2018 ANNUAL REPORT OF THE BOARDS OF TRUSTEES OF THE FEDERAL HOSPITAL INSURANCE AND FEDERAL SUPPLEMENTARY MEDICAL INSURANCE TRUST FUNDS

COMMUNICATION

From

THE BOARDS OF TRUSTEES,
FEDERAL HOSPITAL INSURANCE AND
FEDERAL SUPPLEMENTARY MEDICAL INSURANCE
TRUST FUNDS

Transmitting

THE 2018 ANNUAL REPORT OF
THE BOARDS OF TRUSTEES OF THE
FEDERAL HOSPITAL INSURANCE AND
FEDERAL SUPPLEMENTARY MEDICAL INSURANCE
TRUST FUNDS

LETTER OF TRANSMITTAL

BOARDS OF TRUSTEES OF THE
FEDERAL HOSPITAL INSURANCE AND
FEDERAL SUPPLEMENTARY MEDICAL INSURANCE TRUST FUNDS,
Washington, D.C., June 5, 2018

HONORABLE PAUL D. RYAN,
Speaker of the House of Representatives

HONORABLE MICHAEL R. PENCE,
President of the Senate

DEAR MR. SPEAKER AND MR. PRESIDENT:

We have the honor of transmitting to you the 2018 Annual Report of the Boards of Trustees of the Federal Hospital Insurance Trust Fund and the Federal Supplementary Medical Insurance Trust Fund, the 53rd such report.

Respectfully,

STEVEN T. MNUCHIN,
Secretary of the Treasury,
and Managing Trustee of the Trust Funds.

R. ALEXANDER ACOSTA,
Secretary of Labor, and Trustee.

ALEX M. AZAR II,
Secretary of Health and Human Services,
and Trustee.

NANCY A. BERRYHILL,
Acting Commissioner of Social
Security, and Trustee.

VACANT,
Public Trustee.

VACANT,
Public Trustee.

SEEMA VERMA, MPH,
Administrator,
Centers for Medicare & Medicaid Services,
and Secretary, Boards of Trustees.

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I. INTRODUCTION

The Medicare program has two separate trust funds, the Hospital Insurance Trust Fund (HI) and the Supplementary Medical Insurance Trust Fund (SMI). HI, otherwise known as Medicare Part A, helps pay for hospital, home health services following hospital stays, skilled nursing facility, and hospice care for the aged and disabled. SMI consists of Medicare Part B and Part D. Part B helps pay for physician, outpatient hospital, home health, and other services for the aged and disabled who have voluntarily enrolled. Part D provides subsidized access to drug insurance coverage on a voluntary basis for all beneficiaries and premium and cost-sharing subsidies for low-income enrollees. Medicare also has a Part C, which serves as an alternative to traditional Part A and Part B coverage. Under this option, beneficiaries can choose to enroll in and receive care from private Medicare Advantage and certain other health insurance plans. Medicare Advantage and Program of All-Inclusive Care for the Elderly (PACE) plans receive prospective, capitated payments for such beneficiaries from the HI and SMI Part B trust fund accounts; the other plans are paid from the accounts on the basis of their costs.

The Social Security Act established the Medicare Board of Trustees to oversee the financial operations of the HI and SMI trust funds.[1] The Board has six members. Four members serve by virtue of their positions in the Federal Government: the Secretary of the Treasury, who is the Managing Trustee; the Secretary of Labor; the Secretary of Health and Human Services; and the Commissioner of Social Security. Two other members are public representatives whom the President appoints and the Senate confirms. These positions are currently vacant. The Administrator of the Centers for Medicare & Medicaid Services (CMS) serves as Secretary of the Board.

The Social Security Act requires that the Board, among other duties, report annually to the Congress on the financial and actuarial status of the HI and SMI trust funds. The 2018 report is the 53rd that the Board has submitted.

The projections in this year's report, with one exception related to Part A, are based on current law; that is, they assume that laws on the books will be implemented and adhered to with respect to scheduled taxes, premium revenues, and payments to providers and health plans. The one exception is that the projections disregard payment reductions

[1]The Social Security Act established separate boards for HI and SMI. Both boards have the same membership, so for convenience they are collectively referred to as the Medicare Board of Trustees in this report.

that would result from the projected depletion of the Medicare Hospital Insurance trust fund. Under current law, payments would be reduced to levels that could be covered by incoming tax and premium revenues when the HI trust fund was depleted. If the projections reflected such payment reductions, then any imbalances between payments and revenues would be automatically eliminated, and the report would not fulfill one of its critical functions, which is to inform policy makers and the public about the size of any trust fund deficits that would need to be resolved to avert program insolvency. To date, lawmakers have never allowed the assets of the Medicare HI trust fund to become depleted.

Projections of Medicare costs are highly uncertain, especially when looking out more than several decades. One reason for uncertainty is that scientific advances will make possible new interventions, procedures, and therapies. Some conditions that are untreatable today will be handled routinely in the future. Spurred by economic incentives, the institutions through which care is delivered will evolve, possibly becoming more efficient. While most health care technological advances to date have tended to increase expenditures, the health care landscape is shifting. No one knows whether future developments will, on balance, increase or decrease costs.

While the physician payment updates and new incentives put in place by the Medicare Access and CHIP Reauthorization Act of 2015 (MACRA) avoid the significant short-range physician payment issues that would have resulted from the sustainable growth rate (SGR) system approach, they nevertheless raise important long-range concerns. In particular, additional payments of $500 million per year for one group of physicians and 5-percent annual bonuses for another group are scheduled to expire in 2025, resulting in a significant one-time payment reduction for most physicians. In addition, the law specifies the physician payment update amounts for all years in the future, and these amounts do not vary based on underlying economic conditions, nor are they expected to keep pace with the average rate of physician cost increases. The specified rate updates could be an issue in years when levels of inflation are high and would be problematic when the cumulative gap between the price updates and physician costs becomes large. The gap will continue to widen throughout the projection, and the Trustees previously estimated that physician payment rates under current law will be lower than they would have been under the SGR formula by 2048. Absent a change in the delivery system or level of update by subsequent legislation, access to Medicare-participating physicians may become a significant issue in the long term under current law.

The Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act of 2010, introduced large policy changes and additional projection uncertainty. This legislation, referred to collectively as the Affordable Care Act or ACA, contains roughly 165 provisions affecting the Medicare program by reducing costs, increasing revenues, improving benefits, combating fraud and abuse, and initiating a major program of research and development to identify alternative provider payment mechanisms, health care delivery systems, and other changes intended to improve the quality of health care and reduce costs. The Board assumes that the various cost-reduction measures—the most important of which are the reductions in the annual payment rate updates for most categories of Medicare providers by the growth in economy-wide private nonfarm business multifactor productivity[2]—will occur as the ACA requires. In order for this outcome to be achievable, health care providers would have to realize productivity improvements at a faster rate than experienced historically. However, if the health sector cannot transition to more efficient models of care delivery and achieve productivity increases commensurate with economy-wide productivity, and if the provider reimbursement rates paid by commercial insurers continue to be based on the same negotiated process used to date, then the availability and quality of health care received by Medicare beneficiaries would, under current law, fall over time compared to that received by those with private health insurance.

[2]For convenience the term *economy-wide private nonfarm business multifactor productivity* will henceforth be referred to as *economy-wide productivity*.

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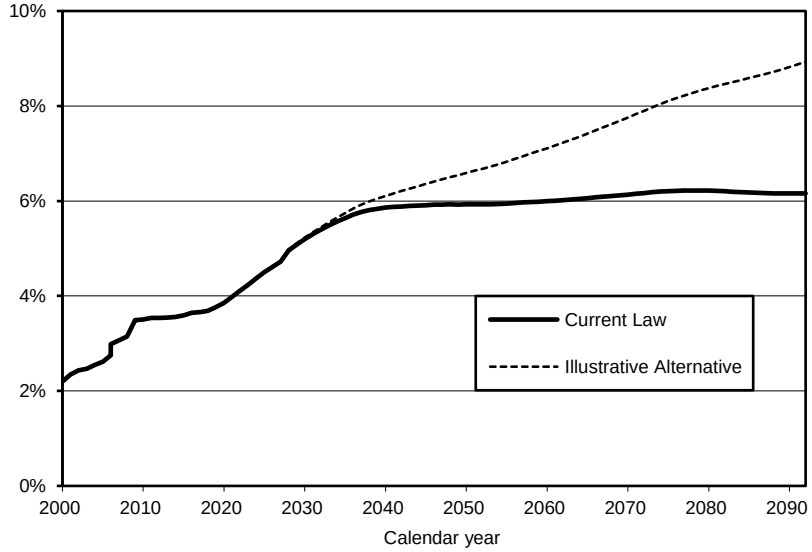
From 1960 through 2016, U.S. national health expenditure (NHE) growth rates typically outpaced economic growth rates, though the magnitude of the differences has been declining. The Trustees have long assumed that this differential would continue to narrow over the long-term projection period and that the cost-reduction provisions of the ACA and MACRA would further decrease this gap. Since 2008, average annual NHE growth has been below historical averages, though it has continued to outpace average annual growth of the economy. There is some debate regarding whether this recent slower growth in national health expenditures reflects the impact of economic factors that are mostly cyclical in nature or factors that would lead to a permanently slower growth environment. The Trustees' outlook for long-range NHE growth is consistent with the trajectory observed over the past half century and has not been materially affected by this recent experience.

Notwithstanding recent favorable developments, current-law projections indicate that Medicare still faces a substantial financial shortfall that will need to be addressed with further legislation. Such legislation should be enacted sooner rather than later to minimize the impact on beneficiaries, providers, and taxpayers.

Figure I.1 shows Medicare's projected expenditures as a percentage of the Gross Domestic Product (GDP) under two sets of assumptions: current law and an illustrative alternative, described below.[3]

[3]At the request of the Trustees, the Office of the Actuary at CMS has prepared a set of illustrative Medicare projections under a hypothetical modification to current law. A summary of the projections under the illustrative alternative is contained in section V.C of this report, and a more detailed discussion is available at http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/ReportsTrustFunds/Downloads/2018TRAlternativeScenario.pdf. Readers should not infer any endorsement of the policies represented by the illustrative alternative by the Trustees, CMS, or the Office of the Actuary. Section V.C also provides additional information on the uncertainties associated with productivity adjustments to specific provider payment updates and the scheduled physician updates.

Figure I.1.—Medicare Expenditures as a Percentage of the Gross Domestic Product under Current Law and Illustrative Alternative Projections



Note: Percentages are affected by economic cycles.

The current-law expenditure projections reflect the physicians' payment levels expected under the MACRA payment rules and the ACA-mandated reductions in other Medicare payment rates, but not the payment reductions and/or delays that would result from the HI trust fund depletion. In the year of asset depletion, which is projected to be 2026 in this report, HI revenues are projected to cover 91 percent of program costs.

The illustrative alternative shown in the top line of figure I.1 assumes that (i) there would be a transition from current-law payment updates for providers affected by the economy-wide productivity adjustments to payment updates that reflect adjustments for health care productivity; (ii) the average physician payment updates would transition from current law to payment updates that reflect the Medicare Economic Index; and (iii) the 5-percent bonuses for physicians in advanced alternative payment models (advanced APMs) and the $500-million payments for physicians in the merit-based incentive payment system (MIPS) will continue indefinitely rather than expire in 2025. As discussed in section V.C, the timing of these assumed transitions in payment updates is later for this report than it was in prior reports. The difference between the illustrative alternative and the current-law projections continues to demonstrate that the long-range costs could be substantially higher than shown throughout much of the report if the

Overview

MACRA[4] and ACA[5] cost-reduction measures prove problematic and new legislation scales them back.

As figure I.1 shows, Medicare's costs under current law rise steadily from their current level of 3.7 percent of GDP in 2017 to 5.9 percent in 2042. Costs then continue to grow, but at a slower rate, until reaching 6.2 percent in 2092. Under the illustrative alternative, in which adherence to the MACRA and ACA cost-reducing measures erodes, projected costs would continue rising steadily throughout the projection period, reaching 6.2 percent of GDP in 2042 and 8.9 percent in 2092.

As the preceding discussion explains, and as the substantial differences between current-law and illustrative alternative projections demonstrate, Medicare's actual future costs are highly uncertain for reasons apart from the inherent challenges in projecting health care cost growth over time. The Board recommends that readers interpret the current-law estimates in the report as the outcomes that would be experienced under the Trustees' economic and demographic assumptions if the productivity adjustments in the ACA and the physician price updates in MACRA can be and are sustained in the long range. Readers are encouraged to review section V.C for further information on this important subject. The key financial outcomes under the illustrative alternative scenario are shown with the current-law projections throughout this report.

[4]Under MACRA, a significant one-time payment reduction is scheduled for most physicians in 2025. In addition, the law specifies physician payment rate updates of 0.75 percent or 0.25 percent annually thereafter for physicians in advanced APMs or MIPS, respectively. These updates are notably lower than the projected physician cost increases, which are assumed to average 2.2 percent per year in the long range.

[5]Under the ACA, Medicare's annual payment rate updates for most categories of provider services would be reduced below the increase in providers' input prices by the growth in economy-wide productivity (1.1 percent over the long range).

II. OVERVIEW

A. HIGHLIGHTS

The major findings of this report under the intermediate set of assumptions appear below. The balance of the Overview and the following Actuarial Analysis section describe these findings in more detail.

In 2017

In 2017, Medicare covered 58.4 million people: 49.5 million aged 65 and older, and 8.9 million disabled. Over 34 percent of these beneficiaries have chosen to enroll in Part C private health plans that contract with Medicare to provide Part A and Part B health services. Total expenditures in 2017 were $710.2 billion, and total income was $705.1 billion, which consisted of $694.3 billion in non-interest income and $9.8 billion in interest earnings. Assets held in special issue U.S. Treasury securities decreased by $5.0 billion to $289.6 billion.

Short-Range Results

The estimated depletion date for the HI trust fund is 2026, 3 years earlier than in last year's report. As in past years, the Trustees have determined that the fund is not adequately financed over the next 10 years. HI income is projected to be lower than last year's estimates due to (i) lower payroll taxes attributable to lowered wages for 2017 and lower levels of projected GDP and (ii) lower income from the taxation of Social Security benefits as a result of legislation. HI expenditures are projected to be slightly higher than last year's estimates, mostly due to higher-than-expected spending in 2017, legislation that increased hospital spending, and higher Medicare Advantage payments.

In 2017, HI income exceeded expenditures by $2.8 billion. The Trustees project deficits in all future years until the trust fund becomes depleted in 2026. The assets were $202.0 billion at the beginning of 2018, representing about 65 percent of expenditures during the year, which is below the Trustees' minimum recommended level of 100 percent. The HI trust fund has not met the Trustees' formal test of short-range financial adequacy since 2003 (as discussed in section III.B). Growth in HI expenditures has averaged 2.1 percent annually over the last 5 years, compared with non-interest income growth of 4.9 percent. Over the next 5 years, projected annual growth rates for expenditures and non-interest income are 6.2 percent and 5.3 percent, respectively.

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The SMI trust fund is expected to be adequately financed over the next 10 years and beyond because premium income and general revenue income for Parts B and D are reset each year to cover expected costs and ensure a reserve for Part B contingencies. The Part B premium for 2018 is $134.00, the same as for 2017. However, a hold-harmless provision limited the premium increase in 2016 and 2017 for about 70 percent of enrollees. These Part B enrollees saw an increase in their Part B premium from about $109 in 2017, on average, to about $130, on average, in 2018. (See sections II.F and III.C for further details.)

Part B and Part D costs have averaged annual growth of 5.5 percent and 8.5 percent, respectively, over the last 5 years, as compared to growth of 3.7 percent for GDP. Under current law, the Trustees project an average annual Part B growth rate of 8.2 percent over the next 5 years; for Part D, the estimated average annual increase in expenditures for these 5 years is 6.0 percent. The projected average annual rate of growth for the U.S. economy is 4.7 percent during this period, significantly slower than for Part B and Part D.

The Trustees are issuing a determination of projected *excess general revenue Medicare funding* in this report because the difference between Medicare's total outlays and its dedicated financing sources[6] is projected to exceed 45 percent of outlays within 7 years. Since this is the second consecutive such finding, the law specifies that a *Medicare funding warning* is triggered and that the President must submit to Congress proposed legislation to respond to the warning within 15 days after the submission of the Fiscal Year 2020 Budget. Congress is then required to consider the legislation on an expedited basis.

Long-Range Results

For the 75-year projection period, the HI actuarial deficit has increased to 0.82 percent of taxable payroll from 0.64 percent in last year's report. (Under the illustrative alternative projections, the HI actuarial deficit would be 1.71 percent of taxable payroll.) The 0.18 percent of payroll increase in the actuarial deficit was primarily due to lower projected payroll tax income, higher expenditures in 2017, higher payments to Medicare Advantage plans, and legislation that increased expenditures.

Part B outlays were 1.6 percent of GDP in 2017, and the Board projects that they will grow to about 2.8 percent by 2092 under current law.

[6]Dedicated financing sources consist of HI payroll taxes, HI share of income taxes on Social Security benefits, Part D State transfers, Part B drug fees, and beneficiary premiums.

The long-range projections as a percent of GDP are slightly higher than those in last year's report due to recent legislation and higher Medicare Advantage spending. (Part B costs in 2092 would be 4.3 percent under the illustrative alternative scenario.)

The Board estimates that Part D outlays will increase from 0.5 percent of GDP in 2017 to about 1.2 percent by 2092. These long-range outlay projections, as a percent of GDP, are about the same as those shown in last year's report.

Transfers from the general fund finance about three-quarters of SMI costs and are central to the automatic financial balance of the fund's two accounts. Such transfers represent a large and growing requirement for the Federal budget. SMI general revenues equal 1.5 percent of GDP in 2017 and are projected to increase to an estimated 2.8 percent in 2092.

Conclusion

Total Medicare expenditures were $710 billion in 2017. The Board projects that expenditures will increase in future years at a faster pace than either aggregate workers' earnings or the economy overall and that, as a percentage of GDP, they will increase from 3.7 percent in 2017 to 6.2 percent by 2092 (based on the Trustees' intermediate set of assumptions). If the relatively low price increases for physicians and other health services under Medicare are not sustained and do not take full effect in the long range as in the illustrative alternative projection, then Medicare spending would instead represent roughly 8.9 percent of GDP in 2092. Growth under any of these scenarios, if realized, would substantially increase the strain on the nation's workers, the economy, Medicare beneficiaries, and the Federal budget.

The Trustees project that HI tax income and other dedicated revenues will fall short of HI expenditures in all future years. The HI trust fund does not meet either the Trustees' test of short-range financial adequacy or their test of long-range close actuarial balance.

The Part B and Part D accounts in the SMI trust fund are expected to be adequately financed because premium income and general revenue income are reset each year to cover expected costs. Such financing, however, would have to increase faster than the economy to cover expected expenditure growth.

The financial projections in this report indicate a need for substantial steps to address Medicare's remaining financial challenges.

Consideration of further reforms should occur in the near future. The sooner solutions are enacted, the more flexible and gradual they can be. Moreover, the early introduction of reforms increases the time available for affected individuals and organizations—including health care providers, beneficiaries, and taxpayers—to adjust their expectations and behavior. The Trustees recommend that Congress and the executive branch work closely together with a sense of urgency to address the depletion of the HI trust fund and the projected growth in HI (Part A) and SMI (Parts B and D) expenditures.

B. MEDICARE DATA FOR CALENDAR YEAR 2017

HI (Part A) and SMI (Parts B and D) have separate trust funds, sources of revenue, and categories of expenditures. Table II.B1 presents Medicare data for calendar year 2017, in total and for each part of the program. For additional information, see section III.B for HI and sections III.C and III.D for SMI.

For fee-for-service Medicare, the largest category of Part A expenditures is inpatient hospital services, while the largest Part B expenditure category is physician services. Payments to private health plans for providing Part A and Part B services currently represent roughly 35 percent of total A and B benefit outlays.

Table II.B1.—Medicare Data for Calendar Year 2017

		SMI		
	HI or Part A	Part B	Part D	Total
Assets at end of 2016 (billions)	$199.1	$88.0	$7.6	$294.7
Total income	$299.4	$305.6	$100.2	$705.1
Payroll taxes	261.5	—	—	261.5
Interest	7.4	2.3	0.1	9.8
Taxation of benefits	24.2	—	—	24.2
Premiums	3.5	81.5	15.5	100.5
General revenue	1.3	217.3	73.2	291.8
Transfers from States	—	—	11.4	11.4
Other	1.5	4.5	—	6.0
Total expenditures	$296.5	$313.7	$100.0	$710.2
Benefits	293.3	308.6	100.1	702.1
Hospital	144.6	53.3	—	197.9
Skilled nursing facility	28.3	—	—	28.3
Home health care	6.9	11.5	—	18.4
Physician fee schedule services	—	69.1	—	69.1
Private health plans (Part C)	94.5	115.1	—	209.7
Prescription drugs	—	—	100.1	100.1
Other	19.1	59.6	—	78.8
Administrative expenses[1]	3.2	5.0	−0.1	$8.1
Net change in assets	$2.8	−$8.1	$0.2	−$5.0
Assets at end of 2017	$202.0	$79.9	$7.8	$289.6
Enrollment (millions)				
Aged	49.2	45.3	37.3	49.5
Disabled	8.9	8.1	7.1	8.9
Total	58.0	53.4	44.5	58.4
Average benefit per enrollee	$5,055	$5,780	$2,252	$13,087

[1]Reflects the initial allocation for 2017 and larger-than-usual adjustments among Part A, Part B, and Part D for prior-year allocations. For additional information, see sections III.B, III.C, and III.D.

Note: Totals do not necessarily equal the sums of rounded components.

For HI, the primary source of financing is the payroll tax on covered earnings. Employers and employees each pay 1.45 percent of a worker's wages, while self-employed workers pay 2.9 percent of their net earnings. Starting in 2013, high-income workers pay an additional 0.9-percent tax on their earnings above an unindexed threshold ($200,000 for single taxpayers and $250,000 for married couples).

Other HI revenue sources include a portion of the Federal income taxes that Social Security recipients with incomes above certain unindexed thresholds pay on their benefits, as well as interest paid from the general fund on the U.S. Treasury securities held in the HI trust fund.

For SMI, transfers from the general fund of the Treasury represent the largest source of income and covered about 70 percent of program costs in 2017. Also, beneficiaries pay monthly premiums for Parts B and D that finance a portion of the total cost. As with HI, the U.S. Treasury securities held in the SMI trust fund earn interest paid from the general fund.

C. MEDICARE ASSUMPTIONS

Future Medicare expenditures will depend on a number of factors, including the size and composition of the population eligible for benefits, changes in the volume and intensity of services, and increases in the price per service. Future HI trust fund income will depend on the size of the covered work force and the level of workers' earnings, and future SMI trust fund income will depend on projected program costs. These factors will depend in turn upon future birth rates, death rates, labor force participation rates, wage increases, and many other economic and demographic factors affecting Medicare. To illustrate the uncertainty and sensitivity inherent in estimates of future Medicare trust fund operations, the Board has prepared current-law projections under a low-cost and a high-cost set of economic and demographic assumptions as well as under an intermediate set. In addition, the Trustees asked the CMS Office of the Actuary to develop the illustrative alternative projections to demonstrate the potential effect on the Medicare financial status if certain current-law features are not fully implemented in the future.

Table II.C1 summarizes the key assumptions used in this report. Many of the demographic and economic variables that determine Medicare costs and income are common to the Old-Age, Survivors, and Disability Insurance (OASDI) program, and the OASDI annual report explains these variables in detail. These variables include changes in the Consumer Price Index (CPI) and wages, real interest rates, fertility rates, mortality rates, and net immigration levels. (*Real* indicates that the effects of inflation have been removed.) The assumptions vary, in most cases, from year to year during the first 5 to 25 years before reaching the ultimate values[7] assumed for the remainder of the 75-year projection period.

[7]The assumptions do not include economic cycles beyond the first 10 years.

