatus-working-paper-v1_1.pdf See p.9 for non-elderly and Medicare insured; p. 8 for uninsured; overall figure is average derived from figures in Tables 2, 3, 4, and 5. PERI/Thorpe figures, see Table 8 above.

TABLE A7.2
Blahous Assumptions vs. PERI:
Savings Potential under Medicare for All

Sources of health care savings under Medicare for All, in percentages

	Blahous	PERI <i>Structural saving sources</i>
Administration	54%	65%
Pharmaceutical pricing	13%	40%
Provider rates	40%	4.8% – 3.1% for hospitals – 7.1% for physicians/clinics

Sources: Blahous, Charles (2018) "The Costs of a National Single-Payer Healthcare System" Mercatus Center George Mason University. https://www.mercatus.org/system/files/blahous-costs-medicare-mercatus-working-paper-v1_1.pdf See p. 14 for administration (i.e. a reduction from 13 percent to 6 percent is a 54 percent reduction— $7/13 = .54$); "drug cost savings" for 2026, Table 2, p. 7 relative to CMS projected 2026 spending on prescription drugs (i.e. \$80 billion in savings/\$604.8 billion in prescription drug spending); provider rates, p. 3. PERI figures from Table 9 above.

derived. But these different separate assumptions end up roughly balancing out. This is how the respective overall utilization increase figures—Blahous at 11.3 percent versus our 12.0 percent estimate—become closely aligned.

In terms of potential sources of savings under Medicare for All, as we see in Table A7.2, the Blahous 54 percent figure on administrative savings is modestly lower than our own estimate of 65 percent. The differences in cost saving assumptions are much larger with respect to pharmaceutical pricing and provider rates. Blahous assumes prescription drug prices will fall by 13 percent, while the figure we derived from the literature is 40 percent. With respect to establishing uniform Medicare fee rates for providers, the Blahous figure is much higher than ours, at 40 percent. Our weighted average of estimated savings through uniform Medicare rates for hospitals and physicians/clinics is 4.8 percent. Blahous provides only a brief discussion as to how he reached his 40 percent saving estimate.

In terms of overall costs, Blahous offers two sets of figures within his two 10-year projections, i.e. for 2019 – 2028 and 2022 – 2031 respectively. In his first set of projections, Blahous assumes that all three of the potential savings channels that he identifies achieve their full saving potential. This includes the 40 percent reduction in provider rates that he says would result through mandating a uniform Medicare-based fee schedule. Working from this full set of cost saving assumptions, Blahous then estimates that Medicare for All will save an average of between 2.9 and 3.4 percent per year relative to the CMS projections for overall system costs, operating within the existing U.S. health care system.

In his second set of projections, Blahous assumes that the 40 percent reduction in provider rates does not materialize. Through losing this one source of potential cost savings, Blahous then estimates that the overall costs of Medicare for All will increase, on average, by between 5.5 and 5.9 percent relative to the CMS projections for 2019 – 2028 and 2022 – 2031 respectively.

In summary, considering Blahous's four 10-year cost estimates for Medicare for All, his results range between a roughly 3 percent cost savings to a 6 percent cost increase relative to the existing health care system. We see these results in Table A7.3. The differences in his estimates depend, again, on whether provider rates would be controlled under Medicare for All.

TABLE A7.3
Four Blahous Medicare for All Overall Cost Estimates:
Average Annual Costs Relative to CMS Projections

	2019 - 2028 projections	2022- 2031 projections
Medicare for All <i>with</i> provider rate cuts	2.9% reduction	3.4% reduction
Medicare for All <i>without</i> provider rate cuts	5.5% increase	5.9% increase

Source: Blahous, Charles (2018) "The Costs of a National Single-Payer Healthcare System" Mercatus Center George Mason University, Tables 2,3,4, and 5. https://www.mercatus.org/system/files/blahous-costs-medicare-mercatus-working-paper-v1_1.pdf

Overall, Blahous does therefore show how Medicare for All has the potential to provide universal health care coverage for all U.S. residents while also potentially lowering system-wide health care costs. Blahous also notes that Medicare for All should serve to promote higher wages for workers, as well as lower health care costs for individuals, families, and employers, and state governments. He writes:

Medicare for all...would increase taxable worker wages net of employer-provided benefits, while also relieving individuals, families and employers of the substantial health expenditures they would experience under current law. It would also relieve states of such Medicaid expenditure obligations as are transferred to the federal government (p. 20).

Despite recognizing these favorable outcomes that would result through Medicare for All, Blahous's overall assessment is still sharply negative. This is because Medicare for All will entail a large expansion in the federal government's role in U.S. health care, since the federal government will displace private health insurance companies in the system. As Blahous writes:

The federal cost of enacting the Medicare for All Act would be such that doubling all federal, individual, and corporate income taxes going forward would be insufficient to fully finance the plan, even under the assumption that provider payment rates are reduced by over 40 percent for treatment of patients now covered by private insurance. Such an increase in the scope of federal government operations would precipitate a corresponding large increase in federal taxation or debt and would be unprecedented if undertaken as an enduring federal commitment.

Of course, Blahous is correct that the expansion of the federal government's role in providing health insurance would be unprecedented within the U.S. economic experience. At the same time, the establishment of Medicare for All would bring the U.S. health care system into much closer alignment with how health care is provided in virtually all other advanced economies. As we discuss briefly in both Chapters 1 and 7 of this study, the U.S. health care system at present compares unfavorably to these other economies. The comparison economies spend much less on health care as a share of their GDP—ranging between about 9 and 11 percent of GDP, as opposed to 17 percent in the U.S. These comparison economies also generally perform significantly better than the U.S. in terms of overall health outcomes.

Urban Institute Study

The May 2016 Urban Institute report focused on the Medicare for All proposal advanced by the Sanders presidential campaign of that year, as opposed to the bill that Sen. Sanders introduced into the U.S. Senate in September 2017. We have not been able to incorporate this report into our comparative analysis on utilization increases, as we have done in Chapter 2 with the Thorpe papers and in this appendix with the Blahous study. This is because the authors of the Urban Institute study do not provide sufficient documentation or relevant references as to how they derive their assumptions on increased utilization. Thus, on the critical issue of increased utilization for those currently carrying insurance, the full extent of their discussion is as follows: “Their spending would increase 15.5 percent; they would receive more comprehensive benefits on average and the elimination of cost sharing would lead to greater use of care,” (p. 11). They provide no review of the relevant literature to show how they reached this conclusion.

As we saw in Chapter 2, between the PERI and Thorpe approaches, the estimates for spending increases for the currently insured range between 4.2 percent for PERI and, with Thorpe, 7.0 percent for the non-elderly and 7.5 percent for Medicare recipients. All of these figures are less than half of the Urban Institute’s 15.5 percent unsupported figure. The Blahous assumptions on utilization increases for the currently insured are 11 percent for the non-elderly, and 16 percent for those insured through traditional Medicare. Thus with Blahous as well, his overall assumption on utilization increases is below that assumed by the Urban Institute.