Table II.C1.—Key Assumptions, 2042-2092

	Intermediate	Low-Cost	High-Cost
Economic:			
Annual percentage change in:			
Gross Domestic Product (GDP) per capita[1]	3.9	5.0	2.7
Average wage in covered employment	3.8	5.0	2.6
Private nonfarm business multifactor productivity[2]	1.1	—	—
Consumer Price Index (CPI)	2.6	3.2	2.0
Real-wage differential (percent)	1.2	1.8	0.6
Real interest rate (percent)	2.7	3.2	2.2
Demographic:			
Total fertility rate (children per woman)	2.00	2.20	1.80
Annual percentage reduction in total age-sex adjusted death rates	0.72	0.41	1.03
Net annual immigration	1,235,000	1,560,000	945,000
Health cost growth:			
Annual percentage change in per beneficiary Medicare expenditures (excluding demographic impacts)[1]			
HI (Part A)	3.7	[3]	[3]
SMI Part B	3.6	[3]	[3]
SMI Part D	4.5	[3]	[3]
Total Medicare	3.8	[3]	[3]

[1]The assumed ultimate increases in per capita GDP and per beneficiary Medicare expenditures can also be expressed in real terms, adjusted to remove the impact of assumed inflation. When adjusted by the chain-weighted GDP price index, assumed real per capita GDP growth under the intermediate assumptions is 1.6 percent, and real per beneficiary Medicare cost growth is 1.5 percent, 1.3 percent, and 2.3 percent for Parts A, B, and D, respectively.
[2]Private nonfarm business multifactor productivity is published by the Bureau of Labor Statistics and is used as the economy-wide private nonfarm business multifactor productivity to adjust certain provider payment updates.
[3]See section III.B3 for further explanation of the Part A alternative (low-cost and high-cost) assumptions. Long-range alternative projections are not prepared for Parts B and D.

Other assumptions are specific to Medicare. As with all of the assumptions underlying the financial projections, the Trustees review the Medicare-specific assumptions annually and update them based on the latest available data and analysis of trends. In addition, the assumptions and projection methodology are subject to periodic review by independent panels of expert actuaries and economists. The most recent completed review occurred with the 2016-2017 Technical Review Panel on the Medicare Trustees Report.[8]

Section IV.D describes the methodology used to derive the long-range cost growth assumptions, which are based on the "factors contributing to growth" model and are developed for the following four categories of provider services:

[8]The Panel's final report is available at https://aspe.hhs.gov/system/files/pdf/257821/MedicareTechPanelFinalReport2017.pdf.

(i) *All HI, and some SMI Part B, services that are updated annually by provider input price increases less the increase in economy-wide productivity.*

HI services are inpatient hospital, skilled nursing facility, home health, and hospice. The primary Part B services affected are outpatient hospital, home health, and dialysis. Under the Trustees' intermediate economic assumptions, the year-by-year per capita increases for these provider services start at 3.9 percent in 2042, or GDP plus 0.0 percent, declining gradually to 3.5 percent in 2092, or GDP minus 0.3 percent.[9]

(ii) *Physician services*

Payment rate updates are 0.75 percent per year for those physicians assumed to be participating in advanced alternative payment models (advanced APMs) and 0.25 percent for those assumed to be participating in the merit-based incentive payment system (MIPS). The year-by-year per capita growth rates for physician payments are assumed to be 3.6 percent in 2042, or GDP minus 0.3 percent, declining to 2.8 percent in 2092, or GDP minus 1.0 percent.

(iii) *Certain SMI Part B services that are updated annually by the CPI increase less the increase in productivity.*

Such services include durable medical equipment that is not subject to competitive bidding,[10] care at ambulatory surgical centers, ambulance services, and medical supplies. The Trustees assume the per beneficiary year-by-year rates to be 3.1 percent in 2042, or GDP minus 0.8 percent, declining to 2.7 percent in 2092, or GDP minus 1.1 percent.

(iv) *All other Medicare services, for which payments are established based on market processes, such as prescription drugs provided through Part D and the remaining Part B services.*

These Part B outlays constitute an estimated 17 percent of total Part B expenditures in 2026 and consist mostly of payments for laboratory tests, physician-administered drugs, and small facility

[9]These growth rate assumptions are described relative to the per capita increase in GDP and characterized simply as GDP plus X percent.
[10]The portion of durable medical equipment that is subject to competitive bidding is included with all other Medicare services since the price is determined by a competitive bidding process.

services. Medicare payments to Part D plans are based on a competitive-bidding process and are not affected by the productivity adjustments. Similarly, payments for the other Part B services are based on market factors.[11] The long-range per beneficiary cost growth rate for Part D and these Part B services is assumed to equal the increase in per capita national health expenditures as determined from the "factors contributing to growth" model. The corresponding year-by-year per capita growth rates for these services are 4.7 percent in 2042, or GDP plus 0.8 percent, declining to 4.3 percent by 2092, or GDP plus 0.5 percent.

After combining the rates of growth from the four long-range assumptions, the weighted average growth rate per beneficiary for Part B is 3.6 percent over the period 2042 through 2092, or GDP minus 0.3 percent, on average. When Parts A, B, and D are combined, the weighted average growth rate for Medicare is 3.8 percent, or GDP minus 0.1 percent, over this same period. Both rates are shown in table II.C1.

As in the past, the Trustees establish detailed growth rate assumptions for the initial 10 years (2018 through 2027) by individual type of service (for example, inpatient hospital care and physician services). These assumptions reflect recent trends and the impact of all provisions of the Bipartisan Budget Act of 2018, the Bipartisan Budget Act of 2015, the Medicare Access and CHIP Reauthorization Act of 2015, the Affordable Care Act, and other applicable statutory provisions. For each of Parts A, B, and D, the assumed growth rates for years 11 through 25 of the projection period (adjusted to reflect discontinuities in yearly payment policies) are set by interpolating between the rate at the end of the short-range projection period and the rate at the start of the last 50 years of the long-range period described above. The 2016-2017 Medicare Technical Review Panel concluded that both the current length of the transition period and the current approach to the transition are reasonable, and they recommended that the Trustees continue to use the same approach to transition between short-range and long-range projections for both HI and SMI.[12]

The basis for the Medicare cost growth rate assumptions, described above, has been chosen primarily to incorporate the productivity

[11]For example, physician-administered Part B drugs are reimbursed at the level of the average sales price in the market plus 6 percent.
[12]See Findings 6-2 and 6-3 and Recommendation 6-1.

adjustments and the physician payment structure in a relatively simple, straightforward manner and with the assumption that these elements of current law will operate in all future years as specified. The Trustees use this approach in part due to the uncertainty associated with these provisions and in part due to the difficulty of modeling such consequences as access to care, health status, and utilization if these provisions of current law do not operate as intended.[13] They have incorporated the effects of changes in payment mechanisms, delivery systems, and other aspects of health care that have been implemented recently, including modest savings from accountable care organizations. However, they have not modeled the possible effects of future changes that could arise in response to the payment limitations and the ACA-directed research activities, nor have they considered the potential effects of sustained slower payment increases on provider participation, beneficiary access to care, quality of services, and other factors.[14]

Consistent with the practice in recent reports, the Trustees asked the Office of the Actuary to develop the illustrative alternative projections. This information is presented in section V.C. An actuarial memorandum on the illustrative alternative is available on the CMS website.[15] The illustrative alternative projection assumes that (i) there would be a transition from current-law payment updates for providers affected by the economy-wide productivity adjustments to payment updates that reflect adjustments for health care productivity; (ii) the average physician payment updates would transition from current law to payment updates that reflect the Medicare Economic Index; and (iii) the 5-percent bonuses for physicians in advanced APMs and the $500-million payments for physicians in MIPS would continue indefinitely rather than expire in 2025. The transition from current law to the ultimate illustrative alternative assumptions starts at later dates than assumed in last year's report. The year-by-year growth rate assumptions for HI and SMI Part B under the illustrative alternative projections are approximately 4.7 percent in 2042, or GDP plus 0.8 percent, declining to 4.3 percent by 2092, or GDP plus 0.5 percent. On average over this period, the growth rate of per beneficiary expenditures for these services is equal to the growth rate for per capita national health expenditures, as described previously for Part D

[13]For a detailed discussion of uncertainty, see section V.C.

[14]The 2016-2017 Medicare Technical Review Panel considered these issues at some length. Their final report contains a discussion of the delivery system changes to date and the impact on the Medicare projections.

[15]See http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/ReportsTrustFunds/Downloads/2018TRAlternativeScenario.pdf.

and other Medicare services for which price updates are based on market processes.

For the HI high-cost assumptions, the assumed annual increase in the ratio of aggregate costs to taxable payroll (the cost rate) during the initial 25-year period is 2 percentage points greater than under the intermediate assumptions. Under the low-cost assumptions, the assumed annual rate of increase in the cost rate for the initial period is 2 percentage points less than under the intermediate assumptions. After 25 years, the Trustees assume that the 2-percentage-point differentials will decline gradually to zero in 2067, after which the growth in cost rates is the same under all three sets of assumptions. The low-cost and high-cost projections shown in this report provide an indication of how Medicare expenditures could vary in the future as a result of different economic, demographic, and health care trends.[16]

While it is possible that actual economic, demographic, and health cost-growth experience will fall within the range defined by the three alternative sets of assumptions, there can be no assurances that it will do so in light of the wide variations in these factors over past decades. In general, readers can place a greater degree of confidence in the assumptions and estimates for the earlier years than for the later years. Nonetheless, even for the earlier years, the estimates are only an indication of the expected trends and the general ranges of future Medicare experience. Also, as a result of the uncertain long-range adequacy of physician payments and payments affected by the statutory productivity adjustments, actual future Medicare expenditures could exceed the intermediate projections shown in this report, possibly by quite large amounts. Reference to key results under the illustrative alternative projection demonstrates this potential understatement.

[16]Due to the automatic financing provisions for Parts B and D, the Trustees expect that the SMI trust fund will be adequately financed in all future years and so have not conducted a long-range analysis using high-cost and low-cost assumptions.

D. FINANCIAL OUTLOOK FOR THE MEDICARE PROGRAM

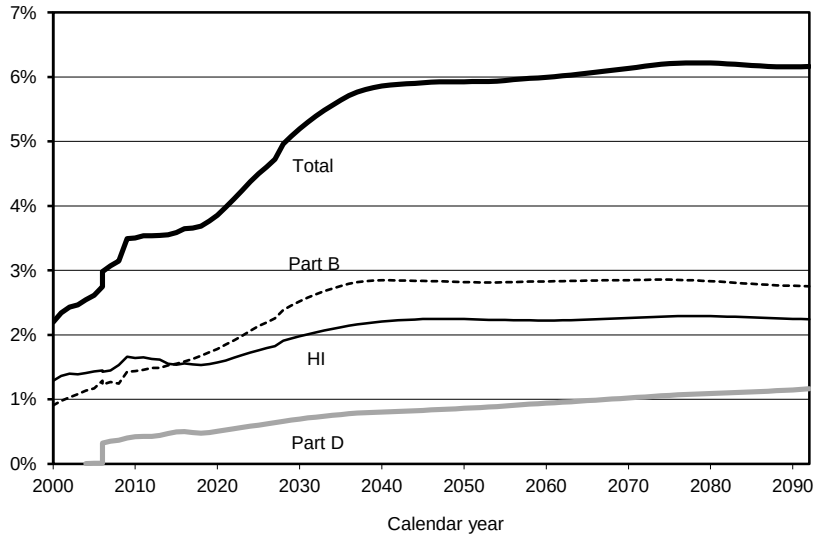
This report evaluates the financial status of the HI and SMI trust funds. For HI, the Trustees apply formal tests of financial status for both the short range and the long range; for SMI, the Trustees assess the ability of the trust fund to meet incurred costs over the period for which financing has been set.

HI and SMI are financed in very different ways. Within SMI, current law provides for the annual determination of Part B and Part D beneficiary premiums and general revenue financing to cover expected costs for the following year. In contrast, HI is subject to substantially greater variation in asset growth, since employee and employer tax rates under current law do not change or adjust to meet expenditures except through new legislation.

Despite the significant differences in benefit provisions and financing, the two components of Medicare are closely related. HI and SMI operate in an interdependent health care system. Most Medicare beneficiaries are enrolled in HI and SMI Parts B and D, and many receive services from all three. Accordingly, efforts to improve and reform either component must necessarily have repercussions for the other component. In view of the anticipated growth in Medicare expenditures, it is also important to consider the distribution among the various sources of revenues for financing Medicare and the manner in which this distribution will change over time.

This section reviews the projected total expenditures for the Medicare program, along with the primary sources of financing. Figure II.D1 shows projected costs as a percentage of GDP. Medicare expenditures represented 3.7 percent of GDP in 2017. Under current law, costs increase to 5.9 percent of GDP by 2042, largely due to the rapid growth in the number of beneficiaries, and then to 6.2 percent of GDP in 2092, with growth in health care cost per beneficiary becoming the larger factor later in the valuation period, particularly for Part D costs, which are not affected by legislated price reductions. (If the payment update constraints were phased down as in the illustrative alternative projections, then Medicare expenditures would reach an estimated 8.9 percent of GDP in 2092.)

Figure II.D1.—Medicare Expenditures as a Percentage of the Gross Domestic Product



Note: Percentages are affected by economic cycles.

Table II.D1 shows five components of Medicare expenditure growth over three valuation periods: (i) growth of overall prices as measured by the CPI; (ii) growth of Medicare prices relative to the CPI; (iii) growth in the number of beneficiaries; (iv) change in the age and gender composition of the beneficiaries; and (v) change in the volume and intensity of services. The growth of Medicare prices for Part A and for Part B is projected to be below the CPI during each of the three valuation periods, with the exception of the period 2018-2027 for Part A. As discussed in section IV.D, prices for all of Part A and some of Part B are constrained by the payment updates specified by the ACA, and Part B prices are further constrained by the physician updates specified by MACRA. Part D prices are projected to grow faster than the CPI and to be more in line with the price growth assumed for the overall health sector. For all parts of Medicare, growth in the number of beneficiaries is highest over the next 10 years, as the baby boom generation continues to enter Medicare, and slows continually thereafter.

Table II.D1.—Components of Increase in Medicare Incurred Expenditures by Part

[In percent]

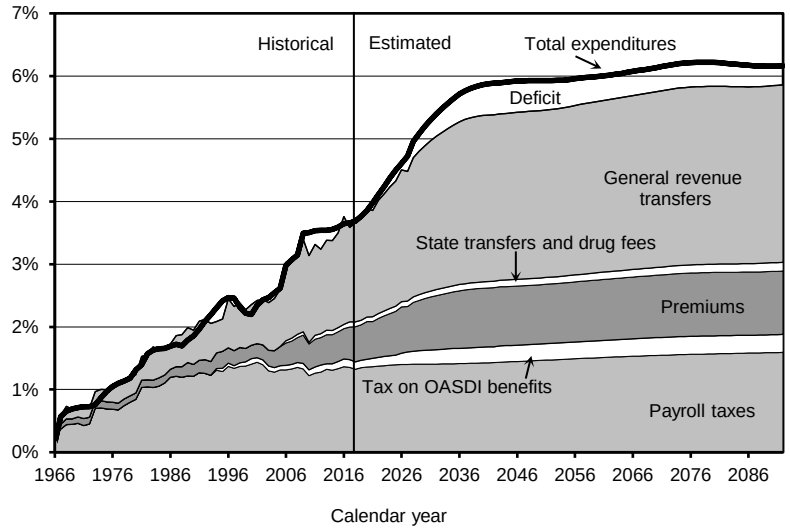
	Average annual percentage change						
	Prices						
Valuation period	CPI	Medicare relative to CPI	Overall Medicare	Number of beneficiaries	Beneficiary age/gender mix	Volume and intensity	Total increase
Part A:							
2018-2027	2.6%	0.0%	2.7%	2.6%	0.1%	0.9%	6.4%
2028-2042	2.6	0.0	2.6	1.0	0.7	1.3	5.7
2043-2092	2.6	−0.3	2.3	0.6	0.1	1.3	4.4
Part B:							
2018-2027	2.6	−0.9	1.8	2.6	0.1	3.4	8.1
2028-2042	2.6	−0.5	2.1	1.0	0.2	2.6	6.0
2043-2092	2.6	−0.5	2.1	0.6	0.0	1.6	4.3
Part D:							
2018-2027	2.6	0.1	2.7	2.9	0.0	1.8	7.6
2028-2042	2.6	0.4	3.0	1.0	0.0	1.9	6.0
2043-2092	2.6	0.4	3.0	0.6	0.0	1.4	5.1

Notes: 1. Price reflects annual updates, multifactor productivity reductions, and any other reductions required by law or regulation.
2. Volume and intensity is the residual after the other four factors shown in the table (CPI, excess Medicare price, number of beneficiaries, and beneficiary age/gender mix) are removed.
3. Totals do not necessarily equal the sums of rounded components.

Most beneficiaries have the option to enroll in private health insurance plans that contract with Medicare to provide Part A and Part B medical services. The share of Medicare beneficiaries in such plans has risen rapidly in recent years; it reached 34.0 percent in 2017 from 12.8 percent in 2004. Payments to Medicare Advantage plans are based on benchmarks that range from 95 to 115 percent of local fee-for-service Medicare costs, with bonus amounts payable for plans meeting high quality-of-care standards. As was the case last year, the Trustees project that the overall participation rate for private health plans will continue to increase—from almost 36 percent in 2018 to about 39 percent in 2027 and thereafter.

Figure II.D2 shows the past and projected amounts of Medicare revenues under current law excluding interest income, which will not be a significant part of program financing in the long range as trust fund assets decline. The figure compares total Medicare expenditures to Medicare non-interest income—from HI payroll taxes, HI income from the taxation of Social Security benefits, HI and SMI premiums, SMI Part D State transfers for certain Medicaid beneficiaries, fees under the ACA on manufacturers and importers of brand-name prescription drugs (allocated to Part B), and HI and SMI general revenues. The Trustees expect total Medicare expenditures to exceed non-interest revenue for all future years except in 2020, when income exceeds expenditures by a very small margin.

Figure II.D2.—Medicare Sources of Non-Interest Income and Expenditures as a Percentage of the Gross Domestic Product



Note: Percentages are affected by economic cycles.

As shown in figure II.D2, for most of the historical period, payroll tax revenues increased steadily as a percentage of GDP due to increases in the HI payroll tax rate and in the limit on taxable earnings, the latter of which lawmakers eliminated in 1994. Under the ACA, beginning in 2013 the HI trust fund receives an additional 0.9-percent tax on earnings in excess of a threshold amount.[17] The Trustees project that, as a result of this provision, payroll taxes will grow slightly faster than GDP.[18] After 2018, HI revenue from income taxes on Social Security

[17]The ACA also specifies that individuals with incomes greater than $200,000 per year and couples above $250,000 pay an additional Medicare contribution of 3.8 percent on some or all of their non-work income (such as investment earnings). However, the revenues from this tax are not allocated to the Medicare trust funds.

[18]Although the Trustees expect total worker compensation to grow at the same rate as GDP after the first 10 years of the projection, wages and salaries are projected to increase more slowly than fringe benefits (health insurance costs in particular). Thus, projected taxable earnings (wages and salaries) gradually decline as a percentage of GDP. Absent any change to the tax rate scheduled under current law, HI payroll tax revenue would similarly decrease as a percentage of GDP. Over time, however, a growing proportion of workers will have earnings that exceed the fixed earnings thresholds specified in the ACA ($200,000 and $250,000), and an increasing portion of taxable earnings will therefore become subject to the additional 0.9-percent HI payroll tax. The net effect of these factors is an increasing trend in payroll taxes as a percentage of GDP.

benefits will gradually increase as a share of GDP as the share of benefits subject to such taxes increases.[19]

The Trustees expect growth in SMI Part B and Part D premiums and general fund transfers to continue to outpace GDP growth and HI payroll tax growth in the future. This phenomenon occurs primarily because SMI revenue increases at the same rate as expenditures, whereas HI revenue does not. Accordingly, as the HI sources of revenue become increasingly inadequate to cover HI costs, SMI revenues will represent a growing share of total Medicare revenues. Beginning in 2009, as HI payroll tax receipts declined due to the recession and general revenue transfers increased, the latter income source became the largest single source of income to the Medicare program as a whole. General revenue transfers to the Part B account increased significantly in 2016, as required by the Bipartisan Budget Act of 2015 to compensate for premium revenue that was not received in 2016 due to the hold-harmless provision, which limited the Part B premium increase for a majority of beneficiaries. After decreasing from 2016 to 2017, general revenues will gradually increase as a share of Medicare financing from 2018 through 2032 and grow to about 49 percent, stabilizing thereafter. Growth in general revenue financing as a share of GDP adds significantly to the Federal budget pressures. SMI premiums will also grow in proportion to general revenue transfers, placing a growing burden on beneficiaries. High-income beneficiaries have paid an income-related premium for Part B since 2007 and for Part D since 2011.

The interrelationship between the Medicare program and the Federal budget is an important topic—one that will become increasingly critical over time as the general revenue requirements for SMI continue to grow. Transfers from the general fund are the major source of financing for the SMI trust fund and are central to the automatic financial balance of the fund's two accounts, while representing a large and growing requirement for the Federal budget. SMI general revenues equal 1.5 percent of GDP in 2017 and will increase to an estimated 2.8 percent in 2092 under current law. Moreover, in the absence of legislation to address the financial imbalance, interest earnings on trust fund assets and redemption of those assets will cover the difference between HI dedicated revenues and expenditures until 2026.[20] Both of these financial resources for the HI trust fund require

[19]See section V.C7 of the 2018 OASDI Trustees Report for more detailed information on the projection of income from taxation of Social Security benefits.

[20]After asset depletion in 2026, as described in section II.E, no provision exists to use general revenues or any other means to cover the HI deficit.

cash transfers from the general fund of the Treasury, representing a draw on other Federal resources. In 2025, these transactions would require general fund transfers equal to 0.2 percent of GDP. Section V.F describes the interrelationship between the Federal budget and the Medicare and Social Security trust funds; it illustrates the programs' long-range financial outlook from both a trust fund perspective and a budget perspective.

Federal law requires the Board of Trustees to test whether the difference between program outlays and dedicated financing sources[21] exceeds 45 percent of Medicare outlays under current law. If this level is attained within the first 7 fiscal years of the projection, the law requires the Trustees to issue a determination of projected excess general revenue Medicare funding. For this year's report, the difference between program outlays and dedicated revenues is expected to exceed 45 percent in fiscal year 2022, and therefore the Trustees are issuing this determination. (Section V.B contains additional details on these tests.) Since this is the second consecutive such finding, the law specifies that a Medicare funding warning is triggered and that the President must submit to Congress proposed legislation to respond to the warning within 15 days after the submission of the Fiscal Year 2020 Budget. Congress is then required to consider the legislation on an expedited basis. Such funding warnings were previously made in each of the 2007 through 2013 reports.

This section has summarized the total financial obligation posed by Medicare and the manner in which it is financed. However, the HI and SMI components of Medicare have separate and distinct trust funds, each with its own sources of revenues and mandated expenditures. Accordingly, it is necessary to assess the financial status of each Medicare trust fund separately. Sections II.E and II.F present such assessments for the HI trust fund and the SMI trust fund, respectively.

[21]The dedicated financing sources are HI payroll taxes, the HI share of income taxes on Social Security benefits, Part B receipts from the new fees on manufacturers and importers of brand-name prescription drugs, Part D State transfers, and beneficiary premiums. These sources are the first four layers depicted in figure II.D2.

E. FINANCIAL STATUS OF THE HI TRUST FUND

1. 10-Year Actuarial Estimates (2018-2027)

Expenditures from the HI trust fund exceeded income each year from 2008 through 2015. In 2016 and 2017, however, there was a fund surplus amounting to $5.4 billion and $2.8 billion, respectively. Deficits are projected to return beginning in 2018 and to persist for the remainder of the projection period. Beginning in 2018, payment of expenditures in full and on time will require redemption of trust fund assets until the trust fund's depletion in 2026.

Table II.E1 presents the projected operations of the HI trust fund under the intermediate assumptions for the next decade. At the beginning of 2018, HI assets represented 65 percent of annual expenditures. This ratio has declined from 150 percent since 2007. The Board has recommended an asset level at least equal to annual expenditures, to serve as an adequate contingency reserve in the event of adverse economic or other conditions.

The Trustees apply an explicit test of short-range financial adequacy, described in section III.B2 of this report. Based on the 10-year projection shown in table II.E1, the HI trust fund does not meet this test because estimated assets are below 100 percent of annual expenditures and are not projected to attain this level under the intermediate assumptions. This outlook indicates the need for prompt legislative action to achieve financial adequacy for the HI trust fund throughout the short-range period.

Table II.E1.—Estimated Operations of the HI Trust Fund under Intermediate Assumptions, Calendar Years 2017-2027

[Dollar amounts in billions]

Calendar year	Total income[1]	Total expenditures	Change in fund	Fund at year end	Ratio of assets to expenditures[2]
2017[3]	$299.4	$296.5	$2.8	$202.0	67%
2018	305.5	310.7	−5.2	196.8	65
2019	325.0	328.2	−3.1	193.6	60
2020	343.4	348.5	−5.1	188.5	56
2021	362.7	372.7	−10.1	178.4	51
2022	382.3	400.7	−18.4	160.0	45
2023	402.3	429.8	−27.5	132.6	37
2024	423.5	459.5	−36.1	96.5	29
2025	444.8	490.8	−46.0	50.5	20
2026[4]	470.8	522.7	−51.9	−1.4	10
2027[4]	497.5	554.8	−57.3	−58.7	[5]

[1]Includes interest income.
[2]Ratio of assets in the fund at the beginning of the year to expenditures during the year.
[3]Figures for 2017 represent actual experience.
[4]Estimates for 2026 and 2027 are hypothetical since the HI trust fund would be depleted in those years.
[5]Trust fund reserves would be depleted at the beginning of this year.

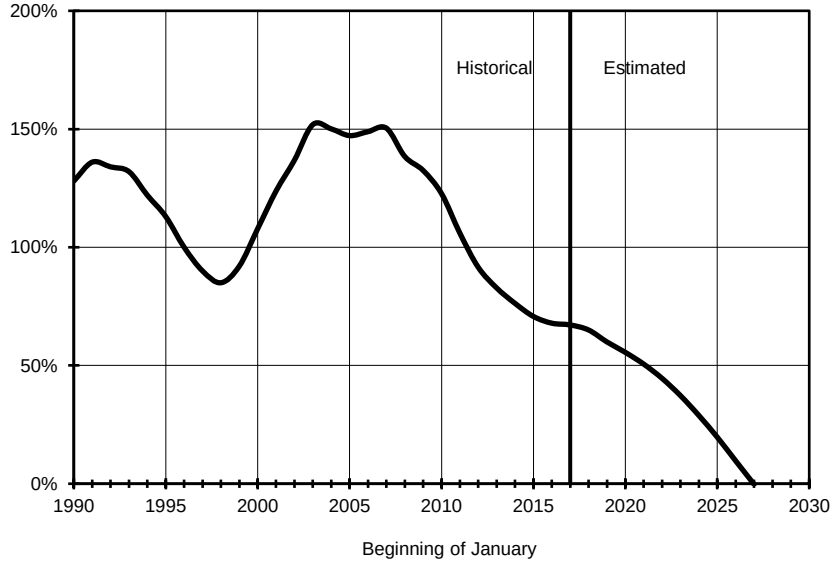
Note: Totals do not necessarily equal the sums of rounded components.

Overview

The short-range financial outlook for the HI trust fund has deteriorated as compared to the projections in last year's annual report. This result is largely due to (i) lower income from payroll taxes attributable to lowered wages for 2017 and lower levels of projected GDP, (ii) lower income from the taxation of Social Security benefits as a result of legislation, (iii) higher expenditures in 2017, (iv) legislation that raised hospital expenditures, and (v) higher Medicare Advantage (MA) payments attributable to higher risk scores for beneficiaries enrolled in MA plans.

Under the intermediate assumptions, the assets of the HI trust fund would steadily decrease as a percentage of annual expenditures throughout the short-range projection period, as illustrated in figure II.E1. The ratio declines until the fund is depleted in 2026, 3 years earlier than the date projected last year. If assets were depleted, Medicare could pay health plans and providers of Part A services only to the extent allowed by ongoing tax revenues—and these revenues would be inadequate to fully cover costs. Beneficiary access to health care services could rapidly be curtailed. To date, Congress has never allowed the HI trust fund to become depleted.

Figure II.E1.—HI Trust Fund Balance at Beginning of Year as a Percentage of Annual Expenditures



There is substantial uncertainty in the economic, demographic, and health care projection factors for HI trust fund expenditures and revenues. Accordingly, the date of HI trust fund depletion could differ substantially in either direction from the 2026 intermediate estimate.

As shown in greater detail in section III.B, trust fund assets would increase throughout the entire projection period under the low-cost assumptions. Under the high-cost assumptions, however, asset depletion would occur in 2023.

2. 75-Year Actuarial Estimates (2018-2092)

Each year, the Board prepares 75-year estimates of the financial and actuarial status of the HI trust fund. Although financial outcomes are inherently uncertain, particularly over periods as long as 75 years, such estimates are helpful for assessing the trust fund's long-term financial condition.

Due to the difficulty in comparing dollar values for different periods without some type of relative scale, the Trustees show income and expenditure amounts relative to the earnings in covered employment that are taxable under HI (referred to as *taxable payroll*). The ratio of HI income (including payroll taxes, income from taxation of Social Security benefits, premiums, general revenue transfers for uninsured beneficiaries, and monies from fraud and abuse control activities, but excluding interest income) to taxable payroll is called the *income rate*, and the ratio of expenditures to taxable payroll is the *cost rate*.[22]

The standard HI payroll tax rate is scheduled to remain constant at 2.90 percent (for employees and employers, combined). In addition, starting in 2013, high-income workers pay an additional 0.9 percent of their earnings above $200,000 (for single workers) or $250,000 (for married couples filing joint income tax returns). Since these income thresholds are not indexed, over time an increasing proportion of workers and their earnings will become subject to the additional HI tax rate. (By the end of the long-range projection period, an estimated 79 percent of workers would be subject to this tax.) Thus, HI payroll tax revenues will increase steadily as a percentage of taxable payroll. Similarly, after 2019, HI income from taxation of Social Security benefits will also increase faster than taxable payroll because the income thresholds determining taxable benefits are not indexed for price inflation.

The cost rate has mostly been declining since 2010, and it is projected to continue to decline in 2018, largely due to (i) expenditure growth that was constrained in part by low utilization and low payment updates and (ii) a rebound of taxable payroll growth from 2007-2009 recession levels. After 2018 the cost rate is projected to rise primarily

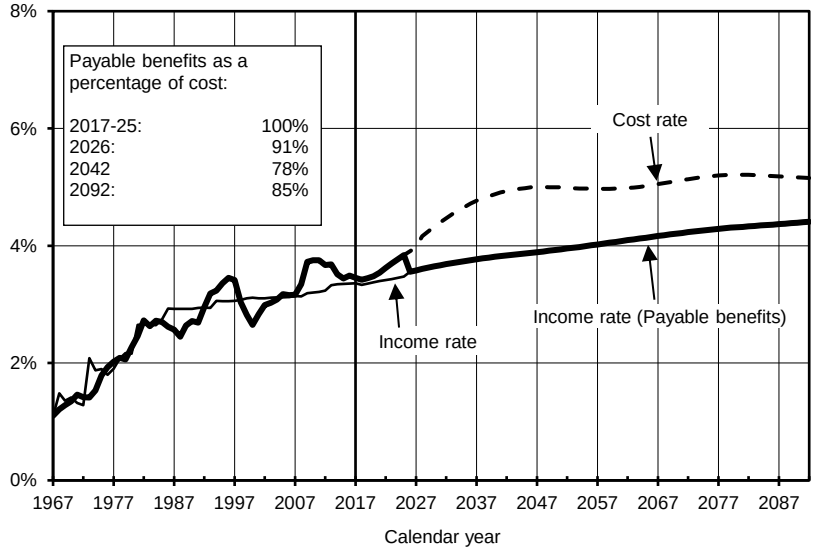
[22]The Trustees estimate these costs on an incurred basis.

due to the continued retirements of those in the baby boom generation and partly due to a projected return to modest health services cost growth. This cost rate increase is moderated by the accumulating effect of the productivity adjustments to provider price updates, which are estimated to reduce annual HI per capita cost growth by an average of 0.8 percent through 2027 and 1.1 percent thereafter. After 25, 50, and 75 years, for example, the prices paid to HI providers under current law would be 21 percent, 40 percent, and 55 percent lower, respectively, than prices absent the productivity reductions.

Figure II.E2 shows projected income and cost rates under the intermediate assumptions. As indicated, estimated HI expenditures continue to exceed non-interest income for all projected years. (The projected excess of costs over non-interest income until 2026 is covered by interest earnings and the redemption of trust fund assets. Both of these sources of trust fund financing require transfers from the general fund of the Treasury.)

The HI cost rate increases more rapidly than the income rate through about 2045. The projected annual deficits expressed as a share of taxable payroll increase from 0.08 percent in 2018 to a high of 1.12 percent in 2045 and then gradually decrease to 0.75 percent by the end of the projection period. The convergence of growth rates for income and costs reflects the continuing effects of the slower payment rate updates under the ACA, assumed decelerating growth in the volume and intensity of services, and the increasing portion of earnings that are subjected to the additional 0.9-percent payroll tax. The percentage of expenditures covered by non-interest income is projected to decrease from 91 percent in 2026 to 78 percent in 2042 and then to increase to about 85 percent by the end of the projection period. (Under the illustrative alternative, the expenditures covered by non-interest income are projected to decline from 91 percent in 2026 to 73 percent in 2042 and then to decrease to about 55 percent by the end of the projection period.)

Figure II.E2.—Long-Range HI Non-Interest Income and Cost as a Percentage of Taxable Payroll, Intermediate Assumptions



It is possible to summarize the year-by-year cost rates and income rates shown in figure II.E2 into single values[23] representing, in effect, the average value over a given period. Based on the intermediate assumptions, the Trustees project an HI actuarial deficit of 0.82 percent of taxable payroll for the 75-year period under current law, which represents the difference between the summarized income rate of 3.95 percent and the corresponding cost rate of 4.77 percent. Based on this measure, the HI trust fund fails the Trustees' test for long-range financial balance, as it has for many years. (Under the illustrative alternative projections, the long-range HI deficit would be 1.71 percent of payroll.)

The following two examples illustrate the magnitude of the changes needed to eliminate the deficit. For the HI trust fund to remain solvent throughout the 75-year projection period, (i) the standard 2.90-percent payroll tax could be immediately increased by the amount of the actuarial deficit to 3.72 percent, or (ii) expenditures could be reduced

[23]See section III.B for details on the summarized income and cost rates.

immediately by 17 percent.[24,25] More realistically, the tax and/or benefit changes could occur gradually but would require ultimate adjustments that would be higher than adjustments that were done immediately. Lawmakers have many options to address the long-range financial imbalance.

The projected HI cost rates shown in this report are higher than those from the 2017 report for all years largely due to higher spending and lower taxable payroll in all projected years.

[24]Under the illustrative alternative projection, the corresponding immediate changes would be (i) an increase from 2.90 percent to 4.61 percent in the standard tax rate or (ii) a decrease in expenditure levels of 30 percent.

[25]Under the two examples for addressing the long-range financial imbalance, tax income would initially be substantially greater than expenditures, and trust fund assets would accumulate rapidly. Subsequently, however, tax income would be inadequate, and assets would be drawn down to cover the difference. This example illustrates that if lawmakers designed legislative solutions to eliminate only the 75-year actuarial deficit, without consideration of such year-by-year patterns, then a substantial financial imbalance could still remain at the end of the period, and the long-range sustainability of the program could still be in doubt.

F. FINANCIAL STATUS OF THE SMI TRUST FUND

SMI differs fundamentally from HI in regard to the nature of its financing and the method by which its financial status is evaluated. SMI comprises two parts, Part B and Part D, each with its own separate account within the SMI trust fund. The Trustees must determine the financial status of the SMI trust fund by evaluating the financial status of each account separately, since there is no provision in the law for transferring assets or income between the Part B and Part D accounts. The nature of the financing for both parts of SMI is similar in that the law establishes a mechanism by which income from the Part B premium and the Part D premium, and the corresponding transfers from general revenues for each part, are sufficient to cover the following year's estimated expenditures. Accordingly, each account within SMI is automatically in financial balance under current law. This result contrasts with OASDI and HI, for which financing established many years earlier may prove significantly higher or lower than subsequent actual costs. Moreover, Part B and Part D are voluntary (whereas OASDI and HI are generally compulsory), and payroll taxes are not the source of income for these programs. The financial assessment described in this section differs in important ways from that for OASDI or HI.

1. 10-Year Actuarial Estimates (2018-2027)

Table II.F1 shows the estimated operations of the Part B account, the Part D account, and the total SMI trust fund under the intermediate assumptions during calendar years 2017 through 2027. For Part B, expenditures grew at an average annual rate of 5.5 percent over the past 5 years, exceeding GDP growth by 1.8 percentage points annually, on average. Estimated Part B cost increases average about 8.2 percent for the 5-year period 2018 to 2022, faster than the GDP growth rate of 4.7 percent for the same 5-year period.

Table II.F1.—Estimated Operations of the SMI Trust Fund under Intermediate Assumptions, Calendar Years 2017-2027

[Dollar amounts in billions]

Calendar year	Total income[1]	Total expenditures	Change in fund	Fund at year end
Part B account:				
2017[2]	$305.6	$313.7	−$8.1	$79.9
2018	353.2	339.9	13.4	93.3
2019	373.6	366.5	7.1	100.3
2020	416.7[3]	394.7	22.0	122.3
2021	423.7[3]	429.4	−5.6	116.7
2022	475.0	465.8	9.1	125.8
2023	515.3	505.3	10.0	135.9
2024	560.0	549.6	10.5	146.3
2025	605.7	595.7	10.0	156.3
2026	671.6[3]	637.8	33.8	190.1
2027	680.9[3]	685.3	−4.4	185.8
Part D account:				
2017[2]	100.2	100.0	0.2	7.8
2018	93.8	94.5	−0.7	7.1
2019	104.2	103.7	0.5	7.6
2020	114.5[3]	113.7	0.7	8.3
2021	123.9[3]	123.2	0.7	9.1
2022	134.9	134.1	0.8	9.9
2023	146.0	145.2	0.8	10.7
2024	158.0	157.2	0.9	11.6
2025	168.6	167.8	0.8	12.4
2026	182.3[3]	181.3	1.0	13.4
2027	196.4[3]	195.3	1.1	14.5
Total SMI:				
2017[2]	405.7	413.6	−7.9	87.7
2018	447.0	434.3	12.7	100.4
2019	477.7	470.2	7.6	107.9
2020	531.2[3]	508.5	22.7	130.7
2021	547.6[3]	552.5	−4.9	125.8
2022	609.9	599.9	9.9	135.7
2023	661.3	650.5	10.9	146.6
2024	718.0	706.7	11.3	157.9
2025	774.4	763.6	10.8	168.7
2026	853.9[3]	819.1	34.8	203.5
2027	877.3[3]	880.6	−3.3	200.2

[1]Includes interest income.

[2]Figures for 2017 represent actual experience.

[3]Section 708 of the Social Security Act modifies the provisions for the payment of Social Security benefits when the regularly designated day falls on a Saturday, Sunday, or legal public holiday. Payment of those benefits normally due January 3, 2021 is expected to occur on December 31, 2020. Consequently, the Part B and Part D premiums withheld from these benefits and the associated Part B general revenue contributions are expected to be added to the respective Part B (about $14.2 billion) or Part D (about $0.3 billion) account on December 31, 2020. Similarly, the payment date for those benefits normally due January 3, 2027 will be December 31, 2026. Accordingly an estimated $22.8 billion will be added to the Part B account, and an estimated $0.5 billion will be added to the Part D account, on December 31, 2026.

Due to the nature of Part B financing, Part B income growth is normally quite close to expenditure growth. The financing for 2017

reduced the assets held in the Part B account below the customary range by the end of 2017.[26]

The 2018 monthly Part B premium rate is $134.00, which is the same as the 2017 monthly premium. For determining an individual's monthly premium rate, there is a hold-harmless provision in the law that limits the dollar increase in the premium to the dollar increase in an individual's Social Security benefit. This provision applies to most beneficiaries who have their premiums deducted from their Social Security benefits, or roughly 70 percent of Part B enrollees in 2016 and 2017.[27] Because the cost-of-living adjustment (COLA) for Social Security benefits was 0.0 percent for 2016, premiums did not increase from the 2015 level of $104.90 for those beneficiaries to whom the provision applies. For 2017, the COLA was 0.3 percent, which limited the Part B premium increase for beneficiaries who were held harmless. Because roughly 70 percent of beneficiaries had their premium increase limited, the remaining minority of beneficiaries paid (or had paid on their behalf) a higher-than-normal premium to offset the financial effects of this premium restriction. In order to limit the premium increase for those not held harmless, the financing for 2017 was set to target a contingency reserve below the minimally adequate level. As a result, Part B assets decreased in 2017. For 2018, financing rates were set to restore the Part B assets to an adequate level. The financing rates for 2019 and later are expected to maintain an adequate contingency reserve.

The projected short-range Part B expenditures shown in table II.F1 are higher than the corresponding amounts in the 2017 Trustees Report. The main reasons are (i) the Bipartisan Budget Act of 2018, which eliminated the Independent Payment Advisory Board and removed payment caps for certain therapy services, and (ii) higher Medicare Advantage spending.

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[26]The traditional measure used to evaluate the status of the Part B account of the SMI trust fund is defined as the ratio of the excess of Part B assets over Part B liabilities to the next year's Part B incurred expenditures. The customary range for this ratio is 15 to 20 percent, and the minimally financially adequate level is 14 percent; the CMS Office of the Actuary developed these amounts based on private health insurance standards and past studies indicating that this asset reserve level is sufficient to protect against adverse events.

[27]About 30 percent of Part B enrollees are not eligible for the hold-harmless provision. This group consists of new enrollees during the year, enrollees who do not receive Social Security benefit checks, enrollees with high incomes who are subject to the income-related premium adjustment, and dual Medicare-Medicaid beneficiaries (whose premiums are paid by State Medicaid programs).

Overview

For the Part D account, the Trustees project that income and expenditures will grow at an average annual rate of 6.9 percent over the 10-year period 2018 to 2027, due to expected increases in enrollment and growth in per capita drug costs. As with Part B, income and outgo would remain in balance as a result of the annual adjustment of premium and general revenue income to cover costs. The appropriation for Part D general revenues has generally been set such that amounts can be transferred to the Part D account on an as-needed basis; under this process, there is no need to maintain a contingency reserve. The Part D account reflects a policy implemented in September 2015 to transfer amounts from the Treasury into the account 5 business days before the benefit payments to the plans.

After 2017, the projected Part D costs shown in table II.F1 and elsewhere in this report are lower than those in the 2017 report. The difference is primarily attributable to higher manufacturer rebates, a decline in spending for hepatitis C drugs, and a slowdown in spending growth for diabetes drugs.

The primary test of financial adequacy for Parts B and D pertains to the level of the financing established for a given period (normally, through the end of the current calendar year). The financing for each part of SMI is considered satisfactory if it is sufficient to fund all services, including benefits and administrative expenses, provided through a given period. In addition, to protect against the possibility that cost increases under either part of SMI will be higher than expected, the accounts of the trust fund would normally need assets adequate to cover a reasonable degree of variation between actual and projected costs. For Part B, the Trustees estimate that the financing established through December 2018 will be sufficient to cover benefits and administrative costs incurred through that time period, and they estimate that assets will be adequate to cover potential variations in costs as a result of new legislation or cost growth factors that exceed expectations. The estimated financing established for Part D, together with the flexible appropriation authority for this trust fund account, would be sufficient to cover benefits and administrative costs incurred through 2018.

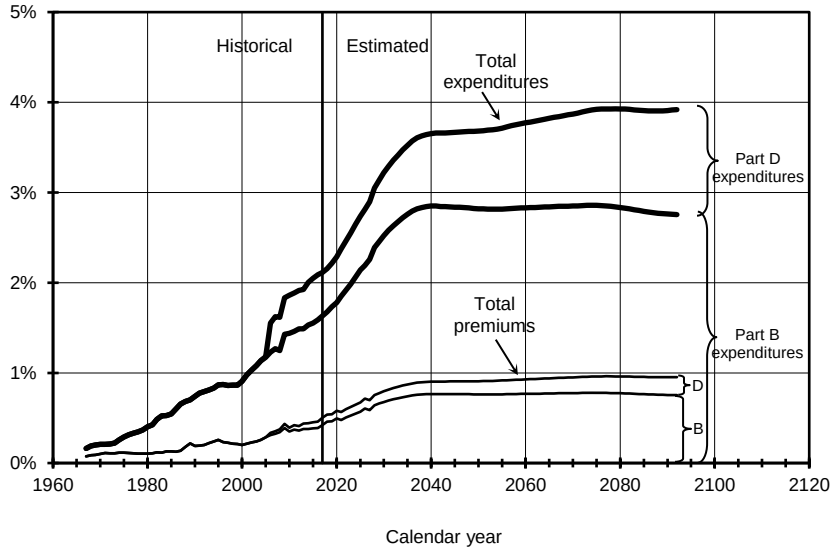
The amount of the contingency reserve needed in Part B is normally much smaller (both in absolute dollars and as a fraction of annual costs) than in HI or OASDI. A smaller reserve is adequate because the premium rate and corresponding general revenue transfers for Part B are determined annually based on estimated future costs, while the HI and OASDI payroll tax rates are fixed under law and are therefore much more difficult to adjust should circumstances change. A statutory

competitive bidding process establishes Part D revenues annually to cover estimated costs. Moreover, the flexible appropriation authority established by lawmakers for Part D allows additional general fund financing if costs are higher than anticipated.

2. 75-Year Actuarial Estimates (2018-2092)

Figure II.F1 shows past and projected total SMI expenditures and premium income as a percentage of the Gross Domestic Product (GDP). Total SMI expenditures amounted to 2.1 percent of GDP in 2017 and are projected to grow to about 3.7 percent of GDP within 25 years and to 3.9 percent by the end of the projection period. (Under the illustrative alternative, total SMI expenditures in 2092 would be 5.4 percent of GDP.)

Figure II.F1.—SMI Expenditures and Premiums as a Percentage of the Gross Domestic Product



Note: Percentages are affected by economic cycles.

3. Implications of SMI Cost Growth

Financing for the SMI trust fund is adequate because beneficiary premiums and general revenue contributions, for both Part B and Part D, are established annually to cover the expected costs for the upcoming year. Should actual costs exceed those anticipated when the financing is determined, future financing rates can include adjustments to recover the shortfall. Likewise, should actual costs be less than those anticipated, the savings would result in lower future

financing rates. As long as the future financing rates continue to cover the following year's estimated costs, both parts of the SMI trust fund will remain financially solvent.

A critical issue for the SMI program is the impact of the rapid growth of SMI costs, which places steadily increasing demands on beneficiaries and taxpayers. This section compares the past and projected growth in SMI costs with GDP growth; it also assesses the implications of the rapid growth on beneficiaries and the budget of the Federal Government.

Table II.F2 compares the growth in SMI expenditures with that of the economy as a whole. SMI costs are projected to continue to outpace growth in GDP but at a slower rate compared to the last 10 years. The relatively high growth during the period 2018-2027 is due to the continuing retirement of the baby boom generation and modest increases in cost trends. Growth rates are projected to decline during the 2028-2042 period primarily as a result of a deceleration in beneficiary population growth. For the last 50 years of the projection period, cost growth moderates further due to the continued deceleration in beneficiary population growth and lower health care cost growth rate assumptions. On a per capita basis, SMI expenditure growth has substantially exceeded GDP growth historically, but it is projected to slow and increase at approximately the same rate as GDP after 2050 as a result of several legislatively specified payment updates, including physician prices.

Table II.F2.—Average Annual Rates of Growth in SMI and the Economy

[In percent]

Calendar years	SMI			U.S. Economy			Growth differential[1]
	Beneficiary population	Per capita expenditures	Total expenditures	Total population	Per capita GDP	Total GDP	
Historical data:							
1968-1997	2.4%	11.5%	14.2%	1.0%	6.9%	8.0%	5.7%
1998-2007	1.2	10.9[2]	12.2[2]	1.0	4.3	5.3	6.5[2]
2008-2017	2.7	3.0	5.7	0.7	2.2	3.0	2.7
Intermediate estimates:							
2018-2027	2.6	5.3	8.0	0.8	3.8	4.6	3.2
2028-2042	1.0	4.9	6.0	0.6	3.7	4.3	1.6
2043-2067	0.6	3.9	4.5	0.5	3.9	4.3	0.2
2068-2092	0.6	3.8	4.4	0.5	3.9	4.3	0.1

[1]Excess of total SMI expenditure growth above total GDP growth, calculated as a multiplicative differential.
[2]Includes the addition of the prescription drug benefit to the SMI program in 2006. Excluding 2006, the average annual per capita expenditure increase is 8.3 percent, the total expenditure increase is 9.6 percent, and the growth differential is 4.1 percent.