The Urban Institute concludes that, overall, as of 2017, Medicare for All would cost 16.9 percent more than the existing U.S. health care system (p. 2). This estimate is based, first, on their assumption that overall utilization would rise by 15.5 percent. But in addition, the Urban Institute report gives no consideration to potential sources of cost saving under Medicare for All. This assumption is inconsistent with a wide range of evidence, as we review in both Chapter 3 and this appendix.

Endnotes

- 1 Institute of Medicine (2009) *America's Uninsured Crisis: Consequences for Health and Health Care*. Washington, DC: The National Academies Press. Box 3-5, p. 82. <https://doi.org/10.17226/12511>
- 2 Wilper, Andrew P., Steffie Woolhandler, Karen E. Lasser, Danny McCormick, David H. Bor, and David U. Himmelstein (2009) "Health insurance and mortality in US adults" *American Journal of Public Health* 99, no. 12 2289-2295.
- 3 Sommers, Benjamin D., Atul A. Gawande, and Katherine Baicker (2017) "Health insurance coverage and health—what the recent evidence tells us" *The New England Journal of Medicine*. 586-593. This same basic finding was also affirmed by another 2017 literature survey, i.e. Woolhandler, Steffie, and David U. Himmelstein (2017b) "The relationship of health insurance and mortality: is lack of insurance deadly?" *Annals of Internal Medicine* 167, no. 6 424-431. <http://annals.org/aim/fullarticle/2635326/relationship-health-insurance-mortality-lack-insurance-deadly#>. Woolhandler and Himmelstein found that more recent studies "generally support the earlier reviews' conclusions that insurance coverage reduces mortality in several specific conditions (such as trauma and breast cancer), augments the use of recommended care, and improves several measures of health status," (p. 424).
- 4 Collins, Sara R., Munira Z. Gunja, and Michelle M. Doty (2017) "How Well Does Insurance Coverage Protect Consumers from Health Care Costs?" *The Commonwealth Fund*. <http://bit.ly/2KCEIUn>
- 5 Galvani, Alison P., David P. Durham, Sten H. Vermund, and Meagan C. Fitzpatrick (2017) "California Universal Health Care Bill: an economic stimulus and life-saving proposal" *The Lancet* 390, no. 10106 2012-2014. Rice and Unruh (2016) review some concerns among some researchers as to the validity of this cross-country index, specifically as regards the United States. But other measures of relative health outcomes by country presented by Rice and Unruh, including male- and female-life expectancy at birth, and infant deaths per 1,000 live births are supportive of the rankings derived through amenable mortality measures, including two alternative measures described by Rice and Unruh. See Rice, Thomas and Lynn Unruh (2016) *The Economics of Health Reconsidered*, Fourth Edition.
- 6 Cuckler, Gigi A., Andrea M. Sisko, John A. Poisal, Sean P. Keehan, Sheila D. Smith, Andrew J. Madison, Christian J. Wolfe, and James C. Hardesty (2018) "National health expenditure projections, 2017–26: despite uncertainty, fundamentals primarily drive spending growth" *Health Affairs* 37, no. 3 482-492. <https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpend-Data/index.html?redirect=/nationalhealthexpenddata/>
- 7 The terminology and grouping used in the CMS tables for these spending categories is somewhat different from what we report in Table 1. In particular, our category "Administration and Private Insurance Profits" includes the CMS categories "Government Administration" and "Net Cost of Private Health Insurance." We have regrouped and renamed these categories for purposes of clarity.
- 8 We note here that non-retail purchases are a significant component of overall pharmaceutical spending, consisting primarily of purchases made through hospitals and the offices of physicians and clinics. Within the CMS accounts, this spending is included within the hospital and physician/clinics categories. We estimate that the 2017 figure for non-retail pharmaceutical spending was an additional \$151 billion. As such, non-retail pharmaceutical spending represented another 4.5 percent of total health care expenditures for 2017, through purchases accounted for by the NHE within their spending categories for hospitals and physicians/clinics. We return to this point in Chapter 2.
- 9 Coughlin, Teresa A., John Holahan, Kyle Caswell, and Megan McGrath (2014) "Uncompensated Care for Uninsured in 2013: A Detailed Examination" *The Kaiser Commission on Medicaid and the Uninsured*.
- 10 Figures 2 and 4 of Coughlin et al. (2014) report that various programs covered \$53 billion of the total \$85 billion in uncompensated care for the uninsured, or about 60 percent.
- 11 Coughlin et al. (2014) also report that of the \$4,876 of health care spending among the non-elderly insured, under 5 percent (i.e., \$232) is "uncompensated" (see their Table 1). The report, however, does not provide figures for how much of the \$232 may actually be covered by other programs through, for example, the Veterans Health Administration. In order not to over-estimate the relative amount of compensated spending among the uninsured *relative to* the insured, we assume that the full \$4,876 of spending on the insured is compensated.
- 12 Collins, Sara R., Munira Z. Gunja, and Michelle M. Doty (2017) "How Well Does Insurance Coverage Protect Consumers from Health Care Costs?" *The Commonwealth Fund*. <http://bit.ly/2KCEIUn>

- 13 Another health care coverage indicator related to these alternative definitions of the underinsured population is the percentage of people under 65 who were in families having problems paying medical bills (Cohen, Robin A., and Emily P. Zammitti (2016) “Problems paying medical bills among persons under age 65: Early release of estimates from the National Health Interview Survey, 2011–June 2016” Hyattsville (MD): *National Center for Health Statistics*. https://www.cdc.gov/nchs/data/nhis/earlyrelease/probs_paying_medical_bills_jan_2011_jun_2016.pdf). This figure comes out of the National Health Interview Survey of the National Center for Health Statistics. According to the most recent survey evidence, covering January – June 2016, 16.2 percent of the population is in this group of families who experienced problems paying medical bills. This figure has fallen steadily from 21.3 percent as of 2011. This statistic does not capture precisely the problem of being “underinsured” as accurately as our chosen measure, i.e. the percentage of the insured population that went without care due to costs. But it is a useful comparative benchmark nonetheless. This is especially so, because this 16.2 percent figure of those experiencing problems paying medical bills includes both the insured and the uninsured. Even so, the figure is much lower than our underinsurance measure, at 29 percent of the insured population. Thus, this measure of those with problems paying medical bills gives support to the conclusion that our measure of underinsurance is, if anything, an overstated figure.
- 14 For an overview of the Rand experiment and related literature, see Rice, Thomas and Lynn Unruh (2016) *The Economics of Health Reconsidered*, Fourth Edition.
- 15 See Keeler, Emmett B., and John E. Rolph (1988) “The demand for episodes of treatment in the health insurance experiment” *Journal of Health Economics* 7, no. 4 337-367; Rice and Unruh op. cit., (2016).
- 16 Finkelstein, Amy, Sarah Taubman, Bill Wright, Mira Bernstein, Jonathan Gruber, Joseph P. Newhouse, Heidi Allen, Katherine Baicker, and Oregon Health Study Group (2012) “The Oregon health insurance experiment: evidence from the first year” *The Quarterly Journal of Economics* 127, no. 3 1057-1106.
- 17 Aron-Dine, Aviva, Liran Einav, and Amy Finkelstein (2013) “The RAND health insurance experiment, three decades later” *Journal of Economic Perspectives* 27, no. 1 197-222.
- 18 Brot-Goldberg, Zarek C., Amitabh Chandra, Benjamin R. Handel, and Jonathan T. Kolstad (2017) “What does a deductible do? The impact of cost-sharing on health care prices, quantities, and spending dynamics” *The Quarterly Journal of Economics* 132, no. 3 1261-1318.
- 19 Rice, Thomas and Lynn Unruh (2016) *The Economics of Health Reconsidered*, Fourth Edition.
- 20 Baicker, Katherine, Sendhil Mullianathan, and Joshua Schwartzstein (2015) “Behavioral Hazard in Health Insurance” *Quarterly Journal of Economics*, pp. 1623-1667. For an earlier review of the general evidence on cost-sharing and utilization, see also Gruber, Jonathan (2006) “The role of consumer copayments for health care: lessons from the RAND health insurance experiment and beyond” *Kaiser Family Foundation*. <http://bit.ly/2AQFltP>
- 21 This passage is quoted from the summary of the Baicker et al. study provided by the National Bureau of Economic Research: National Bureau of Economic Research “Behavioral Hazard in Health Insurance”. <http://bit.ly/2AQzG7a>. The following paragraph also paraphrases from the same reference.
- 22 Johnson, E.M. (2014) “Physician-induced demand” *Encyclopedia of Health Economics* 3 77-82.
- 23 Rice, Thomas, and Kathleen R. Morrison (1994) “Patient cost sharing for medical services: a review of the literature and implications for health care reform” *Medical Care Review* 51, no. 3 235-287.
- 24 Sanders, Bernie (2017) “S.1804 – Medicare for All Act of 2017”. <http://bit.ly/2niWrH9>
- 25 The evidence cited in this paragraph is from the most comprehensive current source on comparative health care cost-sharing statistics, which is Mossialos, Elias, Martin Wenzl, Robin Osborn and Dana Sarnak (2016) “International Profiles of Health Care Systems” *The Commonwealth Fund*. <http://bit.ly/2vqC3Zn>
- 26 Thorpe, Kenneth (2016a) “An Analysis of Bernie Sanders Single Payer Plan”. <http://bit.ly/2KzLjz7>; and Thorpe, Kenneth (2016b) “Why Sanders’s Single-Payer Plan Would Cost More Than His Campaign Says” *American Prospect*. <http://bit.ly/2ARGJg1> Thorpe’s two papers were part of a debate that also included two short discussions in support of the 2016 Sanders proposal by Gerald Friedman. The Friedman pieces included a memo to the Sanders campaign (Friedman, Gerald (2016a) “United States Can Afford Single Payer Health Care Program” memo to Warren Gunnels, Policy Director, to Senator Bernie Sanders. <http://bit.ly/2AQ87ei>) and his contribution to the *American Prospect* debate (Friedman, Gerald (2016b) “The Critics of Sanders’s Health Plan Understate Benefits and Overstate Costs” *American Prospect*. <http://bit.ly/2AOQ8op>). Friedman has also produced several in depth studies on single payer health care measures at the level of state government, including a 2015 study for New York State, Friedman, Gerald (2015) “Economic analysis of the New York Health Act”. <http://bit.ly/2AOO5AK>

- 27 In addition to these 2016 papers by Thorpe, it will be useful for our overall discussion to consider two other recent studies of Medicare for All, a 2016 report published by the Urban Institute and a 2018 paper by Charles Blahous of the Mercatus Center. We focus here on the Thorpe papers because they are the most clear in establishing key assumptions with respect to utilization. The Blahous paper is of most interest in terms of its overall findings with respect to overall costs of Medicare for All, including savings potential as well as utilization increases. Blahous also devotes major attention to the issue of the extent to which the role of the U.S. federal government will expand in health care through Medicare for All. Thus, a comparative discussion with the Blahous study is more appropriate after we have presented our overall results on cost savings as well as utilization in Chapter 3 as well as our discussion in Chapter 7 on the macroeconomic implications of Medicare for All. The Urban Institute report is also most appropriately considered relative to the overall findings of this study rather than on the present issue of utilization increases per se. We therefore return briefly to discussing the Blahous study in Chapter 7 of the main text, and consider both the Blahous and Urban Institute works in more detail in Appendix 7. The relevant references are Blahous, Charles (2018) “The Costs of a National Single-Payer Healthcare System” *Mercatus Center*, George Mason University. https://www.mercatus.org/system/files/blahous-costs-medicare-mercatus-working-paper-v1_1.pdf; and Holahan, John, Lisa Clemans-Cope, Matthew Buettgens, Melissa Favreault, Linda J. Blumberg, and Siyabonga Ndwandwe (2016) “The Sanders single-payer health care plan” *Urban Institute*. <http://bit.ly/2MgRFOB>
- 28 This is because, in calculating percentage changes, the base figure/denominator is larger when calculating a percentage decline, and smaller when calculating a percentage increase.
- 29 Thorpe does not fully document the reference for this figure in his February 2016 paper and did not provide full documentation on request (see email correspondence between Robert Pollin and Kenneth Thorpe, 5/9/18 and 5/27/19). It appears that his reference is to Hadley, Jack, John Holahan, Teresa Coughlin, and Dawn Miller (2008) “Covering the Uninsured in 2008” *Kaiser Family Foundation*. 11-12. <http://bit.ly/2OnpeWF>
- 30 As with the previous footnote, Thorpe also does not fully document the reference for this figure. It appears to be the U.S. Department of Health and Human Services (2013) “Patient Protection and Affordable Care Act; HHS Notice of Benefit and Payment Parameters for 2014” *Federal Register*. 78, no. 47 15421. <http://bit.ly/2OUpbmf>
- 31 We derive this figure following from Thorpe’s estimate that, for those with 20 percent out of pocket spending (80 percent actuarial value) in their private insurance plans, spending will increase by 7 percent in moving to no cost-sharing. Moving from 30 percent to zero cost sharing for prescription drugs should therefore generate an average cost increase of about 11 percent (i.e. $0.3/0.2 = 1.5$; and $1.5 \times 7 \text{ percent} = 11 \text{ percent}$).
- 32 See, for example, Jiwani, Aliya, David Himmelstein, Steffie Woolhandler, and James G. Kahn (2014) “Billing and insurance-related administrative costs in United States’ health care: synthesis of micro-costing evidence” *BMC Health Services Research* 14, no. 1 556. See also Woolhandler, Steffie, Terry Campbell, and David U. Himmelstein (2003) “Costs of health care administration in the United States and Canada” *New England Journal of Medicine* 349, no. 8 768-775.
- 33 Hsiao, William C., Steven Kappel, and Jonathan Gruber (2011b) “Act 128 Health System Reform Design: Achieving Affordable Universal Health Care in Vermont” Research Report, Vermont State Legislature. <http://bit.ly/2KCGkh9>
- 34 Institute of Medicine (2010) *The Healthcare Imperative: Lowering Costs and Improving Outcomes: Workshop Series Summary*. Washington, DC The National Academies Press. <http://bit.ly/2vv70vl>
On balance, these IOM-based figures are modestly lower than the averages estimated by Hsiao et al. (2011b), which are 19 percent for physicians and 6.5 percent for hospitals. Hsiao et al. draw on the survey of physician’s offices by Casalino et al. (2009) in developing their estimate.
- 35 Jiwani, Aliya, David Himmelstein, Steffie Woolhandler, and James G. Kahn (2014) “Billing and insurance-related administrative costs in United States’ health care: synthesis of micro-costing evidence” *BMC Health Services Research* 14, no. 1 556. A 2011 study finds, similarly, that these costs in the U.S. are 73 percent higher than those in Canada. See Morra, Dante, Sean Nicholson, Wendy Levinson, David N. Gans, Terry Hammons, and Lawrence P. Casalino (2011) “US physician practices versus Canadians: spending nearly four times as much money interacting with payers” *Health Affairs* 30, no. 8 1443-1450. <http://bit.ly/2OoaJIA> It is critical to recognize here that the large-scale potential savings through Medicare for All in the area of BIR are achievable only through operating Medicare for All with a simplified financing system. A large share of the potential savings will be lost to the extent that, for example, Medicare for All retains much of the complexity of the current Medicare system. We return to this issue below.