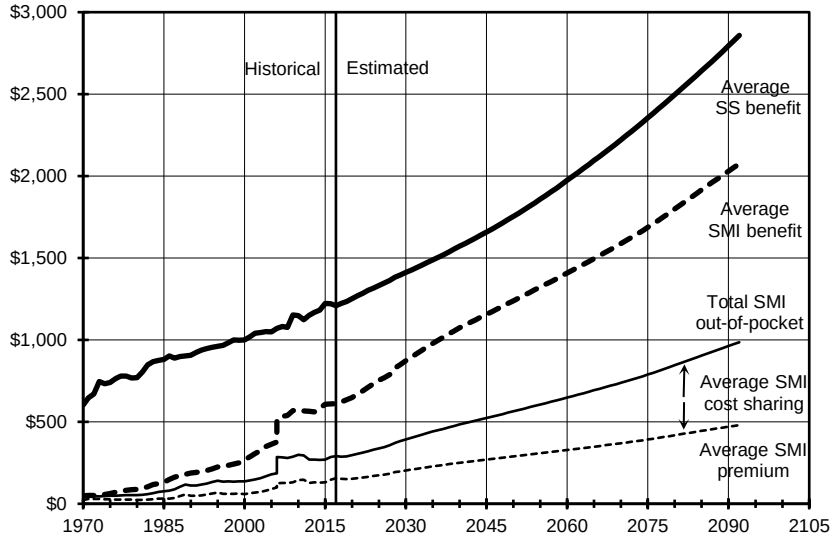
As SMI per capita benefits grow faster than average income or per capita GDP, the premiums and coinsurance amounts paid by beneficiaries represent a growing share of their total income. Figure II.F2 compares past and projected growth in average benefits

for SMI versus Social Security. The figure also shows amounts for the average SMI premium payments and average cost-sharing payments. To facilitate comparison across long time periods, all values are in constant 2017 dollars.

Over time, the average Social Security benefit tends to increase at about the rate of growth in average earnings. Health care costs generally reflect increases in the earnings of health care professionals, growth in the utilization and intensity of services, and other medical cost inflation. As indicated in figure II.F2, average SMI benefits in 1970 were only about one-twelfth the level of average Social Security benefits but had grown to more than one-third by 2005. With the introduction of the Part D prescription drug benefit in 2006, this ratio grew to almost one-half. Under the intermediate projections, SMI benefits would continue increasing at a faster rate and would represent about three-fourths of the average Social Security retired-worker benefit in 2092.

Figure II.F2.—Comparison of Average Monthly SMI Benefits, Premiums, and Cost Sharing to the Average Monthly Social Security Benefit

[Amounts in constant 2017 dollars]



Average beneficiary premiums and cost-sharing payments for SMI will increase at about the same rate as average SMI benefits.[28] Thus, a growing proportion of most beneficiaries' Social Security and other

[28]As a result, the projected ratio of average SMI out-of-pocket payments to average SMI benefits is nearly constant over time.

income would be necessary over time to pay total out-of-pocket costs for SMI, including both premiums and cost-sharing amounts. Most SMI enrollees have other income in addition to Social Security benefits. Other possible sources include earnings from employment, employer-sponsored pension benefits, and investment earnings. In addition, most draw down their accumulated assets to supplement their income in retirement. For simplicity, the comparisons in figure II.F2 apply to Social Security benefits only; a comparison of average SMI premiums and cost-sharing amounts to average total beneficiary income would likely lead to similar conclusions. For illustration, the Trustees estimate that the average Part B plus Part D premium in 2018 would equal about 12 percent of the average Social Security benefit but would increase to an estimated 17 percent in 2092. Similarly, an average cost-sharing amount in 2018 would be equivalent to about 11 percent of the Social Security benefit but would increase to about 18 percent in 2092.

The availability of SMI Part B and Part D benefits greatly reduces the costs that beneficiaries would otherwise pay for health care services. The introduction of the prescription drug benefit increased beneficiaries' costs for SMI premiums and cost sharing, but it reduced their costs for previously uncovered services by substantially more. Figure II.F2 highlights the impact of rapid cost growth for a given SMI benefit package.

The average OASI benefit amount for all retired workers is the basis for the Social Security benefits shown in figure II.F2; individual retirees may receive significantly more or less than the average, depending on their past earnings. For purposes of illustration, figure II.F2 shows the average SMI benefit value and cost-sharing liability for all beneficiaries. The value of SMI benefits to individual enrollees and their cost-sharing payments vary even more substantially than OASI benefits, depending on their income, assets, and use of covered health services in a given year. In particular, Medicaid pays Part B premiums and cost-sharing amounts for beneficiaries with very low incomes, and the Medicare low-income drug subsidy pays the corresponding Part D amounts (except for nominal copayments). Moreover, high-income beneficiaries have paid an income-related premium for Part B since 2007 and for Part D since 2011. Further information on the nature of this comparison, and on the variations from the average results, is available in a memorandum by the CMS Office of the Actuary at http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/ReportsTrustFunds/Beneficiaryoop.html.

Another way to evaluate the implications of rapid SMI cost growth is to compare government contributions to the SMI trust fund with total Federal income taxes (personal and corporate income taxes). Table II.F3 shows SMI general revenues as a percentage of total Federal income taxes. Should such taxes in the future maintain their historical average level of the last 50 years relative to the national economy, then, based on the intermediate assumptions, SMI general revenue financing in 2092 would represent about 26.3 percent of total income taxes.

Table II.F3.—SMI General Revenues as a Percentage of Personal and Corporate Federal Income Taxes

Fiscal year	Percentage of income taxes[1]
Historical data:	
1970	0.8%
1980	2.2
1990	5.9
2000	5.4
2010	19.2
2011	17.2
2012	14.7
2013	13.8
2014	13.8
2015	13.5
2016	15.7
2017	15.4
Intermediate estimates:	
2018	14.8
2020	15.7
2030	22.0
2040	25.0
2050	25.1
2060	25.6
2070	26.2
2080	26.5
2090	26.2
2092	26.3

[1]Includes the Part D prescription drug benefit beginning in 2006.

These examples illustrate the significant impact of SMI expenditure growth on beneficiaries, taxpayers, and the Federal budget. The projected SMI expenditure increases associated with the cost of providing health care, plus the impact of the baby boom generation reaching eligibility age, would continue to require a growing share of the economic resources available to finance these costs. This outlook reinforces the Trustees' recommendation for development and enactment of further reforms to reduce the rate of growth in SMI expenditures.

G. CONCLUSION

Total Medicare expenditures were $710 billion in 2017, and the Board projects that they will increase in most future years at a somewhat faster pace than either aggregate workers' earnings or the economy overall. The faster increase is primarily due to the number of beneficiaries increasing more rapidly than the number of workers, coupled with a continued increase in the volume and intensity of services delivered. Based on the intermediate set of assumptions under current law, expenditures as a percentage of GDP would increase from the current 3.7 percent to a projected 6.2 percent by 2092.

The HI trust fund fails to meet the Board of Trustees' short-range test of financial adequacy. In addition, as in past reports, the HI trust fund fails to meet the Trustees' long-range test of close actuarial balance.

HI experienced small surpluses in 2016 and 2017 after having deficits from 2008 through 2015, and deficits are expected for the remainder of the 75-year projection period. The projected trust fund depletion date is 2026, 3 years earlier than estimated in last year's report. HI income is projected to be lower than last year's estimates due to (i) lower payroll taxes attributable to lowered wages for 2017 and lower levels of projected GDP and (ii) lower income from the taxation of Social Security benefits as a result of legislation. Actual HI expenditures in 2017 were slightly higher than the previous estimate. The expenditure projections are slightly higher for the short-range period due to higher spending in 2017, legislation that increased hospital spending, and higher Medicare Advantage payments.

The HI actuarial deficit in this year's report is 0.82 percent of taxable payroll, up from 0.64 percent in last year's report. This result is due primarily to the same factors described above.

The financial outlook for SMI is fundamentally different than for HI due to the statutory differences in the methods of financing for these two components of Medicare.

The Trustees project that both the Part B and Part D accounts of the SMI trust fund will remain in financial balance for all future years because beneficiary premiums and general revenue transfers are assumed to be set at a level to meet expected costs each year. However, SMI costs are projected to increase significantly as a share of GDP over the next 75 years, from 2.1 percent to 4.0 percent under current law. The projected Part B costs in this report are higher than those in the previous report due to recent legislation and higher Medicare

Advantage spending. The short-range Part D projections are lower than in last year's report, largely due to the increase in drug manufacturer rebate assumptions, a decline in spending for hepatitis C drugs, and a slowdown in spending growth for diabetes drugs, but they are similar to last year's long-range projections due to slightly higher growth rate assumptions.

The financial projections shown for the Medicare program in this report reflect substantial, but very uncertain, cost savings deriving from provisions of the ACA and MACRA that lower increases in Medicare payment rates to most categories of health care providers. Without fundamental change in the current delivery system, these adjustments would probably not be viable indefinitely.

In view of these issues with provider payment rates, the Trustees note that the actual future costs for Medicare could exceed those shown in this report. Projections under an alternative scenario, as provided in section V.C and in a memorandum from the Office of the Actuary,[29] can help illustrate the potential magnitude of the understatement. For example, the total cost of Medicare in 2092 would be 8.9 percent of GDP under the alternative projections (versus 6.2 percent under current law), and the HI actuarial deficit would be 1.71 percent of taxable payroll (versus 0.82 percent). (The projected depletion date for the HI trust fund would be the same year.) Readers should interpret the projections shown in this report as illustrations of the very favorable impact of permanently slower growth in health care costs, if such slower growth is achievable. The illustrative alternative projections show the higher costs if not for these elements of current law.

Policy makers should determine effective solutions to the long-range HI financial imbalance. Even assuming that the provider payment rates will be adequate, the HI program does not meet either the Trustees' short-range test of financial adequacy or long-range test of close actuarial balance. HI revenues would cover only 91 percent of estimated expenditures in 2026 and 79 percent in 2050. By the end of the 75-year projection period, HI revenues could pay 85 percent of HI costs. Policy makers should also consider the likelihood that the price adjustments in current law may prove difficult to adhere to fully and may require even more changes to address the financial imbalance.

The projections in this year's report continue to demonstrate the need for timely and effective action to address Medicare's remaining

[29]See http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/ReportsTrustFunds/Downloads/2018TRAlternativeScenario.pdf.

financial challenges—including the projected depletion of the HI trust fund, this fund's long-range financial imbalance, and the rapid growth in Medicare expenditures. Furthermore, if the growth in Medicare costs is comparable to growth under the illustrative alternative projections, then these further policy reforms will have to address much larger financial challenges than those assumed under current law. The Board of Trustees believes that solutions can and must be found to ensure the financial integrity of HI in the short and long term and to reduce the rate of growth in Medicare costs through viable means. Consideration of such reforms should not be delayed. The sooner the solutions are enacted, the more flexible and gradual they can be. Moreover, the early introduction of reforms increases the time available for affected individuals and organizations—including health care providers, beneficiaries, and taxpayers—to adjust their expectations and behavior. The Board recommends that Congress and the executive branch work closely together with a sense of urgency to address these challenges.

III. ACTUARIAL ANALYSIS

A. INTRODUCTION

The Actuarial Analysis section focuses on the costs and financing of the individual HI and SMI trust fund accounts. The Trustees perform an analysis for each trust fund individually, to determine whether each account's income and expenditures are balanced as necessary to maintain solvency. (It is also valuable to consider Medicare's total expenditures and the sources and relative magnitudes of the program's revenues. Section V.B presents such information for Medicare overall.)

For this report, projections are shown in two different ways. The cash basis reflects the date when payment for the service was made, whereas the incurred basis reflects the date when the service was performed. The projections are first prepared on an incurred basis, and then adjustments are made to account for costs on a cash basis. Generally, trust fund operations show the actual or projected income and expenditures on a cash basis, while analysis and methodology are presented on an incurred basis.

The HI and SMI trust funds are separate and distinct, each with its own sources of financing. There are no provisions for using HI revenues to finance SMI expenditures, or vice versa, or for lending assets between the two trust funds. Moreover, the benefit provisions, financing methods, and, to a lesser degree, eligibility rules are very different between these Medicare components. In particular, both accounts of the SMI trust fund are automatically in financial balance, whereas the HI fund is not.

For these reasons, the Trustees can evaluate the financial status of the Medicare trust funds only by separately assessing the status of each fund. Sections III.B, III.C, and III.D of this report present such assessments for HI (Part A), SMI Part B, and SMI Part D, respectively. The Trustees also provide key results based on an illustrative alternative scenario in section V.C.

B. HI FINANCIAL STATUS

This section presents actual HI trust fund operations in 2017 and HI trust fund projections for the next 75 years. Section III.B1 discusses HI financial results for 2017, and sections III.B2 and III.B3 discuss the short-range HI projections and the long-range projections, respectively. The projections shown in sections III.B2 and III.B3 assume no changes will occur in the statutory provisions and regulations under which HI now operates.[30]

1. Financial Operations in Calendar Year 2017

On July 30, 1965, the Social Security Act established the Federal Hospital Insurance Trust Fund as a separate account in the U.S. Treasury. All the HI financial operations occur within this fund.

Table III.B1 presents a statement of the revenue and expenditures of the fund in calendar year 2017, and of its assets at the beginning and end of the calendar year.

The total assets of the trust fund amounted to $199.1 billion on December 31, 2016. During calendar year 2017, total revenue amounted to $299.4 billion, and total expenditures were $296.5 billion. Total assets thus increased by $2.8 billion during the year to $202.0 billion on December 31, 2017.

[30]The one exception is that the projections disregard payment reductions that would result from the projected depletion of the HI trust fund.

Table III.B1.—Statement of Operations of the HI Trust Fund during Calendar Year 2017

[In thousands]

Total assets of the trust fund, beginning of period	$199,136,912
Revenue:	
Payroll taxes	$261,495,446
Income from taxation of OASDI benefits	24,206,000
Interest on investments	7,388,939
Premiums collected from voluntary participants	3,462,720
Premiums collected from Medicare Advantage participants	391,364
ACA Medicare shared savings program receipts	13,497
Transfer from Railroad Retirement account	606,400
Reimbursement, transitional uninsured coverage	147,000
Reimbursement, program management general fund	877,500
Interfund interest payments to OASDI[1]	−552
Interest on reimbursements, Railroad Retirement	30,983
Other	1,175
Reimbursement, union activity	903
Fraud and abuse control receipts:	
Criminal fines	12,046
Civil monetary penalties	46,470
Civil penalties and damages, Department of Justice	372,583
Asset forfeitures, Department of Justice	26,250
3% administrative expense reimbursement, Department of Justice	11,606
General fund appropriation fraud and abuse, FBI	131,335
General fund transfer, Discretionary	165,821
Total revenue	$299,387,484
Expenditures:	
Net benefit payments	$293,348,884
Administrative expenses:	
Treasury administrative expenses	124,424
Salaries and expenses, SSA[2]	940,927
Salaries and expenses, CMS[3]	260,813
Salaries and expenses, Office of the Secretary, HHS	55,758
Medicare Payment Advisory Commission	7,155
Administration on aging funding	20,825
CMS program management–Affordable Care Act	4,679
Transfer to Patient-Centered Outcomes Research Trust Fund[4]	61,041
ACL State Health Insurance Assistance Program[5]	41,884
MACRA[6]	16,947
Transfer to Administration for Children and Families[7]	4,215
Fraud and abuse control expenses:	
HHS Medicare integrity program	615,852
HHS Office of Inspector General	277,361
Department of Justice	38,705
FBI	113,311
HCFAC Department of Justice Discretionary, CMS	116,458
HCFAC Office of Inspector General Discretionary, CMS	71,136
HCFAC Other HHS Discretionary, CMS	29,179
HCFAC Discretionary, CMS	398,459
Total administrative expenses	3,199,129
Total expenditures	$296,548,013
Net addition to the trust fund	2,839,471
Total assets of the trust fund, end of period	$201,976,383

[1]Reflects interest adjustments on the reallocation of administrative expenses among the Medicare trust funds, the OASDI trust funds, and the general fund of the Treasury. Estimated payments are made from the trust funds and then are reconciled, with interest, the next year when the actual costs are known. A positive figure represents a transfer to the HI trust fund from the other trust funds. A negative figure represents a transfer from the HI trust fund to the other funds.

[2]For facilities, goods, and services provided by SSA.

[3]Includes expenses of the Medicare Administrative Contractors. Also reflects a larger-than-usual downward adjustment of $1.8 billion for prior-year allocations among Part A, Part B, and Part D.

[4]Reflects amount transferred from the HI trust fund to the Patient-Centered Outcomes Research trust fund, as authorized by the Patient Protection and Affordable Care Act of 2010.
[5]Reflects amount transferred from the HI trust fund to the Administration for Community Living (ACL) for administration of the State Health Insurance Assistance program, as authorized by the Consolidated Appropriations Act of 2014.
[6]Represents amounts transferred from the HI trust fund for administration of provisions of the Medicare Access and CHIP Reauthorization Act of 2015 (MACRA).
[7]Reflects amount transferred from the HI trust fund to the Administration for Children and Families, as authorized by the Patient Protection and Affordable Care Act of 2010.

Note: Totals do not necessarily equal the sums of rounded components.

a. Revenues

The trust fund's primary source of income consists of amounts appropriated to it, under permanent authority, on the basis of taxes paid by workers, their employers, and individuals with self-employment earnings, in work covered by HI. Included in HI are workers covered under the OASDI program, those covered under the Railroad Retirement program, and certain Federal, State, and local employees not otherwise covered under the OASDI program.

HI taxes are payable without limit on a covered individual's total wages and self-employment earnings. For calendar years prior to 1994, taxes were computed on a person's annual earnings up to a specified maximum annual amount called the *maximum tax base*. Table III.B2 presents the maximum tax bases for 1966-1993. Legislation enacted in 1993 removed the limit on taxable income beginning in calendar year 1994.

Table III.B2 also shows the HI tax rates applicable in each of calendar years 1966 and later. For 2019 and thereafter, the tax rates shown are the rates scheduled in current law. As indicated in the footnote to the table, in 2013 and later employees and self-employed individuals pay an additional HI tax of 0.9 percent on their earnings above certain thresholds.

Table III.B2.—Tax Rates and Maximum Tax Bases

Calendar years	Maximum tax base	Tax rate (Percentage of taxable earnings)	
		Employees and employers, each	Self-employed
Past experience:			
1966	$6,600	0.35%	0.35%
1967	6,600	0.50	0.50
1968-71	7,800	0.60	0.60
1972	9,000	0.60	0.60
1973	10,800	1.00	1.00
1974	13,200	0.90	0.90
1975	14,100	0.90	0.90
1976	15,300	0.90	0.90
1977	16,500	0.90	0.90
1978	17,700	1.00	1.00
1979	22,900	1.05	1.05
1980	25,900	1.05	1.05
1981	29,700	1.30	1.30
1982	32,400	1.30	1.30
1983	35,700	1.30	1.30
1984	37,800	1.30	2.60
1985	39,600	1.35	2.70
1986	42,000	1.45	2.90
1987	43,800	1.45	2.90
1988	45,000	1.45	2.90
1989	48,000	1.45	2.90
1990	51,300	1.45	2.90
1991	125,000	1.45	2.90
1992	130,200	1.45	2.90
1993	135,000	1.45	2.90
1994-2012	no limit	1.45	2.90
2013-2018	no limit	1.45[1]	2.90[1]
Scheduled in current law:			
2019 & later	no limit	1.45[1]	2.90[1]

[1]Beginning in 2013, workers pay an additional 0.9 percent of their earnings above $200,000 (for those who file an individual tax return) or $250,000 (for those who file a joint income tax return).

Total HI payroll tax income in calendar year 2017 amounted to $261.5 billion—an increase of 3.1 percent over the amount of $253.5 billion for the preceding 12-month period. This increase in tax income resulted primarily from increases in the number of workers and their average earnings.

Up to 85 percent of an individual's or couple's OASDI benefits may be subject to Federal income taxation if their income exceeds certain thresholds. The income tax revenue attributable to the first 50 percent of OASDI benefits is allocated to the OASI and DI trust funds. The revenue associated with the amount between 50 and 85 percent of benefits is allocated to the HI trust fund. Income from the taxation of OASDI benefits amounted to $24.2 billion in calendar year 2017.

Another substantial source of trust fund income is interest credited from investments in government securities held by the fund. In calendar year 2017, the fund received $7.4 billion in such interest. A

description of the trust fund's investment procedures appears later in this section.

Section 1818 of the Social Security Act provides that certain persons not otherwise eligible for HI protection may obtain coverage by enrolling in HI and paying a monthly premium. In 2017, premiums collected from such voluntary participants (or paid on their behalf by Medicaid) amounted to about $3.5 billion.

The Railroad Retirement Act provides for a system of coordination and financial interchange between the Railroad Retirement program and the HI trust fund. This financial interchange requires a transfer that would place the HI trust fund in the same position in which it would have been if the Social Security Act had always covered railroad employment. In accordance with these provisions, a transfer of $606 million in principal and about $21 million in interest from the Railroad Retirement program's Social Security Equivalent Benefit Account to the HI trust fund balanced the two systems as of September 30, 2016. The trust fund received this transfer, together with interest to the date of transfer totaling about $10 million, in June 2017.

Legislation in 1982 added transitional entitlement for those Federal employees who retire before having had a chance to earn sufficient quarters of Medicare-qualified Federal employment. The general fund of the Treasury provides reimbursement for the costs of this coverage, including administrative expenses. In calendar year 2017, such reimbursement amounted to $147 million for estimated benefit payments for these beneficiaries.

The Health Insurance Portability and Accountability Act of 1996 established a health care fraud and abuse control account within the HI trust fund. Monies derived from the fraud and abuse control program are transferred from the general fund of the Treasury to the HI trust fund. During calendar year 2017, the trust fund received about $0.8 billion from this program.

b. Expenditures

The HI trust fund pays expenditures for HI benefit payments and administrative expenses. All HI administrative expenses incurred by the Department of Health and Human Services, the Social Security Administration, the Department of the Treasury (including the Internal Revenue Service), and the Department of Justice in administering HI are charged to the trust fund. Such administrative

duties include payment of benefits, the collection of taxes, fraud and abuse control activities, and experiments and demonstration projects designed to determine various methods of increasing efficiency and economy in providing health care services, while maintaining the quality of such services, under HI and SMI.

In addition, Congress has authorized expenditures from the trust funds for construction, rental and lease, or purchase contracts of office buildings and related facilities for use in connection with the administration of HI. Although trust fund expenditures include these costs, the statement of trust fund assets presented in this report does not carry the net worth of facilities and other fixed capital assets because the proceeds of sales of such assets revert to the General Services Administration. Since the value of fixed capital assets does not represent funds available for benefit or administrative expenditures, the Trustees do not consider it in assessing the actuarial status of the funds.

Of the $296.5 billion in total HI expenditures, $293.3 billion represented net benefits paid from the trust fund for health services.[31] Net benefit payments increased 4.6 percent in calendar year 2017 over the corresponding amount of $280.5 billion paid during the preceding calendar year. Enrollment increased by 2.3 percent, and per capita costs increased by 2.2 percent. This small per capita increase was due to the continuing effects of implementation of certain provisions of the ACA and to a reduction in the utilization of services. Further information on HI benefits by type of service is available in section IV.A.

The remaining $3.2 billion in expenditures was for net HI administrative expenses, after adjustments to the preliminary allocation of administrative costs among the Social Security and Medicare trust funds and the general fund of the Treasury. The adjustments this year were larger than usual, lowering these expenditures by $1.8 billion. The $3.2 billion also included $1.7 billion for the health care fraud and abuse control program.

c. Actual experience versus prior estimates

Table III.B3 compares the actual experience in calendar year 2017 with the estimates presented in the 2016 and 2017 annual reports. A number of factors can contribute to differences between estimates and

[31]Net benefits equal the total gross amounts initially paid from the trust fund during the year, less recoveries of overpayments identified through fraud and abuse control activities.

subsequent actual experience. In particular, actual values for key economic and other variables can differ from assumed levels, and legislative and regulatory changes may occur after a report's preparation. The comparison in table III.B3 indicates that actual HI payroll tax income in 2017 was slightly lower than estimated in the 2016 and 2017 reports. This was the case because of lower growth in average wages. Actual HI benefit payments in calendar year 2017 were slightly higher than projected in the 2017 report largely due to higher utilization of services than previously estimated, and such payments were slightly lower than projected in the 2016 report largely due to lower utilization of services than previously estimated.

Table III.B3.—Comparison of Actual and Estimated Operations of the HI Trust Fund, Calendar Year 2017

[Dollar amounts in millions]

		Comparison of actual experience with estimates for calendar year 2016 published in—			
		2017 report		2016 report	
Item	Actual amount	Estimated amount[1]	Actual as a percentage of estimate	Estimated amount[1]	Actual as a percentage of estimate
Payroll taxes	$261,495	$267,171	98%	$265,304	99%
Benefit payments[2]	293,349	290,110	101	296,111	99

[1]Under the intermediate assumptions.