- 36 Kahn, James (2010) “Excess billing and insurance-related administrative costs” In Yong, Pierre L., Saunders, Robert S. and Olsen, Leigh Anne (eds.) *The Healthcare Imperative: Lowering Costs and Improving Outcomes*. National Academies Press, Washington, DC 142–150. <http://bit.ly/2vv70vl>
See Table 4-2, p. 148-9.
- 37 Boards of Trustees, Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds (2018) “2018 Annual Report of the Boards of Trustees of the Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds” Table II.B1 p. 11. <https://go.cms.gov/2J096XS>.
- 38 Buffie, Nick (2017) “Overhead Costs for Private Health Insurance Keep Risings, Even as Costs Fall for Other Types of Insurance” *Center for Economic and Policy Research*. <http://bit.ly/2gOuseN>
- 39 Boards of Trustees, Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds (2017) “2017 Annual Report of the Boards of Trustees of the Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds” Table II. B1 p. 10. <https://go.cms.gov/2HGB7oI>
For background on methodological issues on measuring administrative costs of Medicare, see Sullivan, Kip (2013) “How to think clearly about medicare administrative costs: data sources and measurement” *Journal of Health Politics, Policy and Law* 38, no. 3 479-504.
- 40 Collins, Sara R., Rachel Nuzum, Sheila D. Rustgi, Stephanie Mika, Cathy Schoen, and Karen Davis (2009) “How health care reform can lower the costs of insurance administration” *The Commonwealth Fund*. <http://bit.ly/2qEmz2b>
- 41 In 1980, Government Administration accounted for 1.2 percent and the Net Cost of Health Insurance (private health insurance administration and profit) accounted for 3.9 percent of Health Consumption Expenditures. In 2017, administration and insurance accounted for a total of 8.5 percent of Health Consumption Expenditures of \$3.0 trillion. Government Administration accounted for 1.4 percent (\$45.1 billion) and the Net Cost of Health Insurance accounted for 7.1 percent (\$237.7 billion) of Health Consumption Expenditures.
- 42 If the Net Cost of Health Insurance had grown at the same rate as GDP, in 2015 private health insurance expenditure of \$58.9 billion would have accounted for 2.0 percent of Health Consumption Expenditures, and Government Administration of \$42.6 billion would have accounted for 1.5 percent of Health Consumption Expenditures.
- 43 If providing insurance for those currently covered by private health insurance generated a cost of \$42.6 billion, an amount equal to that of those covered by Government Administration, then together insurance administration would account for \$85.2 billion, or 2.9 percent of Health Consumption Expenditures.
- 44 Data on net, non-retail pharmaceutical expenditures is derived from IQVIA (2018) “Medicine Use and Spending in the U.S. A Review of 2017 and Outlook to 2022” Parsippany, NJ. <http://bit.ly/2qOzGMz>
IQVIA’s estimate (\$113 billion) represents what institutions paid for prescription drugs administered during patient stays and visits, net of rebates. It is adjusted upward here (to \$151 billion) to reflect the mark-up by hospitals, physicians/clinics, and nursing homes. Roehrig, Charles (2018) “Projections of the Prescription Drug Share of National Health Expenditures Including Non-Retail” Center for Sustainable Health Spending. *Altarum Institute*. <http://bit.ly/2IEykv0>
- 45 OECD (2018) Pharmaceutical spending (indicator). <http://bit.ly/OECDRx> The largest 15 economies in the European Union spend less—on average 53 percent less per capita than the U.S.
- 46 Frank, Richard G. (2001) “Prescription drug prices: why do some pay more than others do?” *Health Affairs* 20, no. 2 115-128; Kesselheim, Aaron S., Jerry Avorn, and Amcet Sarpatwari (2016) “The high cost of prescription drugs in the United States: origins and prospects for reform” *JAMA* 316, no. 8 858-871. <http://bit.ly/2qU4EBB> On this and related issues around health care prices in the U.S., see Anderson, Gerard F., Uwe E. Reinhardt, Peter S. Hussey, and Varduhi Petrosyan (2003) “It’s the prices, stupid: why the United States is so different from other countries” *Health Affairs* 22, no. 3 89-105.
- 47 Veghte, Benjamin., Elliot Schreur, and Alexandra Bradley (2017) “Reining in Prescription Drug Prices” in Veghte, Benjamin W., Elliot Schreur and Alexandra L. Bradley (eds.) Report to the New Leadership and the American People on Social Insurance and Inequality. *National Academy of Social Insurance*, Washington, DC: 98-110. <http://bit.ly/2qUveLA>
- 48 Congressional Budget Office (2005) “Prices for Brand-Name Drugs Under Selected Federal Programs” *Congressional Budget Office*. Washington, DC. <http://bit.ly/2qmIHij>
- 49 Medicaid and CHIP Payment and Access Commission (MACPAC) (2017) “Medicaid Gross Spending and Rebates for Drugs by Delivery System”. <http://bit.ly/2Ipsz4R>

- 50 Aspinall, Sherrie L., Mariscelle M. Sales, Chester B. Good, Vincent Calabrese, Peter A. Glassman, Muriel Burk, Von R. Moore, Melinda M. Neuhauser, Lori Golterman, Heather Ourth, Michael A. Valentino, and Francesca E. Cunningham (2016) "Pharmacy benefits management in the Veterans Health Administration revisited: a decade of advancements, 2004-2014" *Journal of Managed Care & Specialty Pharmacy* 22, no. 9 1058-1063. <http://bit.ly/2pyopO5>
- 51 Neuman, Patricia, Michelle Kitchman Strollo, Stuart Guterman, William H. Rogers, Angela Li, Angie Mae C. Rodday, and Dana Gelb Safran (2007) "Medicare prescription drug benefit progress report: findings from a 2006 national survey of seniors" *Health Affairs* 26, no. 5 w630-w643. <http://bit.ly/2pZbmIQ>
- 52 Frakt, Austin B., Steven D. Pizer, and Roger Feldman (2012) "Should Medicare adopt the Veterans health administration formulary?" *Health Economics* 21, no. 5 485-495. On the VA system more generally, see Kellerman, Arthur L. (2012) "'Socialized' or Not, We Can Learn from the VA, RAND Corporation" *The RAND Blog*. <http://bit.ly/Randblog>; and Shekelle, Paul G., Steven Asch, Peter Glassman, Sierra Matula, Amal Trivedi, and Isomi Miake-Lye (2010) "Comparison of Quality of Care in VA and Non-VA Settings: A Systematic Review" *Department of Veterans Affairs Health Services Research & Development Service, Evidence Based Synthesis Program*. <http://bit.ly/2w3AW1k>
- 53 Gagnon, Marc-Andre, and Sidney Wolfe (2015) "Mirror, mirror on the wall: Medicare Part D pays needlessly high brand-name drug prices compared with other OECD countries and with US government programs" *Carleton University*. <http://bit.ly/2psmH0C>
- 54 Vogler, Sabine, Lena Lepuschütz, Peter Schneider, and Verena Stühlinger (2015) "Study on enhanced cross-country coordination in the area of pharmaceutical product pricing" *Luxembourg: Gesundheit Österreich Forschungs-und Planungs GmbH*. <http://bit.ly/2xF4JMN>
- 55 As one recent specific example of the effects of this lack of regulatory controls in the U.S., a recent study documents that the multinational drug firm Novartis, based in Switzerland, charges its U.S. subsidiary between 45 and 176 percent more for four medicines than what its subsidiaries paid in a dozen other countries. In explaining this pattern, Stephen Schondelmeyer, a professor of pharmaceutical economics at the University of Minnesota, observed that, "This just reflects that the U.S. does not have an effective market for evaluating and buying drugs, because when you have a drug that is required to be covered, you don't have leverage to negotiate." See Silverman, Ed. (2017) "Novartis Charged Much More in the U.S. for Some Drugs than in Other Countries" *Stat News*. <http://bit.ly/2KMJezE>
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- 59 Congressional Budget Office (2010) "Effects of Using Generic Drugs on Medicare's Prescription Drug Spending" *Congressional Budget Office*. Washington, DC. <http://bit.ly/2tfBeRk>; Schondelmeyer Stephen W. and Leigh Purvis (2017) Price Watch Report: "Trends in Retail Prices of Prescription Drugs Widely Used by Older Americans, 2006 to 2015" *AARP Public Policy Institute*. <http://bit.ly/2thPGbx>

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- 68 DiMasi, Joseph A., Ronald W. Hansen, and Henry G. Grabowski (2003) "The price of innovation: new estimates of drug development costs" *Journal of Health Economics* 22, no. 2 151-185. The results of this 2003 study are consistent with their 2016 paper cited above.
- 69 The exact dollar figures here include DiMasi et al.'s estimate that, as of 2000, the cost of bringing a new drug (i.e. a "new chemical entity" or "new molecular entity") to market was \$802 billion, including costs of capital, at an 11 percent rate of return. Light and Warburton conclude that the mean and median values of these costs were \$80.3 million and \$59.4 million respectively inclusive of costs of capital, and \$58.7 million and \$43.4 million respectively exclusive of costs of capital. Light and Warburton report that, in the late 1990s, the audited costs of all clinical trials averaged \$22.5 million (2011, p. 13).
- 70 Lazonick, William, Matt Hopkins, Ken Jacobson, Mustafa Erdem Sakin, and Oner Tulum (2017) "U.S. Pharma's Financialized Business Model" *Institute for New Economic Thinking*. Working Paper No. 60. <http://bit.ly/2L7ew4B> See also the 2016 case study by Roy and King of Gilead Sciences' \$11 billion acquisition of sofosbuvir as a treatment for hepatitis C after phase II studies magnified the speculative costs of drug development. The resulting \$35 billion in revenue received by Gilead was primarily directed to shareholders via share buybacks rather than into further R&D (Roy, Victor and Lawrence King (2016) "Betting on hepatitis C: how financial speculation in drug development influences access to medicines" *BMJ: British Medical Journal* 354).
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- 72 Some additional approaches for creating alternatives to the current prevailing drug-development model dominated by private pharmaceuticals include Dean Baker's 2008 proposal for publicly-funded clinical trials for prescription drugs (Baker, Dean (2008) "The Benefits and Savings from Publicly-Funded Clinical Trials of Prescription Drugs" *Center for Economic and Policy Research*. <http://bit.ly/2nLpZgZ>); and a proposal by Joseph Stiglitz and Arjun Jayadev for moving from a patent system to an effective prize model to ensure cost efficient dissemination of medicines (Stiglitz, Joseph E., and Arjun Jayadev (2010) "Medicine for tomorrow: Some alternative proposals to promote socially beneficial research and development in pharmaceuticals" *Journal of Generic Medicines* 7, no. 3 217-226. <http://bit.ly/2BoHnBK>)
- 73 Medicare Payment Advisory Commission (2017) "Report to Congress: Medicare Payment Policy" Washington, DC.
- 74 Clemans-Cope, Lisa, John Holahan, and Rachel Garfield (2016) "Medicaid spending growth compared to other payers: a look at the evidence" Washington, DC *Kaiser Family Foundation*. <https://urbn.is/2OuMDWp>