[2]Benefit payments include additional premiums for Medicare Advantage plans that are deducted from beneficiaries' Social Security benefits, costs of Quality Improvement Organizations, and health information technology payments.

d. Assets

The Department of the Treasury invests, on a daily basis, the portion of the trust fund not needed to meet current expenditures for benefits and administration in interest-bearing obligations of the U.S. Government. The Social Security Act authorizes the issuance of special public-debt obligations for purchase exclusively by the trust fund. The law requires that these special public-debt obligations bear interest at a rate based on the average market yield (computed on the basis of market quotations as of the end of the calendar month immediately preceding the date of such issue) for all marketable interest-bearing obligations of the United States forming a part of the public debt that are not due or callable until after 4 years from the end of that month. Currently, all invested assets of the HI trust fund are in the form of such special-issue securities.[32] Table V.H9, presented in section V.H, shows the assets of the HI trust fund at the end of fiscal years 2016 and 2017.

[32]The Department of the Treasury may also make investments in obligations guaranteed as to both principal and interest by the United States, including certain federally sponsored agency obligations.

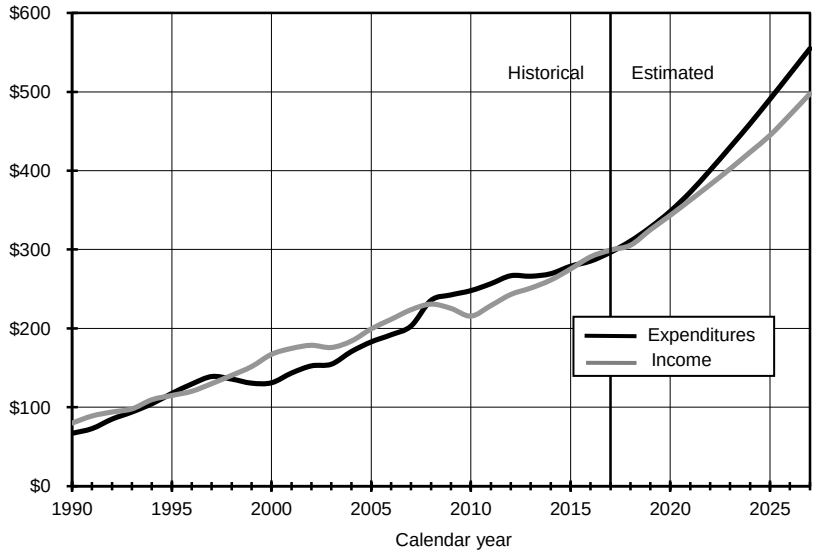
2. 10-Year Actuarial Estimates (2018-2027)

This section provides detailed information concerning the short-range financial status of the trust fund, including projected annual income, outgo, differences between income and outgo, and trust fund balances. Also discussed is the Trustees' test of short-range financial adequacy.

To illustrate the sensitivity of future costs to different economic and demographic factors and to portray a reasonable range of possible future trends, the Trustees show estimates under three alternative sets of economic and demographic assumptions—intermediate, low-cost, and high-cost assumptions. Due to the uncertainty inherent in such projections, however, the actual operations of the HI trust fund in the future could differ significantly from these estimates.

Figure III.B1 shows past and projected income and expenditures for the HI trust fund under the Trustees' intermediate assumptions. Following the Balanced Budget Act of 1997, the fund experienced annual surpluses through 2007. Beginning in 2008, expenditures exceeded total income, and this situation continued through 2015. In 2016 and 2017, the fund experienced small surpluses. Annual deficits are expected to return in 2018 and to continue throughout the projection period.

Figure III.B1.—HI Expenditures and Income
[In billions]



The impact of the December 2007 through June 2009 recession on HI payroll tax income is apparent in figure III.B1. In 2009 and 2010,

payroll taxes decreased substantially as a result of higher unemployment and slow growth in wages along with collection lags; these factors contributed to the $32.3-billion trust fund deficit in 2010. For 2011 through 2015, revenues rebounded somewhat but not enough to reach the level of expenditures, which continued to grow due to increased enrollment and the regular updating of the payment rates. Together these factors resulted in a decline in trust fund deficits from $27.7 billion in 2011 to $3.5 billion in 2015. In 2016 and 2017, a lower level of growth in expenditures combined with higher growth in payroll taxes led to surpluses of $5.4 billion and $2.8 billion, respectively, in the trust fund.

Despite a significant increase in the number of beneficiaries over the last decade, expenditure growth has been slower than observed throughout the history of the program due to a reduction in price updates and low utilization of services. For example, beginning in 2012, the ACA reduced price updates for all HI providers by the growth in economy-wide productivity. For 2012 through 2017, these update reductions slowed expenditure growth rates by 0.6 percentage point on average and are projected to lower HI expenditure growth by 1 percentage point by 2026.

HI expenditures are further affected by the sequestration of non-salary Medicare expenditures. The sequestration reduces benefit payments by 2 percent from April 1, 2013 through March 31, 2027 and by 4 percent from April 1, 2027 through September 30, 2027. Due to sequestration, non-salary administrative expenses are reduced by an estimated 5 to 7 percent from March 1, 2013 through September 30, 2027.

As figure III.B1 illustrates, HI income increased at a faster rate during 2011-2016 than HI expenditures, in contrast to the situation that has prevailed during most of the program's history. The recovery from the economic recession (which ended in 2009) accelerated income growth during this period. At the same time, the ACA provisions mentioned previously slowed expenditure growth significantly. In 2017, however, expenditure growth increased more rapidly than income growth, a reversal that is expected to continue for most years of the projection period.

Table III.B4 shows the expected operations of the HI trust fund during calendar years 2018 to 2027 based on the intermediate set of assumptions, together with the past experience. Section IV.A of this report presents the detailed assumptions underlying the intermediate projections.

The increases in estimated income shown in table III.B4 primarily reflect increases in payroll tax income to the trust fund since such taxes are the main source of HI financing. As noted, payroll tax revenues increase in 2013 and later as a result of the additional 0.9-percent tax rate on earnings for high-income workers. For all other workers, while the payroll tax rate will remain constant under current law, covered earnings would increase every year under the intermediate assumptions due to projected increases in both the number of HI workers covered and the average earnings of these workers.

The income from taxation of Social Security benefits is expected to decrease beginning in 2018 due to recent legislation that lowered individual income taxes through 2025.

Table III.B4.—Operations of the HI Trust Fund during Calendar Years 1970-2027

[In billions]

	Income								Expenditures			Trust fund	
Calendar year	Payroll taxes	Income from taxation of benefits	Railroad Retirement account transfers	Reimburse-ment for uninsured persons	Premiums from voluntary enrollees	Payments for military wage credits	Interest and other[1,2]	Total	Benefit payments[2,3]	Administrative expenses[4]	Total	Net change	Fund at end of year
Historical data:													
1970	$4.9	—	$0.1	$0.9	—	$0.0	$0.2	$6.0	$5.1	$0.2	$5.3	$0.7	$3.2
1975	11.5	—	0.1	0.6	$0.0	0.0	0.7	13.0	11.3	0.3	11.6	1.4	10.5
1980	23.8	—	0.2	0.7	0.0	0.1	1.1	26.1	25.1	0.5	25.6	0.5	13.7
1985	47.6	—	0.4	0.8	0.0	−0.7[5]	3.4	51.4	47.6	0.8	48.4	4.8[6]	20.5
1990	72.0	—	0.4	0.4	0.1	−1.0[7]	8.5	80.4	66.2	0.8	67.0	13.4	98.9
1995	98.4	$3.9	0.4	0.5	1.0	0.1	10.8	115.0	116.4	1.2	117.6	−2.6	130.3
2000	144.4	8.8	0.5	0.5	1.4	0.0	11.7	167.2	128.5[8]	2.6	131.1	36.1	177.5
2005	171.4	8.8	0.4	0.3	2.4	0.0	16.1	199.4	180.0	2.9	182.9	16.4	285.8
2010	182.0	13.8	0.5	−0.1	3.3	0.0	16.1	215.6	244.5	3.5	247.9	−32.3	271.9
2011	195.6	15.1	0.5	0.3	3.3	0.0	14.2	228.9	252.9	3.8	256.7	−27.7	244.2
2012	205.7	18.6	0.5	0.3	3.4	0.0	14.5	243.0	262.9	3.9	266.8	−23.8	220.4
2013	220.8	14.3	0.6	0.2	3.4	0.0	11.8	251.1	261.9	4.3	266.2	−15.0	205.4
2014	227.4	18.1	0.6	0.2	3.3	0.0	11.7	261.2	264.9	4.5	269.3	−8.1	197.3
2015	241.1	20.2	0.6	0.2	3.2	0.0	10.1	275.4	273.4	5.5	278.9	−3.5	193.8
2016	253.5	23.0	0.7	0.2	3.3	0.0	10.1	290.8	280.5	4.9	285.4	5.4	199.1
2017	261.5	24.2	0.6	0.1	3.5	0.0	9.4	299.4	293.3	3.2[9]	296.5	2.8	202.0
Intermediate estimates:													
2018	268.0	23.8	0.6	0.1	3.8	0.0	9.2	305.5	305.5	5.2	310.7	−5.2	196.8
2019	286.5	24.8	0.6	0.1	4.0	0.0	9.0	325.0	322.7	5.5	328.2	−3.1	193.6
2020	302.0	27.6	0.6	0.1	4.2	0.0	8.9	343.4	342.6	5.9	348.5	−5.1	188.5
2021	318.3	30.6	0.7	0.1	4.4	0.0	8.5	362.7	366.4	6.3	372.7	−10.1	178.4
2022	335.2	33.7	0.7	0.1	4.7	0.0	7.8	382.3	393.9	6.8	400.7	−18.4	160.0
2023	352.6	36.9	0.7	0.1	5.0	0.0	7.0	402.3	422.6	7.2	429.8	−27.5	132.6
2024	370.9	40.3	0.7	0.1	5.4	0.0	6.2	423.5	451.9	7.7	459.5	−36.1	96.5
2025	389.1	43.9	0.8	0.1	5.7	0.0	5.3	444.8	482.6	8.2	490.8	−46.0	50.5
2026[10]	408.1	51.9	0.8	0.1	6.0	0.0	3.8	470.8	514.0	8.7	522.7	−51.9	−1.4
2027[10]	426.8	60.6	0.8	0.0	6.4	0.0	2.8	497.5	545.5	9.4	554.8	−57.3	−58.7

[1]Other income includes recoveries of amounts reimbursed from the trust fund that are not obligations of the trust fund, receipts from the fraud and abuse control program, and a small amount of miscellaneous income. These receipts amount to $2.5-$4.9 billion each year for the 10-year projection period. In 2008, other income includes an adjustment of −$0.9 billion for interest earned as a result of Part A hospice costs that were misallocated to the Part B trust fund account.
[2]Values after 2005 include additional premiums for Medicare Advantage plans that are deducted from beneficiaries' Social Security benefits. These additional premiums are beneficiary obligations and occur when a beneficiary chooses an MA plan whose monthly plan payment exceeds the benchmark amount. Beneficiaries subject to such premiums may choose to either reimburse the plans directly or have the premiums deducted from their Social Security benefits. The premiums deducted from the Social Security benefits are transferred to the HI and SMI trust funds and then transferred from the trust funds to the plans.
[3]Includes costs of Peer Review Organizations from 1983 through 2001 (beginning with the implementation of the prospective payment system on October 1, 1983) and costs of Quality Improvement Organizations beginning in 2002.
[4]Includes costs of experiments and demonstration projects. Beginning in 1997, includes fraud and abuse control expenses, as provided for by Public Law 104-191.
[5]Includes the lump-sum general revenue adjustment of −$0.8 billion, as provided for by section 151 of Public Law 98-21.
[6]Includes repayment of loan principal, from the OASI trust fund, of $1.8 billion.
[7]Includes the lump-sum general revenue adjustment of −$1.1 billion, as provided for by section 151 of Public Law 98-21.
[8]For 1998 to 2003, includes monies transferred to the SMI trust fund for home health agency costs, as provided for by Public Law 105-33.
[9]Reflects a larger-than-usual downward adjustment of $1.8 billion for prior-year allocations among Part A, Part B, and Part D.
[10]Estimates for 2026 and 2027 are hypothetical since the HI trust fund would be depleted in those years.

Note: Totals do not necessarily equal the sums of rounded components.

The Trustees project that over the next 10 years most of the smaller sources of financing for the HI trust fund will increase as well. More detailed descriptions of these sources of income were discussed earlier in this section.

Interest earnings have been a significant source of income to the trust fund for many years, surpassed only by payroll taxes and, recently, income from the taxation of OASDI benefits. As the trust fund balance decreases, interest earnings would follow the same pattern.

The Trustees have recommended maintenance of HI trust fund assets at a level of at least 100 percent of annual expenditures throughout the projection period. Such a level would provide a cushion of several years in the event that income falls short of expenditures, thereby allowing time for policy makers to implement legislative corrections. The trust fund balance has been below 1 year's expenditures in every year since 2012 and is not projected to reach that level under the intermediate assumptions.

The Trustees have also prepared projections using two alternative sets of assumptions. Table III.B5 summarizes the estimated operations under all three alternatives. Section IV.A presents in substantial detail the assumptions underlying the intermediate assumptions, as well as the assumptions used in preparing estimates under the low-cost and high-cost alternatives.

Table III.B5.—Estimated Operations of the HI Trust Fund during Calendar Years 2017-2027, under Alternative Sets of Assumptions

[Dollar amounts in billions]

Calendar year	Total income	Total expenditures	Net increase in fund	Fund at end of year	Ratio of assets to expenditures[1] (percent)	Expenditures as a percentage of taxable payroll
Intermediate:						
2017[2]	$299.4	$296.5	$2.8	$202.0	67%	3.45%
2018	305.5	310.7	−5.2	196.8	65	3.42
2019	325.0	328.2	−3.1	193.6	60	3.45
2020	343.4	348.5	−5.1	188.5	56	3.48
2021	362.7	372.7	−10.1	178.4	51	3.54
2022	382.3	400.7	−18.4	160.0	45	3.62
2023	402.3	429.8	−27.5	132.6	37	3.70
2024	423.5	459.5	−36.1	96.5	29	3.77
2025	444.8	490.8	−46.0	50.5	20	3.84
2026[3]	470.8	522.7	−51.9	−1.4	10	3.91
2027[3]	497.5	554.8	−57.3	−58.7	[4]	3.98
Low-cost:						
2017[2]	299.4	296.5	2.8	202.0	67	3.44
2018	308.3	306.2	2.1	204.1	66	3.33
2019	337.0	321.4	15.6	219.7	64	3.25
2020	364.4	341.3	23.0	242.8	64	3.21
2021	392.2	363.6	28.6	271.4	67	3.21
2022	420.4	388.0	32.3	303.7	70	3.22
2023	449.8	412.9	37.0	340.7	74	3.23
2024	481.8	437.8	43.9	384.6	78	3.23
2025	515.7	464.1	51.6	436.3	83	3.22
2026	556.9	490.7	66.2	502.5	89	3.22
2027	600.1	517.2	82.9	585.4	97	3.21
High-cost:						
2017[2]	299.4	296.5	2.8	202.0	67	3.47
2018	303.7	314.7	−11.0	191.0	64	3.49
2019	309.4	330.3	−21.0	170.0	58	3.66
2020	318.4	348.8	−30.4	139.7	49	3.76
2021	331.6	375.2	−43.6	96.1	37	3.89
2022	345.4	406.8	−61.4	34.7	24	4.06
2023[3]	359.7	440.3	−80.5	−45.9	8	4.23
2024[3]	373.7	474.7	−101.0	−146.9	[4]	4.39
2025[3]	385.6	511.5	−125.9	−272.7	[4]	4.56
2026[3]	401.2	549.7	−148.5	−421.2	[4]	4.72
2027[3]	415.5	588.3	−172.8	−594.0	[4]	4.90

[1]Ratio of assets in the fund at the beginning of the year to expenditures during the year.
[2]Figures for 2017 represent actual experience.
[3]Estimates are hypothetical for 2026 and later under the intermediate assumptions, and for 2023 and later under the high-cost assumptions, since the HI trust fund would be depleted in those years.
[4]Trust fund reserves would be depleted at the beginning of this year.

Note: Totals do not necessarily equal the sums of rounded components.

These alternatives provide two possible Part A scenarios but represent a narrow range of possible outcomes for total expenditures. Given the considerable variation in future demographic, economic, and healthcare-usage factors, actual Part A expenditure experience could easily fall outside of this range. The low- and high-cost scenarios in this year's report once again result in a narrower dollar expenditure range than in reports before 2014, due to a change in the alternative CPI

assumptions.[33] The taxable payroll assumptions for the alternative scenarios are also affected by the assumption change. Therefore, spending as a percentage of taxable payroll provides better insight into the variability of spending than the nominal dollar amounts, as shown in table III.B5.

The Board of Trustees has established an explicit test of short-range financial adequacy. The requirements of this test are as follows: (i) if the HI trust fund ratio is at least 100 percent at the beginning of the projection period, then it must remain at or above 100 percent throughout the 10-year projection period; (ii) alternatively, if the fund ratio is initially less than 100 percent, it must reach a level of at least 100 percent within 5 years (with no depletion of the trust fund at any time during this period) and then remain at or above 100 percent throughout the rest of the 10-year period. The Trustees apply this test based on the intermediate projections.

The HI trust fund does not meet this short-range test. Failure of the trust fund to meet this test is an indication that HI solvency over the next 10 years is in question and that action is necessary to improve the short-range financial adequacy of the fund. While the short-range test is stringent, its purpose is to ensure that health care benefits continue to be available without interruption to the millions of aged and disabled Americans who rely on such coverage. Table III.B6 shows the ratios of assets in the HI trust fund at the beginning of a calendar year to total expenditures during that year. As table III.B6 shows, the Trustees project that the trust fund ratio, which was below the 100-percent level at the beginning of 2018, will decrease for the entire projection period until the fund is depleted in 2026. Accordingly, the financing for HI is not considered adequate in the short range (2018-2027).

The projected trust fund depletion date is 2026, 3 years earlier than estimated in last year's report. HI income is projected to be lower than last year's estimates due to (i) lower payroll taxes attributable to lowered wages for 2017 and lower levels of projected GDP and (ii) lower income from the taxation of Social Security benefits as a result of legislation. Actual HI expenditures in 2017 were slightly higher than the previous estimate. The expenditure projections are slightly higher for the short-range period due to higher spending in 2017, legislation

[33]Starting with the 2014 report, the Trustees' alternative CPI assumptions are reversed compared with those in previous reports, so that the high-cost assumptions are now the low-cost assumptions, and vice versa. Inflation rates are now ordered across alternatives according to their effect on the OASDI actuarial balance. This change resulted in a narrow range of impacts.

that increased hospital spending, and higher Medicare Advantage payments.

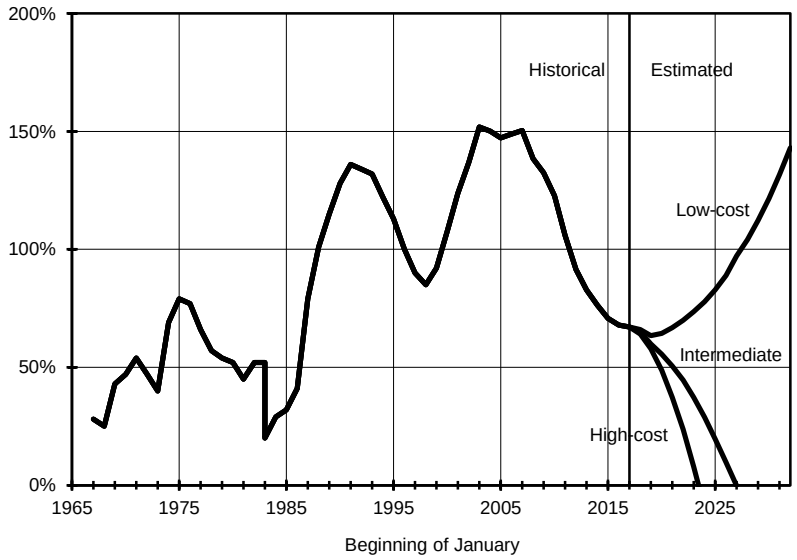
Table III.B6.—Ratio of Assets at the Beginning of the Year to Expenditures during the Year for the HI Trust Fund

Calendar year	Ratio
Historical data:	
1967	28%
1970	47
1975	79
1980	52
1985	32
1990	128
1995	113
2000	108
2005	147
2010	123
2011	106
2012	92
2013	83
2014	76
2015	71
2016	68
2017	67
Intermediate Estimates:	
2018	65
2019	60
2020	56
2021	51
2022	45
2023	37
2024	29
2025	20
2026	10
2027	[1]

[1]Trust fund reserves would be depleted at the beginning of this year.

Figure III.B2 shows the historical trust fund ratios and the projected ratios under the three sets of assumptions. It also shows the declining level of assets (as a percentage of expenditures) through the beginning of 2019 under all three sets of assumptions, reflecting the current financial imbalance as exacerbated by the lingering effects of the economic recession. The fund ratio would continue to decline after 2017 under both the intermediate and the high-cost assumptions. Only under conditions of robust economic growth and extremely low health care cost increases, as assumed in the low-cost alternative, would HI assets grow significantly relative to expenditures under current law.

Figure III.B2.—HI Trust Fund Balance at the Beginning of the Year as a Percentage of Annual Expenditures



The HI trust fund is projected to be depleted in 2026 under the intermediate assumptions. Under the low-cost assumptions, trust fund assets are projected to increase throughout the entire projection period, while asset depletion would occur in 2023 under the high-cost assumptions.

3. Long-Range Estimates

This section examines the long-range actuarial status of the trust fund under the three alternative sets of economic and demographic assumptions, while section IV.A summarizes the assumptions used in preparing projections.

The Trustees measure the long-range actuarial status of the HI trust fund by comparing, on a year-by-year basis, the non-interest income (from payroll taxes, taxation of OASDI benefits, premiums, general revenue transfers for uninsured persons, and monies derived from the fraud and abuse control program) with the corresponding incurred costs, expressed as percentages of taxable payroll.[34] These percentages are referred to as *income rates* and *cost rates*, respectively.

[34]Taxable payroll is the total amount of wages, salaries, tips, self-employment income, and other earnings subject to the HI payroll tax.

Table III.B7 shows historical and projected HI costs and income under the intermediate assumptions, expressed as percentages of taxable payroll. The ratio of expenditures to taxable payroll has generally increased over time; it rose from 1.10 percent in 1967 to 3.46 percent in 1996, an increase that reflected rapid growth in HI expenditures, which more than offset growth in average earnings per worker, and increases in (and eventual elimination of) the maximum taxable wage base for HI. Cost rates declined significantly between 1996 and 2000 to 2.65 percent due to favorable economic performance, the impact of the Balanced Budget Act of 1997, and efforts to curb fraud and abuse in the Medicare program. The cost rate increased to 3.17 percent by 2005 as a result of legislation and, after remaining about level through 2007, increased rapidly to 3.73 percent in 2009, reflecting the impact of the recession, which lowered taxable payroll. The resulting deficit in 2009 as a percentage of taxable payroll was the largest since the program began (0.54 percent). Cost rates have generally decreased since 2011 as the economy has recovered, while health care cost growth rates have been low.

Table III.B7.—HI Cost and Income Rates[1]

Calendar year	Cost rates	Income rates	Difference[2]
Historical data:			
1967	1.10%	1.09%	−0.01%
1970	1.35	1.41	+0.07
1975	1.79	1.90	+0.11
1980	2.27	2.16	−0.11
1985	2.70	2.75	+0.04
1990	2.72	2.92	+0.21
1995	3.36	3.05	−0.30
2000	2.65	3.11	+0.46
2005	3.17	3.12	−0.06
2010	3.75	3.20	−0.55
2011	3.75	3.21	−0.54
2012	3.67	3.24	−0.43
2013	3.68	3.33	−0.36
2014	3.52	3.34	−0.17
2015	3.44	3.35	−0.10
2016	3.49	3.35	−0.14
2017	3.45	3.36	−0.09
Intermediate estimates:			
2018	3.42	3.34	−0.08
2019	3.45	3.36	−0.09
2020	3.48	3.38	−0.10
2021	3.54	3.40	−0.14
2022	3.62	3.41	−0.21
2023	3.70	3.43	−0.27
2024	3.77	3.45	−0.32
2025	3.84	3.47	−0.37
2026	3.91	3.55	−0.35
2027	3.98	3.58	−0.40
2030	4.32	3.65	−0.68
2035	4.66	3.74	−0.92
2040	4.88	3.81	−1.07
2045	4.98	3.87	−1.12
2050	5.00	3.93	−1.07
2055	4.97	3.99	−0.98
2060	4.97	4.07	−0.91
2065	5.02	4.14	−0.88
2070	5.10	4.21	−0.90
2075	5.18	4.27	−0.91
2080	5.21	4.32	−0.90
2085	5.19	4.35	−0.84
2090	5.17	4.39	−0.77
2092	5.16	4.41	−0.75

[1]Based on the Trustees' intermediate assumptions, and expressed as a percentage of taxable payroll. Taxable payroll includes statutory wage credits for military service for 1957-2001.
[2]Difference between the income rates and cost rates. Negative values represent deficits.