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- 76 Medicare Payment Advisory Commission (2017) “Report to Congress: Medicare Payment Policy” Washington, DC. We note that in its 2018 report to Congress, the “MedPac Report to the Congress: Medicare Payment Policy,” MedPac modestly revised downward its estimate of Medicare payment rates for physician and other health professional services relative to commercial rates. Their estimate based on 2016 figures was Medicare rates at 75 percent of commercial rates, as opposed to the 78 percent figure estimated for 2015 in their 2017 study. This latest estimate would imply modestly greater savings in moving to uniform Medicare rates. For the purposes of our study, we retain the higher 78 percent figure as our basis for estimating savings in moving to uniform Medicare rates. See: Medicare Payment Advisory Commission (MedPac) (2018) “Report to the Congress: Medicare Payment Policy” Washington, DC 96. <http://bit.ly/2vD1B1l>
- 77 Government Accountability Office (GAO) (2014) “Medicaid Payment: Comparisons of Selected Services under Fee-for-Service, Managed Care, and Private Insurance” Washington, DC. <http://bit.ly/GAO2014>
- 78 Ku, Leighton (2009) “Medical and dental care utilization and expenditures under Medicaid and private health insurance” *Medical Care Research and Review* 66, no. 4 456-471.
- 79 Clemans-Cope, Lisa, John Holahan, and Rachel Garfield (2016) “Medicaid spending growth compared to other payers: a look at the evidence” Washington, DC *Kaiser Family Foundation*. <https://urbn.is/2OuMDWp>
- 80 A range of factors are likely to influence our overall cost estimate of providing full dental coverage under Medicare for All. All else equal, we would expect utilization to increase among current Medicare recipients, since, at present, a high proportion of this population group has been unable to afford paying for dental care out-of-pocket. At the same time, the payments by the share of Medicare recipients who have been paying out-of-pocket for dental care is already accounted for in our overall health care spending figures. Additionally, the serious neglect of dental care under the current system does then lead in some cases to serious dental problems that, in turn, require oral surgery or other more intensive and expensive services. These more expensive treatments are covered by Medicare. We would therefore expect that the spending devoted to these irregular but expensive treatments to decline under Medicare for All, when the full U.S. population is provided with access to regular non-emergency dental care support.
- 81 The set of provider services provided under Medicare is listed here: Medicare.gov. “Your Medicare Coverage”. <https://www.medicare.gov/coverage/doctor-other-health-care-provider-services>
- 82 Berenson, Robert, Stephen Zuckerman, Karen Stockley, Radhika Nath, David Gans, Terry Hammons (2010) “What if All Physician Services Were Paid Under the Medicare Fee Schedule? An Analysis Using Medical Group Management Association Data” *Medicare Payment Advisory Commission (MedPAC)*. <https://www.urban.org/sites/default/files/publication/28451/412051-What-if-All-Physician-Services-Were-Paid-Under-the-Medicare-Fee-Schedule-.PDF>
- 83 We did not include cost savings that might accrue to the purchase of durable medical equipment, which is estimated by CMS to be \$53 billion in 2017, or 1.6 percent of total Health Consumption Expenditures. However, the Medicare for All negotiating framework that would be applied to pharmaceutical firms could also be utilized effectively in the area of durable equipment purchases. In fact, Medicare’s competitive bidding program for durable medical equipment has recently been demonstrated to lower costs by around 30 percent, which would amount to about \$16 billion in savings within the 2017 expenditure framework. However, this competitive bidding program has recently been suspended under then HHS Secretary Thomas Price (see Centers for Medicare & Medicaid Services (2018a) “Durable Medical Equipment, Prosthetics, Orthotics, and Supplies (DMEPOS) Competitive Bidding”, <http://go.cms.gov/2xEU1tA>; Newman, David, Eric Barrette, and Katharine McGraves-Lloyd (2017) “Medicare competitive bidding program realized price savings for durable medical equipment purchases” *Health Affairs* 36, no. 8 1367-1375.)
- 84 The IOM study notes overpricing is also common in the areas of medical devices and durable equipment on which we do not focus in this study.
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- 86 Rice and Unruh (2016), op. cit., Ch. 6 usefully situate ACOs as “the new kid on the block” within a broader framework of comparable alternative supply-side mechanisms for reducing unnecessary utilization.
- 87 Song, Zirui, and Elliott S. Fisher (2016) “The ACO experiment in infancy—looking back and looking forward” *JAMA* 316, no. 7 705-706; Hsu, John, Mary Price, Christine Vogeli, Richard Brand, Michael E. Chernew, Sreekanth K. Chaguturu, Eric Weil, and Timothy G. Ferris (2017) “Bending the spending curve by altering care delivery patterns: the role of care management within a pioneer ACO” *Health Affairs* 36, no. 5 876-884; Schulman, Kevin A., and Barak D. Richman (2016) “Reassessing ACOs and health care reform” *JAMA* 316, no. 7 707-708.; Sullivan, Kip (2016) “MedPAC: Medicare Advantage and ACOs Can't Cut Costs and We'll Never Know Why” *The Health Care Blog*. <http://bit.ly/2eDCu9E>; Office of the Inspector General, U.S. Department of Health and Human Services (2017) “Medicare Shared Savings Program Accountable Care Organizations Have Shown Potential For Reducing Spending And Improving Quality”. <http://bit.ly/OIGMSSP>; Saunders, Robert, David Muhlestein, and Mark McClellan (2017) “Medicare Accountable Care Organization Results for 2016: Seeing Improvement, Transformation Takes Time” *Health Affairs Blog*. <http://bit.ly/2MfoPsG>
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- 101 Maryland Health Services Cost Review Commission (2017) “Maryland’s Proposed Total Cost of Care All-Payer Model”. <http://bit.ly/2mE4MVT>
- 102 Galarraga, Jessica and Jesse M. Pines (2017) “The Challenging Transformation of Health Care under Maryland’s Global Budgets,” *Health Affairs Blog*, December 19, <https://www.healthaffairs.org/doi/10.1377/hblog20171214.96251/full/>. For details on the proposal extension of the global budget model, see Maryland Health Services Cost Review Commission (2017) “Maryland’s Proposed Total Cost of Care All-Payer Model”. <http://bit.ly/2mE4MVT>
- 103 Sutherland, Jason and Nadya Repin (2014) “Current Hospital Funding in Canada” *UBC Centre for Health Services and Policy Research*. <http://bit.ly/UBCCa>
- 104 Gaynor, Martin, Kate Ho, and Robert J. Town (2015) “The industrial organization of health-care markets” *Journal of Economic Literature* 53, no. 2 235-284; Fulton, Brent D. (2017) “Health care market concentration trends in the United States: evidence and policy responses” *Health Affairs* 36, no. 9 1530-1538. For example, Fulton found that in 2016, 90 percent of Metropolitan Statistical Areas (MSAs) in the U.S. were highly concentrated for hospitals. For 2015, the profits received by private hospitals in California amounted to \$8.2 billion (American Hospital Association (2018) *AHA Hospital Statistics*). This represented about 2.5 percent of all spending on health care in California for that year. Thus, reducing the rate of profit for the state’s private hospitals by one-third would itself result in a decline in overall system costs of 0.83 percentage points. These findings for California specifically are consistent with other studies focused on other state-level health care markets. For example, the 2011 report by the Massachusetts Office of the Attorney General Martha Coakley, *Examination of Health Care Cost Trends and Cost Drivers*, reached the following conclusions: “Wide disparities in prices are not explained by differences in quality, complexity of services, or other characteristics that might justify variations in prices paid to providers. In significant measure, this market dysfunction resulted from historic negotiating and contracting practices that were not challenged because the system lacked the transparent, reliable information needed to identify, measure and correct this dysfunction,” (2011, p. 2).
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- 109 Marmor and various co-authors provide valuable perspective more generally on how to achieve effective “policy learning in the world of health care” in the 2007 collection of papers, Marmor, Theodore (2007) *Fads, Fallacies and Foolishness in Medicare Care Management and Policy*, Singapore: World Scientific Publishing Co.
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- 111 The IOM study reported these estimates in dollar values. We have converted their dollar estimates into percentages, scaled as a share of the 2017 U.S. health care expenditure budget.
- 112 We do not include here the \$85 billion in funds for public health as a potential source of funds to finance Medicare for All. This treats the budgetary allocation of public health as being separate from the funding for health insurance. It thus matches our treatment of public health in Table 6, as being separate from the categories of National Health Care Consumption Expenditures that relate directly to the provision of health insurance.
- 113 U.S. Congressional Budget Office (2017) “Federal Subsidies for Health Insurance Coverage for People Under Age 65: 2017 to 2027”. Table 2, p.10. <http://bit.ly/CBOhcsb>
- 114 U.S. Office of Personnel Management (2018) “Congressional Budget Justification and Annual Performance Plan, Fiscal Year 2019” 106. <http://bit.ly/2OvWV8y>
- 115 The proposal by the Sanders staff includes: 1) a 7.5 percent “income-based premium paid by employers”; 2) a 4 percent “income-based premium paid by households”; 3) savings from health tax expenditures; 4) making the personal income tax more progressive; 5) making the estate tax more progressive; 6) establishing a wealth tax on the top 0.1 percent; 7) closing the Gingrich-Edwards loophole and creating parity for wealthy business owners; 8) imposing a one-time tax on currently held offshore profits; 9) imposing a fee on large financial institutions; and 10) repealing “corporate financial gimmicks.” A discussion of these proposals is here: Sanders, Bernie “Options to Finance Medicare for All”. <http://bit.ly/2P3VJdF>
- 116 This is a net figure, after accounting for the federal tax subsidy they received from compensating their workers, in part, with health benefits.
- 117 Data on the health care funding systems for 17 economies is presented in Mossialos, Elias, Ana Djordjevic, Robin Osborn and Dana Sarnak (2017) “International Profiles of Health Care Systems” *The Commonwealth Fund*. https://www.commonwealthfund.org/sites/default/files/documents/___media_files_publications_fund_report_2017_may_mossialos_intl_profiles_v5.pdf Details on VAT taxes in the OECD economies—including the share of total government revenue generated by VATs—is provided in OECD (2016) *Consumption Tax Trends 2016: VAT/GST and Excise Rates, Trends and Policy Issues*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/cct-2016-en>
- 118 A VAT, sometimes termed a “general sales tax,” is a tax on the value-addition at each stage of the production and distribution process. A VAT is thus a general tax on sales (meaning all sales, including final consumer goods and services as well as intermediate goods and services) in which businesses obtain a rebate on taxes paid for intermediate inputs and purchases of inventory for re-sale. In contrast, a sales tax is most often a tax on final consumer goods, paid by consumers at the point of purchase. The effective tax base of a VAT and a sales tax is therefore equivalent: the total value of private expenditures on final goods and services should equal the sum of the value-added throughout the production and distribution process. Again, the primary difference between the two taxes is the way the respective taxes are administered and collected.
- 119 Saez, Emmanuel (2017) “Income and wealth inequality: Evidence and policy implications” *Contemporary Economic Policy* 35, no. 1 7-25.
- 120 Iara, Anna (2015) “Wealth Distribution and Taxation in EU Member Countries” Taxation Papers, Working Paper N. 60, *European Commission*. <http://bit.ly/ECtaxdist>
- 121 Wolff, Edward (2017) “Has Middle Class Wealth Recovered?” Paper presented at the ASSA Meetings. <http://bit.ly/2MjzYb9>
- 122 Data on the distribution of net worth in the U.S. economy are provided here: DQYDJ (2018) “Net Worth Percentile Calculator for the United States in 2017”. <http://bit.ly/networt17>
- 123 The current payroll tax of 15.3 percent includes 12.4 percent for Social Security and 2.9 percent for Medicare, split equally between employers and employees.
- 124 Aaron Catlin, Deputy Director of the National Health Statistics Group, Office of the Actuary of CMS directly confirmed that these administrative costs to businesses are not included in the CMS accounts. On 9/13/17, Mr. Catlin wrote as follows to Peter Arno: “In the National Health Expenditure Accounts (NHEA), we do not include in the net cost of private health insurance private business costs related to choosing and negotiating with insurers, educating and informing employees about their plan choices, or costs associated with internal paper work. These business costs are not included in the NHEA. The net cost of private health insurance reflects total plan expenditures less benefits paid and includes the plans’ administrative costs, and in some cases, additions to reserves, rate credits and dividends, premium taxes and

- fees, and net underwriting gains or losses.” Catlin, Aaron (2017) Deputy Director of the National Health Statistics Group, Office of the Actuary of CMS: Email Correspondence.
- 125 Most individuals who have dealt with private insurance companies themselves or for family members, particularly for expensive medical conditions, are well aware of the time and efforts spent negotiating with insurance companies over claims, pre-authorization and denials.
 - 126 The DirectPath study referred to here was originally conducted using data from the Lab® a Highroads employer benefits database and reported in Business Wire (<http://bit.ly/2whtene>). The more detailed data used here was obtained from Petra Marino, Senior Director, Marketing & Communications at DirectPath.
 - 127 Claxton, Gary, Matthew Rae, Michelle Long, Anthony Damico, Gregory Foster, Heidi Whitmore (2017) “Employer Health Benefits Survey” *Kaiser Family Foundation and Health Research & Educational Trust*. 210. <http://kaiserf.am/2wEKjCE>
 - 128 Ibid.
 - 129 For background on the gross receipts tax, see CBIZ Inc. (2015) “The Gross Receipts Tax: The Not-Income and Not-Sales Tax”. <http://bit.ly/2B6QTcO>
 - 130 Medicaid policies vary across states but most (38) have expanded Medicaid to also cover adults with incomes up to 138 percent of the official federal poverty line (FPL). Regardless of Medicaid-expansion status, children are generally eligible up to 133 percent of the FPL. The FPL for a family of 3 in 2017 is \$20,420.
 - 131 As noted in Chapter 4, the categories of household necessity expenditure that we propose to exempt from the national sales tax include: food, housing, utilities, public transport, education and non-profits. The Consumer Expenditure published data do not include a category of spending that they define as “non-profit spending.” For our estimations, we define “non-profit spending” in the Consumer Expenditure Survey to include the following: cash contributions; contributions to Social Security and pensions; health care; personal services (this includes daycare and preschool, eldercare as well as other personal services).
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uniform Medicare rates, expressed in 2017 dollars, would be \$433,804. If we incorporate the 8 percent
increase in billable hours into this income figure under uniform Medicare rates, and assume a modest 1
percent average annual real income growth rate for radiologists between 2007 – 2017, that would raise their
2017 median compensation level under uniform Medicare rates to roughly \$520,000. By contrast, the 2017
Medscape annual physician compensation survey reports a lower figure for radiologists’ compensation, at
\$396,000 as of 2017. We emphasize this lower-end figure in the text.
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physicians’ compensation levels among OECD economies consistently confirm that U.S. physician earnings
significantly exceed those in other OECD economies. Thus, the OECD annually publishes cross-country
data on the pay of general practitioners and specialty physicians in its OECD Health Statistics database
(<https://doi.org/10.1787/data-00541-en>), though the countries for which data are available varies from
year to year. In 2001, the last year that the OECD database published U.S. physician data, the OECD also
published figures for self-employed general practitioners in Australia and Canada. General practitioners in
those countries earned 57 percent and 33 percent less than their U.S. counterparts, respectively. Similarly,
Australian and Canadian self-employed specialists earned 35 percent and 33 percent less than their U.S.
counterparts. In 2014, the OECD published earnings data for physicians in Australia, Canada, France,