The Trustees expect growing deficits through about 2045, as cost rates grow faster than income rates. The increase in cost rates during this period is mostly attributable to rising per beneficiary spending and the impact of demographic shifts—notably, the aging of the baby boom population. After 2045, the size of the projected deficits decreases as subsequent demographic shifts reduce the growth in cost rates, resulting in cost-rate growth that is lower than income-rate growth. Projected HI expenditures are 5.00 and 5.16 percent of taxable payroll in 2050 and 2092, respectively. (Under the illustrative alternative projections, the HI cost rates for 2050 and 2092 would equal 5.64 and 8.06 percent, respectively.)

Figure III.B3 shows the year-by-year costs as a percentage of taxable payroll for each of the three sets of assumptions. It also shows the income rates, but only for the intermediate assumptions in order to simplify the presentation.

Figure III.B3.—Estimated HI Cost and Income Rates as a Percentage of Taxable Payroll

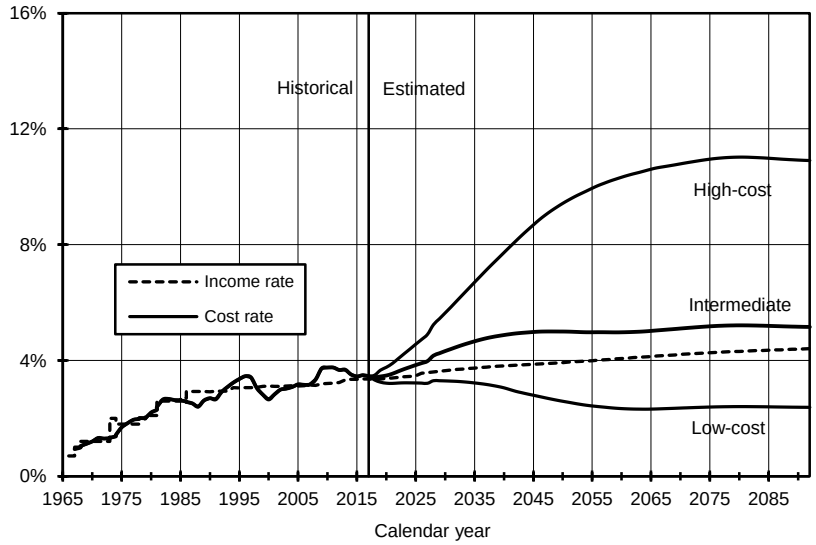


Figure III.B3 shows the remaining projected financial imbalance, based on the intermediate assumptions. The Trustees project that cost rates will continue to exceed income rates in all years of the projection period. By the end of the 75 years, the difference between income rates and cost rates would be about 0.7 percent of taxable payroll. Throughout the period, cost rate growth is constrained by the productivity reductions in provider payments, and income rates continue to increase as a larger share of earnings becomes subject to the additional 0.9-percent payroll tax and a larger share of Social Security benefits becomes subject to income tax that is credited to the HI trust fund.

Under the more favorable economic and demographic conditions assumed in the low-cost assumptions, HI costs would be lower than scheduled income during 2018-2092, and surpluses would steadily grow throughout the entire 75-year projection period. This very favorable result is due in large part to HI expenditure growth rates that would average only about 5 percent per year, reflecting the

combined effects of slower growth in utilization and intensity of services, and slower improvement in beneficiary life expectancies.

The high-cost projections illustrate the large financial imbalance that could occur if future economic conditions resemble those of the 1973-95 period, if HI expenditure growth accelerates toward pre-1997 levels, and if fertility rates decline.[35]

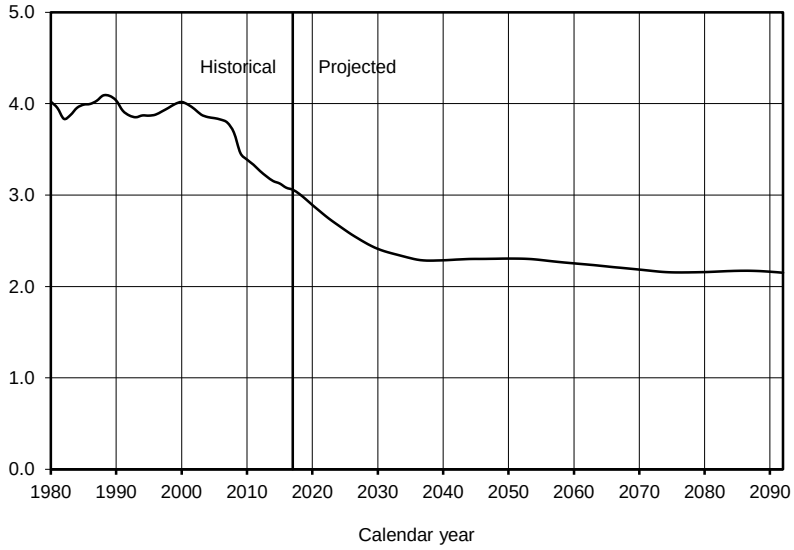
The Trustees project costs beyond the initial 25-year period for the intermediate estimate based on the assumption that average HI expenditures per beneficiary will increase at a rate determined by the economic model described in sections II.C and IV.D, less the price update adjustments based on economy-wide productivity gains. This net rate is about equal to the increase in Gross Domestic Product (GDP) per capita in 2042 and declines to about 0.3 percentage point *slower* than the growth in GDP by 2092. Beyond the initial 25-year projection period, the low-cost and high-cost alternatives assume that HI cost increases, relative to taxable payroll increases, are initially 2 percentage points less rapid and 2 percentage points more rapid, respectively, than the results under the intermediate assumptions. The assumed initial 2-percentage-point differentials decrease gradually until the year 2067, when HI cost increases (relative to taxable payroll) are assumed to be the same as under the intermediate assumptions.

Figure III.B3 shows the cost rates over a 75-year valuation period in order to present fully the future economic and demographic developments that one may reasonably expect to occur, such as the impact of the large increase in the number of people over age 65 that began to take place in 2011. Growth occurs in part because the ratio of workers to beneficiaries will decrease as persons born during the period between the end of World War II and the mid-1960s (known as the baby boom generation) reach eligibility age and begin to receive benefits.

Figure III.B4 shows the projected ratio of workers per HI beneficiary from 1980 to 2092. As figure III.B4 indicates, the ratio was about 4 workers per beneficiary from 1980 through 2008. It began to decline initially due to the recession but then declined further due to the retirement of the baby boom generation.

[35]Actual experience during these periods was similar on average to the high-cost economic and programmatic assumptions for the future.

Figure III.B4.—Workers per HI Beneficiary
[Based on intermediate assumptions]



While every beneficiary in 2017 had about 3.1 workers to pay for his or her HI benefit, in 2030 under the intermediate demographic assumptions there would be only about 2.4 workers for each beneficiary. This ratio would then continue to decline until there were only 2.1 workers per beneficiary in 2092. This reduction implies an increase in the HI cost rate of about 50 percent by 2092, relative to its current level, solely due to this demographic factor.[36]

While year-by-year comparisons of revenues and costs are necessary to measure the adequacy of HI financing, the financial status of the trust fund is often summarized, over a specific valuation period, by a single measure known as the *actuarial balance*. The actuarial balance of the HI trust fund is defined as the difference between the summarized income rate for the valuation period and the summarized cost rate for the same period.

The summarized income rates, cost rates, and actuarial balance are based upon the present values of future income, costs, and taxable payroll. The Trustees calculate the present values, as of the beginning of the valuation period, by discounting the future annual amounts of

[36]In addition to this factor, the projected increase in the HI cost rate reflects greater use of health care services as the beneficiary population ages and higher average costs per service due to medical price inflation and technological advances in care. The slower growth in Medicare payment rates to HI providers under the ACA substantially offsets these increases.

income and outgo using the projected effective rates of interest credited to the HI trust fund for the first 10 years and grade to the ultimate interest rate assumption by year 15. They then determine the summarized income and cost rates over the projection period by dividing the present value of income and cost, respectively, by the present value of taxable payroll. The difference between the summarized income rate and cost rate over the long-range projection period (after an adjustment to take into account the fund balance at the valuation date and a target trust fund balance at the end of the valuation period) is the actuarial balance.

The summarized cost rate includes the cost of maintaining a trust fund balance at the end of the period equal to the following year's estimated costs. While a zero or positive actuarial balance implies that the end-of-period trust fund balance is at least as large as the target trust fund balance, there is no such implication for the trust fund balance at other times during the projection period.

Table III.B8 shows the actuarial balances based on the Trustees' three sets of economic and demographic assumptions, for the next 25, 50, and 75 years. Based on the intermediate set of assumptions, the summarized income rate for the entire 75-year period is 3.95 percent of taxable payroll and the summarized cost rate is 4.77 percent. As a result, the actuarial balance is −0.82 percent, and the HI trust fund fails to meet the Trustees' long-range test of close actuarial balance.[37]

One can interpret the actuarial balance as the percentage that could be added to the income rates and/or subtracted from the cost rates immediately and throughout the entire valuation period in order for the financing to support HI costs and provide for the targeted trust fund balance at the end of the projection period. The income rate increase according to this method is 0.82 percent of taxable payroll. However, if no such changes occurred until 2026, when the trust fund would be depleted, then the required increase would be 0.94 percent of taxable payroll under the intermediate assumptions.[38]

[37]This test is defined in section V.I.

[38]Actuarial balance could also be reached by reducing benefits by 17 percent every year immediately, or by making no change until 2026 and then reducing benefits by 19 percent.

Table III.B8.—HI Actuarial Balances under Three Sets of Assumptions

	Intermediate assumptions	Alternative	
		Low-Cost	High-Cost
Valuation periods:[1]			
25 years, 2018-2042:			
Summarized income rate	3.70	3.66	3.75
Summarized cost rate	4.41	3.31	5.88
Actuarial balance	−0.71	0.35	−2.13
50 years, 2018-2067:			
Summarized income rate	3.83	3.81	3.88
Summarized cost rate	4.65	2.92	7.50
Actuarial balance	−0.82	0.89	−3.62
75 years, 2018-2092:			
Summarized income rate	3.95	3.93	4.00
Summarized cost rate	4.77	2.76	8.25
Actuarial balance	−0.82	1.17	−4.25

[1]Income rates include beginning trust fund balances, and cost rates include the cost of attaining a trust fund balance at the end of the period equal to 100 percent of the following year's estimated expenditures.

Note: Totals do not necessarily equal the sums of rounded components.

The divergence in outcomes among the three sets of assumptions is apparent both in the estimated operations of the trust fund on a cash basis (as discussed in section III.B2) and in the 75-year summarized costs. Under the low-cost economic and demographic assumptions, the summarized cost rate for the 75-year valuation period is 2.76 percent of taxable payroll, and the summarized income rate is 3.93 percent of taxable payroll; accordingly, HI income rates would be adequate under the highly favorable conditions assumed in the low-cost alternative. Under the high-cost assumptions, the summarized cost rate for the 75-year projection period is 8.25 percent of taxable payroll, which is more than twice the summarized income rate of 4.00 percent of taxable payroll.

As suggested earlier, past experience has indicated that economic and demographic conditions that are as financially adverse as those assumed under the high-cost alternative can, in fact, occur over many years. Readers should view all of the alternative sets of economic and demographic assumptions as plausible. The wide range of results under the three sets of assumptions is indicative of the uncertainty of HI's future cost and its sensitivity to future economic and demographic conditions. Accordingly, it is important to maintain an adequate balance in the HI trust fund as a reserve for contingencies and to promptly address financial imbalances through corrective legislation.

Table III.B9 shows the long-range actuarial balance under the intermediate projections with its component parts—the present values of tax income, expenditures, and asset requirement of the HI program over the next 75 years.

Table III.B9.—Components of 75-Year HI Actuarial Balance under Intermediate Assumptions (2018-2092)

Present value as of January 1, 2018 (in billions):	
a. Payroll tax income	$19,131
b. Taxation of benefits income	3,206
c. Fraud and abuse control receipts	135
d. Other Income	336
e. Total income (a + b + c + d)	22,807
f. Expenditures	27,515
g. Expenditures minus income (f − e)	4,708
h. Trust fund assets at start of period	202
i. Open-group unfunded obligation (g − h)	4,506
j. Ending target trust fund[1]	279
k. Present value of actuarial balance (e − f + h − j)	−4,784
l. Taxable payroll	582,266
Percent of taxable payroll:	
Actuarial balance (k ÷ l)	−0.82%

[1]The calculation of the actuarial balance includes the cost of accumulating a target trust fund balance equal to 100 percent of annual expenditures by the end of the period.

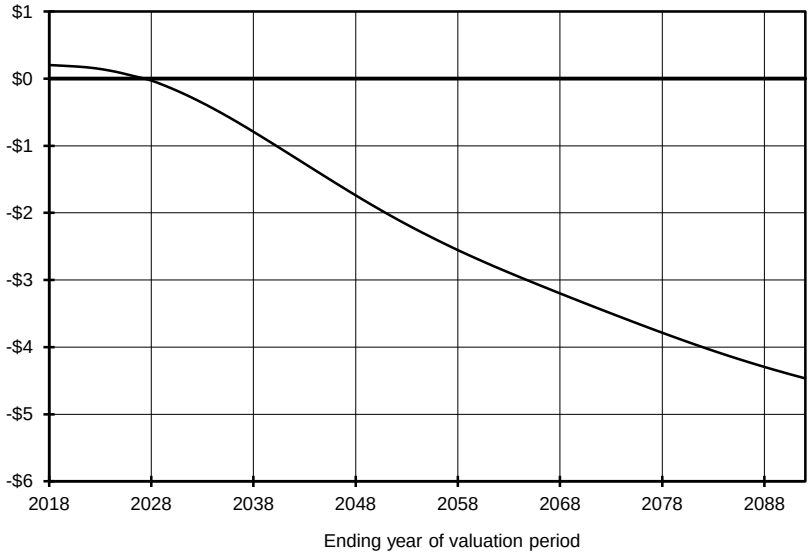
Note: Totals do not necessarily equal the sums of rounded components.

The present value of future expenditures less future tax income, decreased by the amount of HI trust fund assets on hand at the beginning of the projection, amounts to $4.5 trillion. This value is referred to as the 75-year unfunded obligation for the HI trust fund, and it is higher than last year's value of $3.3 trillion. The actuarial balance is like the unfunded obligation except that (i) it is a measure of the degree to which the program is funded rather than unfunded and so is opposite in sign; (ii) it includes the trust fund balance at the end of 75 years as a cost; and (iii) it is expressed as a percentage of taxable payroll. Specifically, the actuarial balance is −0.82 percent of taxable payroll and is calculated as the trust fund balance plus the present value of revenues less the present value of costs (−$4.5 trillion), less the present value of the target trust fund balance ($279 billion), all divided by the present value of future taxable payroll ($582.3 trillion).

Figure III.B5 shows the present values, as of January 1, 2018, of cumulative HI taxes less expenditures (plus the 2018 trust fund) through each of the next 75 years. The Trustees estimate these values under current-law expenditures and tax rates.

Figure III.B5.—Present Value of Cumulative HI Taxes Less Expenditures through Year Shown, Evaluated under Current-Law Tax Rates and Legislated Expenditures

[Present value as of January 1, 2018; in trillions]



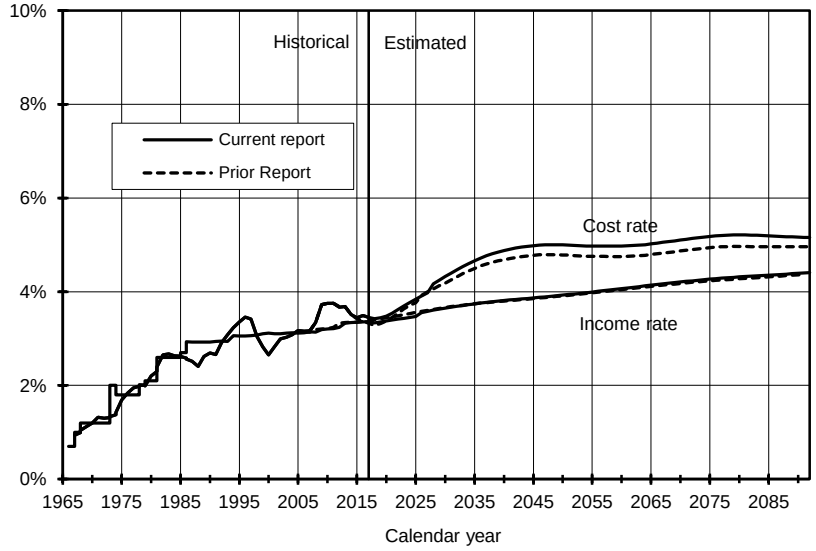
The cumulative annual balance of the trust fund at the beginning of 2017 is about $0.2 trillion. The cumulative present value steadily declines over the projection period due to the anticipated shortfall of tax revenues, relative to expenditures, in all years. The projected depletion date of the trust fund is 2026, at which time cumulative expenditures would have exceeded cumulative tax revenues by enough to equal the initial fund assets accumulated with interest. The continuing downward slope in the line thereafter further illustrates the difference between the HI expenditures projected under current law and the financing currently scheduled to support these expenditures. As noted previously, over the full 75-year period, the fund has a projected present value unfunded obligation of $4.5 trillion. This unfunded obligation indicates that if $4.5 trillion were added to the trust fund at the beginning of 2018, the program would meet the projected cost of expenditures over the next 75 years. More realistically, additional annual revenues and/or reductions in expenditures, with a present value totaling $4.5 trillion, would be necessary to reach financial balance (but with zero trust fund assets at the end of 2092).

The estimated unfunded obligation of $4.5 trillion and the closely associated present value of the actuarial deficit ($4.8 trillion) are useful indicators of the sizable financial burden facing the American

public. In other words, increases in revenues and/or reductions in benefit expenditures—equivalent to a lump-sum amount today of $4.8 trillion—would be necessary to bring the HI trust fund into long-range financial balance. At the same time, long-range measures expressed in dollar amounts can be difficult to interpret, even when calculated as present values, which are sensitive to the underlying discount rate assumptions. For this reason, the Board of Trustees has customarily emphasized relative measures, such as the income rate and cost rate comparisons shown earlier in this section, and comparisons to the present value of future taxable payroll or GDP.

Figure III.B6 compares the year-by-year HI cost and income rates for the current annual report with the corresponding projections from the 2017 report.

Figure III.B6.—Comparison of HI Cost and Income Rate Projections: Current versus Prior Year's Reports



As figure III.B6 indicates, the intermediate HI cost rate projections in this year's report are higher than those in the 2017 report, and the projected income rates are lower through 2027 before becoming higher for the rest of the projection period. The higher cost projections are primarily due to higher 2017 spending and lower taxable payroll, but they are also due to increased costs for Medicare Advantage plans and recent legislation, as described in more detail below. The income rate is lower through 2027 and then becomes higher. Payroll tax income is lower in all years due to lowered wages for 2017 and lower levels of

projected GDP, while income from the taxation of Social Security benefits is lower in the first 10 years due to legislation but higher thereafter as more benefits become subject to the tax because of changes in both the tax law and the modeling of taxpayers' income.

The Trustees' estimate of the 75-year HI actuarial balance under the intermediate assumptions, −0.82 percent of taxable payroll, is 0.18 percentage point less favorable than estimated in the 2017 annual report. The reasons for this change, which are listed in table III.B10, are explained below:

(1) Change in valuation period: Updating the valuation period from 2017-2091 to 2018-2092 results in a change to the actuarial balance of −0.01 percent of taxable payroll.
(2) Updating the projection base: Actual 2017 incurred HI expenditures were higher than previously estimated, and taxable payroll and income from the taxation of Social Security benefits were lower. The effect is a higher cost as a percentage of taxable payroll for 2017 than estimated previously. The higher expenditures result in a change in the actuarial balance of −0.06 percent of taxable payroll, and the lower income results in a change in the actuarial balance of −0.13 percent of taxable payroll. The impact of these base-year differences is a change to the actuarial balance of −0.19 percent of taxable payroll.
(3) Private health plan assumptions: Payment rates to private health plans are higher than projected in last year's report beginning in 2018. This result is primarily due to higher risk scores and increased coding by plans than assumed in the 2017 report. The net effect of this and other minor modifications is a −0.08-percent change in the actuarial balance.
(4) Hospital assumptions: The primary change in hospital assumptions in this report is lower utilization than assumed in last year's report. The impact of this and other minor modifications is a 0.09-percent change in the actuarial balance.
(5) Other provider assumptions: Lower assumed utilization and case mix for skilled nursing facility services result in a 0.04-percent change in the actuarial balance.
(6) Other economic and demographic assumptions: The net effect of several adjustments to the economic and demographic assumptions is a 0.07-percent change in the actuarial balance. One major change in this year's report is that the update used in 2018 for inpatient hospital services

is much lower than assumed in last year's report. Another major change is that income for the taxation of Social Security benefits is assumed to be higher in the long range as more benefits become subject to the tax because of changes in the modeling of taxpayers' income.

(7) Legislative changes: A number of legislative changes were made since last year's report. The more major are the elimination of the Independent Payment Advisory Board and the repeal of the individual mandate, which increased the estimate of the number of uninsured, in turn leading to a large increase in uncompensated care payments. These and other smaller modifications described in section V.A result in a −0.10 change in the actuarial balance.

Table III.B10.—Change in the 75-Year Actuarial Balance since the 2017 Report

1. Actuarial balance, intermediate assumptions, 2017 report	−0.64%
2. Changes:	
a. Valuation period	−0.01
b. Base estimate	−0.19
c. Private health plan assumptions	−0.08
d. Hospital assumptions	0.09
e. Other provider assumptions	0.04
f. Other economic and demographic assumptions	0.07
g. Legislative changes	−0.10
Net effect, above changes	−0.18
3. Actuarial balance, intermediate assumptions, 2018 report	−0.82

4. Long-Range Sensitivity Analysis

This section presents estimates that illustrate the sensitivity of the long-range HI cost rate, income rate, and actuarial balance of HI to changes in selected individual assumptions. The estimates based on the three alternative sets of assumptions (intermediate, low-cost, and high-cost) demonstrate the effects of varying all of the principal assumptions simultaneously in order to portray a generally more optimistic or pessimistic future for the projected financial status of the HI trust fund. In the sensitivity analysis presented in this section, the intermediate set of assumptions is the reference point, and one assumption at a time varies within that alternative. In each case, the Trustees assume that the provisions of current law remain unchanged throughout the 75-year projection period.

Each table that follows shows the effects of changing a particular assumption on the HI summarized income rates, summarized cost rates, and actuarial balances for 25-year, 50-year, and 75-year valuation periods. The discussion of the tables generally does not include the income rate, since it varies only slightly with changes in assumptions. The change in each of the actuarial balances is

approximately equal to the change in the corresponding cost rate, but in the opposite direction. For example, a lower projected cost rate would result in an improvement or increase in the corresponding projected actuarial balance.

a. Real-Wage Differential

Table III.B11 shows projected HI income rates, cost rates, and actuarial balances on the basis of the intermediate assumptions, with various assumptions about the real-wage differential (the difference between the percent increase in the average wage in covered employment and the CPI). The ultimate real-wage differential will be 0.6 percentage point (high-cost alternative), 1.2 percentage points (intermediate projections), and 1.8 percentage points (low-cost alternative). In each case, the assumed ultimate annual increase in the Consumer Price Index (CPI) is 2.6 percent (as assumed for the intermediate projections), yielding ultimate percentage increases in nominal average annual wages in covered employment of 3.2, 3.8, and 4.4 percent under the three illustrations, respectively.