German, and the UK, but not for the U.S. Medscape's annual physician compensation survey provides an alternate source for U.S. data. For 2014, Medscape estimates compensation for U.S. general practitioners as follows: for the self-employed \$212,000, the salaried \$189,000, and both types combined \$190,000 (see: Medscape (2015) Physician Compensation Report. <https://www.medscape.com/slideshow/compensation-2015-overview-6006679#1>). These figures are consistent with the U.S. Labor Department's estimate for all general internists, which is \$190,500 (see: U.S. Bureau of Labor Statistics (2014) Occupational Employment Statistics. <https://www.bls.gov/oes/2014/may/oes291063.htm>). The Medscape figures on U.S. pay of salaried and self-employed general practitioners indicate that, in 2014, physicians in Australia, Canada, France, German, and the UK earned between 32 percent and 57 percent less than their U.S. counterparts.

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- 156 The extent to which the types of reforms proposed by Reinhardt would, in fact, offset any net compensation losses for physicians would depend on the details of the measures, such as how much interest rates on student loans would be reduced relative to current rates. Moreover, it would also be appropriate to consider applying a debt forgiveness policy on outstanding medical school debts alongside a reform aimed at reducing, or eliminating altogether, the need for medical school students to assume debt to financing their professional education. Exploring the details of all such reforms is beyond the scope of this study. But the Marcu et al. and Reinhardt papers provide a valuable framework for evaluating the impacts on NPVs of any such proposals.
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- 159 U.S. Center for Disease Control: Table 62, "No usual source of health care among adults aged 18 – 64," <https://www.cdc.gov/nchs/data/abus/2017/062.pdf>.
- 160 The Medicare for All bill does allow for private health insurance activities to continue in areas of health care that would not be covered through Medicare for All.
- 161 As a high-end figure, we estimate that about 200,000 public sector jobs related to health insurance administration will become redundant through the transition to Medicare for All. At the same time, there are, at present, roughly 1 million public sector employees who are 60 years old and above employed in job categories similar to health insurance administration, including: sales, office support, financial specialists, managers, business operation specialists, and computer-oriented specialists. Thus, roughly 200,000 of these workers 60 and older are likely to retire per year, creating job openings for those currently employed by the public sector in health insurance-related activities.
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- 163 The Labor Department's most detailed industry figures are at the 6-digit NAICS level. However, even at this level of detail some sectors combine employment in activities related to other types of insurance such as property and title insurance, not just health insurance. To approximate employment related to health insurance activities only, we assume that employment in these sectors that are related to health insurance specifically is equal to the share of employment among direct insurance carriers that are specifically health insurance carriers, or 40 percent. For more details see Appendix 6.
- 164 This is because, in measuring a central tendency in data sets, the median figure is much less influenced than the mean by either high-end or low-end figures within the full data set.
- 165 We have estimated from BLS data that about 19 percent of workers aged 65 and over remain in the workforce, both throughout the U.S. labor force as well as in the various areas of health insurance administration.
- 166 Specifically, in Table 32, we report figures for the 20 largest employers in the "direct health and medical insurance industry," i.e. the industry encompassed within the NAICS codes category 524114. See Appendix 5 for details on why we focused only on firms that are classified within this NAICS code.

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- 175 A standard textbook treatment of the range of possible macro effects resulting from changes in consump-
tion and saving flows (with the funds from increased saving flows being channeled into financial asset
purchases) is Blanchard, Olivier (2017). The collection of research papers and comments in Pollin (1996)
provides additional, and more detailed, perspectives on this set of questions.
- 176 The issues at play here are well-summarized in Reinhardt, Uwe E., Peter S. Hussey, and Gerard F. Ander-
son (2004) “US health care spending in an international context” *Health Affairs* 23, no. 3 10-25. This paper
concludes with the observation that, “at its core, then, the debate over health care, in the United States and
elsewhere, is less a pure macroeconomic issue than an exercise in the political economy of sharing,” (p. 23).
- 177 Berenson, Robert, Stephen Zuckerman, Karen Stockley, Radhika Nath, David Gans, Terry Hammons
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1960-2016,” accessed at: [https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-
and-Reports/NationalHealthExpendData/NationalHealthAccountsHistorical.html](https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/NationalHealthAccountsHistorical.html).
- 184 As Professor James Kahn has emphasized to us, these ESI tax benefits are tax *subsidies*, not tax cred-
its. As such, high-income households do not receive the tax subsidy amount as cash, as is the case, for
example, with the treatment of the Earned Income Tax Credit for low-income households. Nevertheless,
we conclude that it is appropriate to include the ESI tax benefit in our calculations of net impacts of the
transition to Medicare for All, since the elimination of this subsidy does represent an effective cost to these
households. That is, with the transition into Medicare for All, these households’ tax obligation will increase
by the amount of this foregone subsidy. Moreover, after the initial years of transition to Medicare for All,
a different set of tax parameters should be put in place of reversing these tax subsidies. We appreciate the

exchanges with Professor Kahn over this issue, and acknowledge that his treatment of this ESI subsidy differs from our own.

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- 186 As noted in the main text, we base our assumption of a 50-hour workweek among physicians on the survey re-
sults presented in Tawfik et al. (2018). This figure is close to Casalino et al.’s assumption of a 52.8-hour work-
week in their 2009 study. In fact, the ratio of 35.9 weekly hours of insurance-related administrative work per
physician among clerical staff to the average physician’s 50 weekly hours—or 72 percent—is nearly identical
to the ratio we would derive from Casalino et al.’s workload assumptions among physician and non-physician
staff. To see this, note that Casalino et al. estimate that physicians work 52.8 hours per week and 47.1 weeks
annually, or 2,487 hours annually. Casalino et al. also estimate that clerical staff work 35.9 hours per week on
insurance-related administrative work per physician and 49 weeks annually, or a total of 1,759 hours annually.
The ratio between these two figures – 1,759 hours of work annually on insurance-related administrative work
by clerical staff per physician to 2,487 annual hours of work by physicians is equal to 71 percent.

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