Past increases in real earnings have exhibited substantial variation. During 1951-1970, real earnings grew by an average of 2.2 percent per year. During 1972-1996, however, the average annual increase in real earnings amounted to only 0.53 percent.[39] Poor performance in real-wage growth would have substantial consequences for the HI trust fund; as shown in table III.B11, projected HI cost rates are fairly sensitive to the assumed growth rates in real wages. For the 75-year period 2018-2092, the summarized cost rate decreases from 5.15 percent (for a real-wage differential of 0.6 percentage point) to 4.38 percent (for a differential of 1.8 percentage points). The HI actuarial balance over this period shows a corresponding improvement for faster rates of growth in real wages.

[39]The Trustees chose this period because it begins and ends with years in which the economy reached full employment. The period thus allows measurement of trend growth over complete economic cycles.

Table III.B11—Estimated HI Income Rates, Cost Rates, and Actuarial Balances, Based on Intermediate Estimates with Various Real-Wage Assumptions

[As a percentage of taxable payroll]

	Ultimate percentage increase in wages−CPI[1]		
Valuation period	3.2−2.6	3.8−2.6	4.4−2.6
Summarized income rate:			
25-year: 2018-2042	3.72	3.70	3.69
50-year: 2018-2067	3.80	3.83	3.88
75-year: 2018-2092	3.88	3.95	4.04
Summarized cost rate:			
25-year: 2018-2042	4.55	4.41	4.27
50-year: 2018-2067	4.91	4.65	4.38
75-year: 2018-2092	5.15	4.77	4.38
Actuarial balance:			
25-year: 2018-2042	−0.84	−0.71	−0.57
50-year: 2018-2067	−1.11	−0.82	−0.49
75-year: 2018-2092	−1.27	−0.82	−0.34

[1]The first value in each pair is the assumed ultimate annual percentage increase in average wages in covered employment. The second value is the assumed ultimate annual percentage increase in the CPI. The difference between the two values is the real-wage differential.

The sensitivity of the HI actuarial balance to different real-wage assumptions is significant, but not as substantial as one might intuitively expect. Higher real-wage differentials immediately increase both HI expenditures for health care and wages for all workers. Though there is a full effect on wages and payroll taxes, the effect on benefits is only partial, since not all health care costs are wage-related. The HI cost rate decreases with increasing real-wage differentials because the higher real-wage levels increase the taxable payroll to a greater extent than they increase HI benefits. In particular, each 0.5-percentage-point increase in the assumed real-wage differential increases the long-range HI actuarial balance, on average, by about 0.39 percent of taxable payroll.

b. Consumer Price Index

Table III.B12 shows projected HI income rates, cost rates, and actuarial balances on the basis of the intermediate alternative, with various assumptions about the rate of increase for the CPI. The ultimate annual increase in the CPI will be 3.2 percent (low-cost alternative), 2.6 percent (intermediate projections), and 2.0 percent (high-cost alternative).[40] In each case, the assumed ultimate real-wage differential is 1.2 percent (as assumed for the intermediate projections), which yields ultimate percentage increases in average annual wages in covered employment of 4.4, 3.8, and 3.2 percent under the three illustrations.

[40]Prior to the 2015 report, the Trustees used the lower CPI for the low-cost alternative and the higher CPI for the high-cost alternative.

Table III.B12.—Estimated HI Income Rates, Cost Rates, and Actuarial Balances, Based on Intermediate Estimates with Various CPI-Increase Assumptions

[As a percentage of taxable payroll]

	Ultimate percentage increase in wages−CPI[1]		
Valuation period	4.4−3.2	3.8−2.6	3.2−2.0
Summarized income rate:			
25-year: 2018-2042	3.75	3.70	3.67
50-year: 2018-2067	3.98	3.83	3.70
75-year: 2018-2092	4.11	3.95	3.74
Summarized cost rate:			
25-year: 2018-2042	4.39	4.41	4.44
50-year: 2018-2067	4.63	4.65	4.68
75-year: 2018-2092	4.75	4.77	4.80
Actuarial balance:			
25-year: 2018-2042	−0.64	−0.71	−0.77
50-year: 2018-2067	−0.65	−0.82	−0.98
75-year: 2018-2092	−0.64	−0.82	−1.06

[1]The first value in each pair is the assumed ultimate annual percentage increase in average wages in covered employment. The second value is the assumed ultimate annual percentage increase in the CPI.

The variation in the rate of change assumed for the CPI has only a small impact on the actuarial balance, as the summarized income rates are slightly affected while the summarized cost rates are virtually unchanged.

Faster assumed growth in the CPI results in a somewhat larger HI income rate because the income thresholds for the taxation of Social Security benefits and for the additional 0.9-percent payroll tax rate are not indexed. As a result, the share of Social Security benefits subject to income tax, as well as the share of earnings subject to the additional tax, increases over time. This impact accelerates under conditions of faster CPI growth. In contrast, the cost rate remains about the same with greater assumed rates of increase in the CPI. HI cost rates are relatively insensitive to the assumed level of general price inflation because price inflation has about the same proportionate effect on taxable payroll of workers as it does on medical care costs.

In practice, differing rates of inflation could occur between the economy in general and the medical-care sector. Readers can judge the effect of such a difference from the sensitivity analysis shown in section III.B4d on health care cost factors.

c. Real-Interest Rate

Table III.B13 shows projected HI income rates, cost rates, and actuarial balances under the intermediate alternative, with various assumptions about the annual real-interest rate for special public-debt obligations issuable to the trust fund. The ultimate annual real-interest rate will be 2.2 percent (high-cost alternative), 2.7 percent (intermediate projections), and 3.2 percent (low-cost alternative). In each case, the assumed ultimate annual increase in the CPI is

2.6 percent (as assumed for the intermediate projections), which results in ultimate annual yields of 4.8, 5.3, and 5.8 percent under the three illustrations.

Table III.B13.—Estimated HI Income Rates, Cost Rates, and Actuarial Balances, Based on Intermediate Estimates with Various Real-Interest Assumptions

[As a percentage of taxable payroll]

	Ultimate annual real-interest rate		
Valuation period	2.2 percent	2.7 percent	3.2 percent
Summarized income rate:			
25-year: 2018-2042	3.70	3.70	3.70
50-year: 2018-2067	3.84	3.83	3.82
75-year: 2018-2092	3.98	3.95	3.93
Summarized cost rate:			
25-year: 2018-2042	4.44	4.41	4.38
50-year: 2018-2067	4.69	4.65	4.61
75-year: 2018-2092	4.83	4.77	4.72
Actuarial balance:			
25-year: 2018-2042	−0.74	−0.71	−0.69
50-year: 2018-2067	−0.85	−0.82	−0.79
75-year: 2018-2092	−0.85	−0.82	−0.79

For all periods, the cost rate decreases slightly with increasing real-interest rates. Over 2018-2092, for example, the summarized HI cost rate would decline from 4.83 percent (for an ultimate real-interest rate of 2.2 percent) to 4.72 percent (for an ultimate real-interest rate of 3.2 percent). Accordingly, each 1.0-percentage-point increase in the assumed real-interest rate increases the long-range actuarial balance, on average, by about 0.06 percent of taxable payroll.

d. Health Care Cost Factors

Table III.B14 shows projected HI income rates, cost rates, and actuarial balances on the basis of the intermediate set of assumptions, with two variations on the relative annual growth rate in the aggregate cost of providing covered health care services to HI beneficiaries. Starting in 2018, the ratio of costs to taxable payroll will grow 1 percentage point more slowly than the intermediate projections, the same as the intermediate projections, and 1 percentage point faster than the intermediate projections. In each case, the taxable payroll will be the same as assumed for the intermediate projections.[41]

As noted previously, factors such as wage and price increases may simultaneously affect HI tax income and the costs incurred by hospitals and other providers of medical care to HI beneficiaries. (Sections III.B4a and III.B4b evaluate the sensitivity of the trust fund's financial status to these factors.) Other factors, such as the

[41]These variations in HI cost growth rates are not equivalent to the high- and low-cost alternative assumptions, which use a different level and pattern of growth differentials and vary other assumptions in addition to the cost growth factors.

utilization of services by beneficiaries or the relative complexity of the services provided, can have an impact on provider costs without affecting HI tax income. The sensitivity analysis shown in table III.B14 illustrates the financial effect of any combination of these factors that results in the ratio of cost to payroll taxes increasing by 1 percentage point faster or slower than the intermediate assumptions.

Table III.B14.—Estimated HI Income Rates, Cost Rates, and Actuarial Balances, Based on Intermediate Estimates with Various Health Care Cost Growth Rate Assumptions

[As a percentage of taxable payroll]

	Annual cost/payroll relative growth rate		
Valuation period	−1 percentage point	0 percentage point	+1 percentage point
Summarized income rate:			
25-year: 2018-2042	3.70	3.70	3.70
50-year: 2018-2067	3.83	3.83	3.83
75-year: 2018-2092	3.94	3.95	3.96
Summarized cost rate:			
25-year: 2018-2042	3.84	4.41	5.08
50-year: 2018-2067	3.63	4.65	6.05
75-year: 2018-2092	3.40	4.77	6.98
Actuarial balance:			
25-year: 2018-2042	−0.14	−0.71	−1.38
50-year: 2018-2067	0.19	−0.82	−2.22
75-year: 2018-2092	0.55	−0.82	−3.02

As illustrated in table III.B14, the financial status of the HI trust fund is extremely sensitive to the relative growth rates for health care service costs versus taxable payroll. For the 75-year period, the cost rate increases from 3.40 percent (for an annual cost/payroll growth rate of 1 percentage point less than the intermediate assumptions) to 6.98 percent (for an annual cost/payroll growth rate of 1 percentage point more than the intermediate assumptions). Each 1.0-percentage-point increase in the assumed cost/payroll relative growth rate decreases the long-range actuarial balance, on average, by about 1.79 percent of taxable payroll.

C. PART B FINANCIAL STATUS

This section presents actual operations of the Part B account in the SMI trust fund in 2016 and Part B projections for the next 75 years. Section III.C1 discusses Part B financial results for 2017, and sections III.C2 and III.C3 discuss the short-range Part B projections and the long-range projections, respectively. The projections shown in sections III.C2 and III.C3 assume no changes will occur in the statutory provisions and regulations under which Part B now operates.

1. Financial Operations in Calendar Year 2017

Table III.C1 presents a statement of the revenue and expenditures of the Part B account of the SMI trust fund in calendar year 2017, and of its assets at the beginning and end of the year.

Table III.C1.—Statement of Operations of the Part B Account in the SMI Trust Fund during Calendar Year 2017
[In thousands]

Total assets of the Part B account in the trust fund, beginning of period		$87,963,767
Revenue:		
Premiums from enrollees:		
Enrollees aged 65 and over	$69,008,742	
Disabled enrollees under age 65	12,513,382	
Total premiums		81,522,124
Premiums collected from Medicare Advantage participants		459,448
Government contributions:		
Enrollees aged 65 and over	183,535,684	
Disabled enrollees under age 65	35,764,477	
Repayment amount[1]	−621,108	
Adjustment for exempted amounts[1]	−1,843,217	
Health information technology (HIT) receipts	415,777	
Union activity	1,267	
Total government contributions		217,252,881
Other		6,795
Interest on investments		2,316,670
Interfund interest payments to OASDI[2]		−1,085
ACA Medicare shared savings program receipts		14,626
Annual fees–branded Rx manufacturers and importers		4,000,000
Total revenue		$305,571,458
Expenditures:		
Net Part B benefit payments		$308,638,983
Administrative expenses:		
Transfer to Medicaid[3]	652,493	
Treasury administrative expenses	466	
Salaries and expenses, CMS[4]	2,930,139	
Salaries and expenses, Office of the Secretary, HHS	55,758	
Salaries and expenses, SSA	1,173,313	
Medicare Payment Advisory Commission	4,770	
Administration on Aging funding	20,728	
Railroad Retirement administrative expenses	19,790	
Railroad Retirement administrative expenses, OIG	1,348	
CMS program management–Affordable Care Act	9,148	
Transfer to Patient-Centered Outcomes Research trust fund[5]	83,367	
ACL State Health Insurance Assistance Program[6]	41,884	
MACRA[7]	16,947	
Transfer to the Administration for Children and Families[8]	4,215	
Total administrative expenses		5,014,366
Total expenditures		$313,653,349
Net addition to the trust fund		−8,081,890
Total assets of the Part B account in the trust fund, end of period		$79,881,876

[1]The Bipartisan Budget Act of 2015 (BBA 2015) required a transfer of funds from the general fund to cover the premium income that was lost in 2016 as a result of the hold-harmless provision. BBA 2015 further requires that, starting in 2016, the Part B premium otherwise determined be increased by $3.00, which is to be collected and repaid to the general fund of the Treasury. The additional repayment premium amounts will continue until the balance due (defined as transfer to the Part B account from the general fund plus forgone income-related premiums) has been repaid. The additional repayment premium is not to be matched by general revenue contributions; however, since CMS is not able to separate it from the standard premium, the additional repayment premium is matched. An adjustment for exempted amounts is therefore necessary to transfer this erroneous Federal matching amount back to the general fund.

[2]Reflects interest adjustments on the reallocation of administrative expenses among the Medicare trust funds, the OASDI trust funds, and the general fund of the Treasury. Estimated payments are made from the trust funds and then are reconciled, with interest, the next year when the actual costs are known. A positive figure represents a transfer to the Part B account in the SMI trust fund from the other trust funds. A negative figure represents a transfer from the Part B account of the SMI trust fund to the other funds.
[3]Represents amount transferred from the Part B account in the SMI trust fund to Medicaid to pay the Part B premium for certain qualified individuals, as legislated by the Balanced Budget Act of 1997.
[4]Includes expenses of the Medicare Administrative Contractors. Also reflects a larger-than-usual upward adjustment of $1.7 billion for prior-year allocations among Part A, Part B, and Part D.
[5]Reflects amount transferred from the Part B account of the SMI trust fund to the Patient-Centered Outcomes Research trust fund, as authorized by the Patient Protection and Affordable Care Act of 2010.
[6]Reflects amount transferred from the Part B account of the SMI trust fund to the Administration for Community Living (ACL) for administration of the State Health Insurance Assistance program, as authorized by the Consolidated Appropriations Act of 2014.
[7]Represents amounts transferred from the Part B account of the SMI trust fund for administration of provisions of the Medicare Access and CHIP Reauthorization Act of 2015 (MACRA).
[8]Reflects amount transferred from the Part B account of the SMI trust fund to the Administration for Children and Families as authorized by the Patient Protection and Affordable Care Act of 2010.

Note: Totals do not necessarily equal the sums of rounded components.

The total assets of the account amounted to $88.0 billion on December 31, 2016. During calendar year 2017, total revenue amounted to $305.6 billion, and total expenditures were $313.7 billion. Total assets were $79.9 billion as of December 31, 2017. The asset level decreased during 2017 by approximately $8.1 billion.

a. Revenues

The major sources of revenue for the Part B account are (i) contributions of the Federal Government that the law authorizes to be appropriated and transferred from the general fund of the Treasury and (ii) premiums paid by eligible persons who voluntarily enroll. Another source of revenue is the annual fees assessed on manufacturers and importers of brand-name prescription drugs. Eligible persons aged 65 and over have been able to enroll in Part B since its inception in July 1966. Since July 1973, disabled persons who are under age 65 and who have met certain eligibility requirements have also been able to enroll.

Of the total Part B revenue, $81.5 billion represented premium payments by (or on behalf of) aged and disabled enrollees—an increase of 13.1 percent over the amount of $72.1 billion for the preceding year.

Government contributions matched the premiums paid for fiscal years 1967 through 1973 dollar for dollar. Beginning July 1973, the amount of government contributions corresponding to premiums paid by each of the two groups of enrollees is determined by applying a matching rate, prescribed in the law for each group, to the amount of premiums

received from that group.[42] This ratio is equal to twice the monthly actuarial rate applicable to the particular group of enrollees, minus the standard monthly premium rate, divided by the standard monthly premium rate.

The Secretary of Health and Human Services promulgates standard monthly premium rates and actuarial rates each year. Table III.C2 shows past monthly premium rates and actuarial rates together with the corresponding percentages of Part B costs covered by the premium rate. Estimated future premium amounts under the intermediate set of assumptions appear in tables V.E2 and V.E3.

[42]For 2016 through 2021, under the intermediate assumptions, the standard premium includes an additional amount ($3.00 through 2020 and $2.20 in 2021) to repay the balance due resulting from a 2016 general revenue transfer to the Part B account of the SMI trust fund, in accordance with the Bipartisan Budget Act of 2015. This additional amount is not included in the determination of the matching rates and is not to be matched by general revenue contributions.

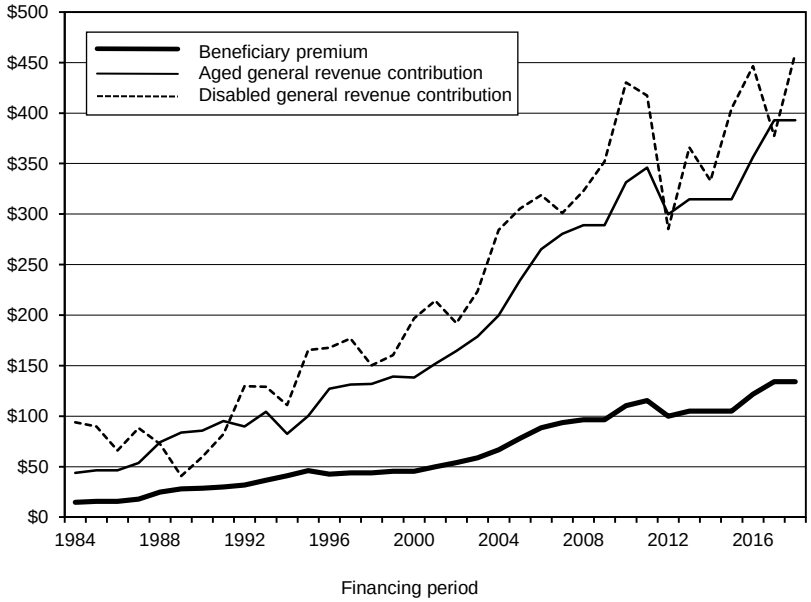
Table III.C2.—Standard Part B Monthly Premium Rates, Actuarial Rates, and Premium Rates as a Percentage of Part B Cost

		Monthly actuarial rate		Premium rates as a percentage of Part B cost	
	Standard monthly premium rate[1]	Enrollees aged 65 and over	Disabled enrollees under age 65	Enrollees aged 65 and over	Disabled enrollees under age 65
July 1966-March 1968	$3.00	—	—	50.0%	—
April 1968-June 1970	4.00	—	—	50.0	—
12-month period ending June 30 of					
1975	6.70	6.70	18.00	50.0	18.6
1980	8.70	13.40	25.00	32.5	17.4
Calendar year					
1985	15.50	31.00	52.70	25.0	14.7
1990	28.60	57.20	44.10	25.0	32.4
1991	29.90	62.60	56.00	23.9	26.7
1992	31.80	60.80	80.80	26.2	19.7
1993	36.60	70.50	82.90	26.0	22.1
1994	41.10	61.80	76.10	33.3	27.0
1995	46.10	73.10	105.80	31.5	21.8
1996	42.50	84.90	105.10	25.0	20.2
1997	43.80	87.60	110.40	25.0	19.8
1998	43.80	87.90	97.10	24.9	22.6
1999	45.50	92.30	103.00	24.6	22.1
2000	45.50	91.90	121.10	24.8	18.8
2001	50.00	101.00	132.20	24.8	18.9
2002	54.00	109.30	123.10	24.7	21.9
2003	58.70	118.70	141.00	24.7	20.8
2004	66.60	133.20	175.50	25.0	19.0
2005	78.20	156.40	191.80	25.0	20.4
2006	88.50	176.90	203.70	25.0	21.7
2007	93.50	187.00	197.30	25.0	23.7
2008	96.40	192.70	209.70	25.0	23.0
2009	96.40	192.70	224.20	25.0	21.5
2010	110.50	221.00	270.40	25.0	20.4
2011	115.40	230.70	266.30	25.0	21.7
2012	99.90	199.80	192.50	25.0	25.9
2013	104.90	209.80	235.50	25.0	22.3
2014	104.90	209.80	218.90	25.0	24.0
2015	104.90	209.80	254.80	25.0	20.6
2016	121.80	237.60	282.60	25.6	21.5
2017	134.00	261.90	254.20	25.6	26.4
2018	134.00	261.90	295.00	25.6	22.7

[1]The amount shown for each year represents the standard Part B premium paid by, or on behalf of, most Part B enrollees. It does not reflect other amounts that certain beneficiaries must pay, such as the income-related monthly adjustment amount for beneficiaries with high incomes and the premium surcharge for beneficiaries who enroll late. In addition, it does not reflect a reduction in premium for beneficiaries covered by the hold-harmless provision. As a result of this provision, most Part B beneficiaries had their 2010 and 2011 monthly premium held to the 2009 rate of $96.40, had their 2016 monthly premium held to the 2015 rate of $104.90, and had the increase in their 2017 monthly premium limited to about $4.00, on average. Section V.E describes these amounts in more detail.

Figure III.C1 is a graph of the monthly per capita financing rates in all financing periods after 1983 for enrollees aged 65 and over and for disabled individuals under age 65. The graph shows the portion of the financing contributed by the beneficiaries and by general revenues. As indicated, general revenue financing is the largest income source for Part B.

Figure III.C1.—Part B Aged and Disabled Monthly Per Capita Trust Fund Income



Note: The amounts shown do not include the catastrophic coverage monthly premium rate for 1989.

In calendar year 2017, contributions received from the general fund of the Treasury amounted to $217.3 billion, which accounted for 71.1 percent of total revenue. These were almost entirely premium matching contributions. The Bipartisan Budget Act of 2015 requires that payments be made from the Part B account of the SMI trust fund to the general fund of the Treasury, and these amounts totaled $0.6 billion in 2017. Transfers from the general fund of the Treasury for the health information technology (HIT) incentive payments were $0.4 billion in 2017. Transfers amounting to $1.8 billion were made from the Part B account to the general fund of the Treasury in order to adjust for certain transfers made for exempted amounts.[43] The annual fees assessed on manufacturers and importers of brand-name prescription drugs amounted to $4.0 billion in revenue.

Another source of Part B revenue is interest received on investments held by the Part B account. A description of the investment procedures of the Part B account appears later in this section. In calendar year 2017, $2.3 billion of revenue was from interest on the investments of the account.

[43]See footnote 1 of table III.C1.

The Department of the Treasury may accept and deposit in the Part B account unconditional money gifts or bequests made for the benefit of the fund. The Part B account received contributions in the amount of $7 million in calendar year 2017.

b. Expenditures

The account pays expenditures for Part B benefit payments and administrative expenses. All expenses incurred by the Department of Health and Human Services, the Social Security Administration, and the Department of the Treasury in administering Part B are charged to the account. Such administrative duties include payment of benefits, fraud and abuse control activities, and experiments and demonstration projects designed to determine various methods of increasing efficiency and economy in providing health care services while maintaining the quality of these services.

In addition, Congress has authorized expenditures from the trust funds for construction, rental and lease, or purchase contracts of office buildings and related facilities for use in connection with the administration of Part B. The account expenditures include such costs. The net worth of facilities and other fixed capital assets, however, does not appear in the statement of Part B assets presented in this report, since the value of fixed capital assets does not represent funds available for benefit or administrative expenditures and is not, therefore, pertinent in assessing the actuarial status of the funds.

Of total Part B expenditures, $308.6 billion represented net benefits paid from the account for health services.[44] Net benefits increased 6.6 percent over the corresponding amount of $289.5 billion paid during the preceding calendar year. This spending growth reflects the net change in both the number of beneficiaries and the price, volume, and intensity of services. Additional information on Part B benefits by type of service is available in section IV.B1.

The remaining $5.0 billion of expenditures was for administrative expenses and represented 1.6 percent of total Part B expenditures in 2017. Administrative expenses are shown on a net basis, after adjustments to the preliminary allocation of such costs among the Social Security and Medicare trust funds and the general fund of the

[44]Net benefits equal the total gross amounts initially paid from the trust fund during the year less recoveries of overpayments identified through fraud and abuse control activities.

Treasury. The adjustments this year were larger than usual, increasing these expenditures by $1.3 billion.

c. Actual experience versus prior estimates

Table III.C3 compares the actual experience in calendar year 2017 with the estimates presented in the 2016 and 2017 annual reports. A number of factors can contribute to differences between estimates and subsequent actual experience. In particular, actual values for key economic and other variables can differ from assumed levels, and lawmakers may adopt legislative and regulatory changes after a report's preparation. Table III.C3 indicates that actual Part B benefit payments were similar to the estimate in the 2017 report and slightly higher than estimated in the 2016 report. Actual premiums and government contributions were slightly higher than estimated in 2017, while premiums were slightly lower than, and government contributions close to, the estimates in 2016.

Table III.C3.—Comparison of Actual and Estimated Operations of the Part B Account in the SMI Trust Fund, Calendar Year 2017

[Dollar amounts in millions]

		Comparison of actual experience with estimates for calendar year 2017 published in:			
		2017 report		2016 report	
Item	Actual amount	Estimated amount[1]	Actual as a percentage of estimate	Estimated amount[1]	Actual as a percentage of estimate
Premiums from enrollees	$81,522	$80,722	101%	$83,222	98%
Government contributions	217,253	215,463	101	216,364	100
Benefit payments[2]	308,639	309,668	100	306,288	101

[1]Under the intermediate assumptions.

[2]Benefit payments include additional premiums for Medicare Advantage plans that are deducted from beneficiaries' Social Security benefits, costs of Quality Improvement Organizations, and health information technology payments.

d. Assets

The Department of the Treasury invests the portion of the Part B account not needed to meet current expenditures for benefits and administration in interest-bearing obligations of the U.S. Government.

The Social Security Act authorizes the issuance of special public-debt obligations for purchase exclusively by the account. The law requires that these special public-debt obligations shall bear interest at a rate based on the average market yield (computed on the basis of market quotations as of the end of the calendar month immediately preceding the date of such issue) for all marketable interest-bearing obligations of the United States forming a part of the public debt that are not due or callable until after 4 years from the end of that month. Since the inception of the SMI trust fund, the Department of the Treasury has

always invested the assets in special public-debt obligations.[45] Table V.H10, presented in section V.H, shows the assets of the SMI trust fund (Parts B and D) at the end of fiscal years 2016 and 2017.

2. 10-Year Actuarial Estimates (2018-2027)

Section III.C2 provides detailed information concerning the short-range financial status of the Part B account, including projected annual income, outgo, differences between income and outgo, and trust fund balances. The bases of the projected future operations of the Part B account are the Trustees' economic and demographic assumptions, as detailed in the OASDI Trustees Report, as well as other assumptions unique to Part B. Section IV.B1 presents an explanation of the effects of these assumptions on the estimates in this report. The Trustees also assume that financing for future periods will be determined according to the statutory provisions described in section III.C1a, although Part B financing rates have been set only through December 31, 2018.

In 2018 the monthly Part B premium rate is $134.00, which is the same as the 2017 monthly premium. For determining an individual's monthly premium rate, there is a hold-harmless provision in the law that limits the dollar increase in the premium to the dollar increase in an individual's Social Security benefit. This provision applies to most beneficiaries who have their premiums deducted from their Social Security benefits, or roughly 70 percent of Part B enrollees.[46] Because the cost-of-living adjustment (COLA) for Social Security benefits was 0.3 percent for 2017, the average monthly premium paid in 2017 was limited to $109, rather than the full premium of $134, for those beneficiaries to whom the provision applied in 2016 and 2017. For 2018, these same beneficiaries will pay an average premium of $130 because the Social Security COLA is larger (2.0 percent). In other words, even though the 2018 premium of $134.00 is the same as the 2017 premium, beneficiaries who were held harmless in 2017 will pay a higher premium in 2018 than they paid in 2017 because of the hold-harmless provision.

[45]The Department of the Treasury may also make investments in obligations guaranteed as to both principal and interest by the United States, including certain federally sponsored agency obligations.

[46]About 30 percent of Part B enrollees are not eligible for the hold-harmless provision. This group consists of new enrollees during the year, enrollees who do not receive Social Security benefit checks, enrollees with high incomes who are subject to the income-related premium adjustment, and dual Medicare-Medicaid beneficiaries (whose premiums are paid by State Medicaid programs).

Actuarial Analysis

In 2016, the COLA for Social Security benefits was 0 percent, and premiums did not increase from the 2015 level for beneficiaries to whom the hold-harmless provision applies. Without the Bipartisan Budget Act of 2015 (BBA 2015), Part B premiums for other beneficiaries would have been raised substantially to offset premiums forgone as a result of the hold-harmless provision. However, BBA 2015 specified that the Part B premium for 2016 be determined as if the hold-harmless provision did not apply and that a transfer be made from the general fund of the Treasury to the Part B account of the SMI trust fund in the amount of the estimated forgone premiums (and that the transfer be treated as premiums for matching purposes).

BBA 2015 further requires that, starting in 2016, the Part B premium otherwise determined be increased by $3.00, which is to be collected and repaid to the general fund of the Treasury. The additional repayment premium amounts will continue until the balance due (defined in BBA 2015 as the transfer to the Part B account from the general fund plus forgone income-related premiums) has been repaid.[47] The 2018 premium of $134.00 includes $3.00 for this purpose.

The initial amount transferred to the Part B account in 2016, including the estimated forgone income-related premiums, was $9.1 billion. The balance due on January 1, 2017 was $8.4 billion, and on January 1, 2018 it was $7.6 billion. The Trustees estimate that the full amount will be repaid by December 31, 2021.

MACRA and the Bipartisan Budget Act of 2018 specified physician payment updates for every future year. The physician payment update will be 0.5 percent for 2018 and 0.25 percent for 2019. For 2020 through 2025, the update will be 0.0 percent. Additional payments of $500 million per year for physicians in the merit-based incentive payment system and 5-percent annual bonuses for those in advanced alternative payment models (advanced APMs) are payable in 2019 through 2025. For 2026 and later, there will be two payment rates: for providers paid through an advanced APM, payment rates will be increased by 0.75 percent each year, while payment rates for all other providers will be increased each year by 0.25 percent. The income, expenditures, and assets for Part B reflect these provisions.

Projected Part B expenditures are further affected by the sequestration of Medicare expenditures required by current law. The sequestration reduces benefit payments by 2 percent from April 1, 2013 through

[47]In the final repayment year, the additional amount may be less than $3.00 in order to avoid overpayments.

March 31, 2027 and by 4 percent from April 1, 2027 through September 30, 2027. Due to sequestration, non-salary administrative expenses are reduced by an estimated 5 to 7 percent from March 1, 2013 through September 30, 2027.

Table III.C4 shows the estimated operations of the Part B account under the intermediate assumptions on a calendar-year basis through 2027.

Table III.C4.—Operations of the Part B Account in the SMI Trust Fund (Cash Basis) during Calendar Years 1970-2027

[In billions]

	Income				Expenditures			Account	
Calendar year	Premium income	General revenue[1]	Interest and other[2,3]	Total	Benefit payments[3,4]	Adminis-trative expenses	Total	Net change	Balance at end of year[5]
Historical data:									
1970	$1.1	$1.1	$0.0	$2.2	$2.0	$0.2	$2.2	−$0.0	$0.2
1975	1.9	2.6	0.1	4.7	4.3	0.5	4.7	−0.1	1.4
1980	3.0	7.5	0.4	10.9	10.6	0.6	11.2	−0.4	4.5
1985	5.6	18.3	1.2	25.1	22.9	0.9	23.9	1.2	10.9
1990	11.3	33.0	1.6	45.9	42.5	1.5	44.0	1.9	15.5
1995	19.7	39.0	1.6	60.3	65.0	1.6	66.6	−6.3	13.1
2000	20.6	65.9	3.4	89.9	88.9[6]	1.8	90.7	−0.8	44.0
2005	37.5	118.1	1.4	157.0	149.2	3.2	152.4	4.6	24.0
2010	52.0[7]	153.5[7]	3.3	208.8	209.7	3.2	212.9	−4.1	71.4
2011	57.5	170.2	5.9	233.6	221.7	3.6	225.3	8.3	79.7
2012	58.0	163.8	5.2	227.0	236.5	3.9	240.5	−13.5	66.2
2013	63.1	185.8	6.1	255.0	243.8	3.3	247.1	7.9	74.1
2014	65.6	188.5	5.7	259.8	261.9	4.0	265.9	−6.1	68.1
2015	69.4[7]	203.9[7]	5.7	279.0	275.8	3.1	279.0	0.1	68.2
2016	72.1[7]	235.6[7]	5.5	313.2	289.5	3.9	293.4	19.8	88.0
2017	81.5	217.3	6.8	305.6	308.6	5.0[8]	313.7	−8.1	79.9
Intermediate estimates:									
2018	93.4	252.6	7.2	353.2	336.7	3.1	339.9	13.4	93.3
2019	98.7	268.3	6.6	373.6	363.2	3.3	366.5	7.1	100.3
2020	110.0[7]	299.6[7]	7.2	416.7	391.2	3.5	394.7	22.0	122.3
2021	111.5[7]	304.7[7]	7.5	423.7	425.6	3.8	429.4	−5.6	116.7
2022	123.7	343.2	8.1	475.0	461.8	4.0	465.8	9.1	125.8
2023	134.6	371.9	8.9	515.3	501.0	4.3	505.3	10.0	135.9
2024	146.8	403.5	9.7	560.0	545.0	4.5	549.6	10.5	146.3
2025	158.9	436.3	10.5	605.7	590.9	4.8	595.7	10.0	156.3
2026	176.8[7]	483.3[7]	11.5	671.6	632.7	5.1	637.8	33.8	190.1
2027	179.5[7]	488.8[7]	12.6	680.9	679.8	5.5	685.3	−4.4	185.8

[1]General fund matching payments, plus certain interest-adjustment items.

[2]Other income includes recoveries of amounts reimbursed from the trust fund that are not obligations of the trust fund and other miscellaneous income. In 2008, includes an adjustment of $0.8 billion for interest earned as a result of Part A hospice costs that were misallocated to the Part B trust fund account.

[3]See footnote 2 of table III.B4.

[4]Includes costs of Peer Review Organizations from 1983 through 2001 and costs of Quality Improvement Organizations beginning in 2002.

[5]The financial status of Part B depends on both the assets and the liabilities of the trust fund (see table III.C8).

[6]Benefit payments less monies transferred from the HI trust fund for home health agency costs, as provided for by the Balanced Budget Act of 1997.

[7]Section 708 of the Social Security Act modifies the provisions for the payment of Social Security benefits when the regularly designated day falls on a Saturday, Sunday, or legal public holiday. Payment of those benefits normally due January 3, 2010 actually occurred on December 31, 2009, and payment of benefits normally due January 3, 2016 occurred on December 31, 2015. Consequently, the Part B premiums withheld from these benefits and the associated general revenue contributions were added to the Part B account on December 31, 2009 (about $13.8 billion) and December 31, 2015 (about $7.9 billion),

respectively. Similarly, the payment date for those benefits normally due on January 3, 2021 will be December 31, 2020, and the payment date for those benefits normally due on January 3, 2027 will be December 31, 2026. Accordingly an estimated $10.4 billion will be added to the Part B account on December 31, 2020, and an estimated $16.6 billion will be added to the Part B account on December 31, 2026.

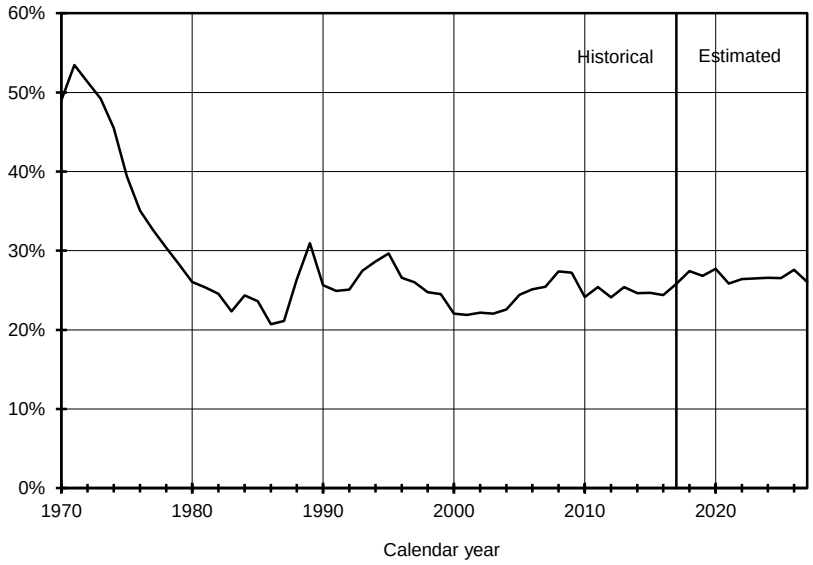
[8]Reflects a larger-than-usual upward adjustment of $1.7 billion for prior-year allocations among Part A, Part B, and Part D.

Note: Totals do not necessarily equal the sums of rounded components.

As shown in table III.C4, the Part B account would increase by the end of 2018 to an estimated $93.3 billion. The financing for 2018 was set to restore Part B assets to a sufficient level.

The statutory provisions governing Part B financing have changed over time. Under current law, the standard Part B premium is set at the level of about 25 percent of average expenditures for beneficiaries aged 65 and over. The Bipartisan Budget Act of 2015 specified that the Part B premium otherwise estimated be increased by $3.00, starting with 2016, until the general revenue amount transferred in that year is repaid. In addition, Part B beneficiaries with high incomes pay a higher income-related premium. Figure III.C2 shows historical and projected ratios of premium income to Part B expenditures.

Figure III.C2.—Premium Income as a Percentage of Part B Expenditures



Beneficiary premiums are also affected by fees on the manufacturers and importers of brand-name prescription drugs that are allocated to the Part B account of the SMI trust fund. Because of these fees there is a reduction in the premium margin such that total revenues from premiums, matching general revenues, and the earmarked fees

relating to brand-name prescription drugs will equal the appropriate level needed for program financing.

The amount and rate of growth of benefit payments have caused concern for many years. Table III.C5 shows payment amounts in the aggregate, on a per capita basis, and relative to the Gross Domestic Product (GDP). Rates of growth appear historically and for the next 10 years based on the intermediate assumptions.

Aggregate Part B benefit growth has averaged 5.5 percent annually over the past 5 years. During 2017, Part B benefits grew 6.5 percent on an aggregate basis and were 1.58 percent of GDP.

Table III.C5.—Growth in Part B Benefits (Cash Basis) through December 31, 2027

Calendar year	Aggregate benefits [billions]	Percent change	Per capita benefits	Percent change	Part B benefits as a percentage of GDP
Historical data:					
1970	$2.0	5.9%	$101	3.5%	0.18%
1975	4.3	28.8	180	24.6	0.25
1980	10.6	22.1	390	19.3	0.37
1985	22.9	16.7	768	14.5	0.53
1990	42.5	10.9	1,304	9.1	0.71
1995	65.0	10.8	1,823	9.2	0.85
2000	90.6[1]	11.4	2,425	10.5	0.88
2005	147.1	9.1	3,699	7.3	1.12
2010	209.5	3.5	4,773	1.2	1.40
2011	221.5	5.7	4,930	3.3	1.43
2012	236.2	6.7	5,083	3.1	1.46
2013	243.4	3.0	5,076	−0.1	1.46
2014	261.5	7.4	5,292	4.3	1.50
2015	275.3	5.3	5,424	2.5	1.53
2016	288.1	4.7	5,535	2.1	1.55
2017	306.8	6.5	5,746	3.8	1.58
Intermediate estimates:					
2018	333.0	8.5	6,087	5.9	1.64
2019	359.0	7.8	6,391	5.0	1.69
2020	386.9	7.8	6,694	4.7	1.74
2021	421.0	8.8	7,085	5.8	1.80
2022	457.6	8.7	7,494	5.8	1.87
2023	497.0	8.6	7,928	5.8	1.94
2024	540.6	8.8	8,413	6.1	2.02
2025	586.4	8.5	8,905	5.8	2.10
2026	627.9	7.1	9,312	4.6	2.15
2027	674.7	7.5	9,788	5.1	2.21

[1]See footnote 6 of table III.C4.

Note: Percentages are affected by economic cycles.

The Part B expenditures in 2013-2027 are affected by the sequestration of Medicare benefits required under current law. Projected Part B costs continue to increase faster than GDP in most years, as indicated in table III.C5.

The Trustees have prepared the estimates shown throughout the report using the intermediate set of assumptions. They have also prepared estimates using two alternative sets of assumptions.

Table III.C6 summarizes the estimated operations of the Part B account for all three alternatives. Section IV.B1 presents in substantial detail the assumptions underlying the intermediate estimates, as well as the assumptions used in preparing estimates under the low-cost and high-cost alternatives.

Table III.C6.—Estimated Operations of the Part B Account in the SMI Trust Fund during Calendar Years 2017-2027, under Alternative Sets of Assumptions

[Dollar amounts in billions]

Calendar year	Premiums from enrollees	Other income[1]	Total income	Total expenditures	Balance in fund at end of year	Expenditures as a percentage of GDP
Intermediate:						
2017[2]	$81.5	$224.0	$305.6	$313.7	$79.9	1.62%
2018	93.4	259.9	353.2	339.9	93.3	1.67
2019	98.7	274.9	373.6	366.5	100.3	1.72
2020	110.0[3]	306.8[3]	416.7	394.7	122.3	1.77
2021	111.5[3]	312.2[3]	423.7	429.4	116.7	1.84
2022	123.7	351.3	475.0	465.8	125.8	1.91
2023	134.6	380.7	515.3	505.3	135.9	1.98
2024	146.8	413.2	560.0	549.6	146.3	2.05
2025	158.9	446.9	605.7	595.7	156.3	2.13
2026	176.8[3]	494.7[3]	671.6	637.8	190.1	2.18
2027	179.5[3]	501.4[3]	680.9	685.3	185.8	2.24
Low-cost:						
2017[2]	81.5	224.0	305.6	313.7	79.9	1.62
2018	93.4	260.0	353.4	337.6	95.7	1.64
2019	97.7	272.5	370.1	365.1	100.7	1.66
2020	108.9[3]	304.5[3]	413.5	392.7	121.4	1.67
2021	109.9[3]	308.3[3]	418.2	424.6	115.0	1.70
2022	120.9	344.3	465.2	457.0	123.2	1.72
2023	130.4	370.0	500.4	491.5	132.1	1.75
2024	141.2	398.7	539.9	530.2	141.8	1.78
2025	151.5	427.5	579.0	570.2	150.5	1.81
2026	167.1[3]	469.3[3]	636.4	605.5	181.4	1.82
2027	168.2[3]	471.7[3]	639.9	645.2	176.1	1.84
High-cost:						
2017[2]	81.5	224.0	305.6	313.7	79.9	1.62
2018	93.4	259.8	353.1	343.6	89.4	1.71
2019	98.3	273.6	371.9	361.9	99.5	1.79
2020	109.2[3]	303.8[3]	413.0	390.2	122.2	1.88
2021	111.6[3]	311.2[3]	422.8	427.9	117.1	1.99
2022	124.6	353.3	477.9	468.2	126.8	2.10
2023	136.9	386.1	523.0	512.0	137.8	2.22
2024	150.6	422.7	573.3	561.3	149.7	2.36
2025	164.5	461.1	625.7	614.1	161.3	2.49
2026	184.9[3]	515.4[3]	700.2	663.8	197.7	2.60
2027	189.4[3]	526.6[3]	715.9	719.4	194.2	2.73

[1]Other income contains government contributions, fees on manufacturers and importers of brand-name prescription drugs, and interest.
[2]Figures for 2017 represent actual experience.
[3]See footnote 7 of table III.C4.

Notes: 1. Totals do not necessarily equal the sums of rounded components.
2. Percentages are affected by economic cycles.

These alternatives provide two possible Part B scenarios but represent a narrow range of possible outcomes for total expenditures. Given the considerable variation in future demographic, economic, and healthcare-usage factors, actual Part B experience could easily fall

outside of this range. The low- and high-cost scenarios in this year's report result in a narrower dollar range than shown prior to the 2014 report, due to a change in the alternative assumptions beginning with that report.[48] The GDP assumptions for the alternative scenarios are also affected by the assumption change. Therefore, spending as a percent of GDP provides better insight into the variability of spending than the nominal dollar amounts, as shown in table III.C6.

The alternative projections shown in table III.C6 illustrate two important aspects of the financial operations of the Part B account:

- Despite the differing assumptions underlying the three alternatives, the balance between Part B income and expenditures remains relatively stable. This result occurs because the Secretary of Health and Human Services annually reestablishes the premiums and general revenue contributions underlying Part B financing to cover each year's anticipated incurred benefit costs and other expenditures and then increases these amounts by a margin that reflects the uncertainty of the projection. Thus, Part B income automatically tracks Part B expenditures fairly closely, regardless of the specific economic and other conditions.

- As a result of the close matching of income and expenditures described above, projected account assets show similar, stable patterns of change under all three sets of assumptions.

Adequacy of Part B Financing Established for Calendar Year 2018

The traditional concept of financial adequacy, as it applies to Part B, is closely related to the concept as it applies to many private group insurance plans. Part B is somewhat similar to private yearly renewable term insurance, with financing established each year based on estimated costs for the year. For Part B, premium income paid by the enrollees and general revenues contributed by the Federal Government provide financing. As with private plans, the income during a 12-month period for which financing is being established should be sufficient to cover the costs of services expected to be rendered during that period (including associated administrative costs), even though payment for some of these services will not occur until after the period closes. The portion of income required to cover

[48]Starting with the 2014 report, the Trustees' alternative CPI assumptions are reversed compared with those in previous reports, so that the high-cost assumptions are now the low-cost assumptions, and vice versa. Inflation rates are now ordered across alternatives according to their effect on the OASDI actuarial balance. This change resulted in a narrow range of impacts.

those benefits not paid until after the end of the year is added to the account; thus assets in the account at any time should not be less than the costs of the benefits and the administrative expenses incurred but not yet paid.

Since the Secretary of Health and Human Services establishes the income per enrollee (premium plus government contribution) prospectively each year, it is subject to projection error. Additionally, legislation enacted after the financing has been established, but effective for the period for which financing has been set, may affect costs. Account assets, therefore, need to be maintained at a level that is adequate to cover not only the value of incurred-but-unpaid expenses but also a reasonable degree of variation between actual and projected costs (in case actual costs exceed projected).

The Trustees traditionally evaluate the actuarial status or financial adequacy of the Part B account over the period for which the enrollee premium rates and level of general revenue financing have been established. The primary tests are that (i) the assets and income for years for which financing has been established should be sufficient to meet the projected benefits and associated administrative expenses incurred for that period; and (ii) the assets should be sufficient to cover projected liabilities for benefits that have not yet been paid as of the end of the period. If Part B does not meet these adequacy tests, it can still continue to operate if the account remains at a level adequate to permit the payment of claims as presented. However, to protect against the possibility that costs will be higher than assumed, assets should be sufficient to include contingency levels that cover a reasonable degree of variation between actual and projected costs.

As noted above, the tests of financial adequacy for Part B rely on the incurred experience of the account, including a liability for the costs of services performed in a particular year but not yet paid in that year. Table III.C7 shows the estimated transactions of the account on an incurred basis. Readers should view the incurred experience as an estimate, even for historical years.[49]

[49]Part B experience is substantially more difficult to determine on an incurred basis than on a cash basis. For some services, reporting of payment occurs only on a cash basis, and it is necessary to infer the incurred experience from the cash payment information. Moreover, for recent time periods the tabulations of bills are incomplete due to normal processing time lags.

Table III.C7.—Estimated Part B Income and Expenditures (Incurred Basis) for Financing Periods through December 31, 2018

[In millions]

	Income				Expenditures			
Financing period	Premium income	General revenue	Interest and other	Total	Benefit payments	Adminis-trative expenses	Total	Net operations in year
Historical data:								
12-month period ending June 30,								
1970	$936	$936	$12	$1,884	$1,928	$213	$2,141	−$257
1975	1,887	2,396	105	4,388	3,957	438	4,395	−7
1980	2,823	6,627	421	9,871	9,840	645	10,485	−614
Calendar year								
1985	5,613	18,243	1,248	25,104	22,750	986	23,736	1,368
1990	11,320	33,035	1,558	45,913	42,577	1,541	44,118	1,795
1995	19,717	45,743	1,739	67,199	64,923	1,607	66,531	668
2000	20,555	65,898	3,450	89,903	91,059[1]	1,770	92,828	−2,925
2005	37,535	118,091	1,365	156,992	151,430	3,185	154,615	2,376
2010	55,580	163,660	3,281	222,520	212,353	3,153	215,506	7,014
2011	57,514	170,224	5,867	233,605	222,873	3,609	226,482	7,123
2012	58,024	163,827	5,164	227,015	236,732	3,947	240,679	−13,664
2013	63,085	185,894	6,068	255,046	245,115	3,280	248,395	6,651
2014	65,644	188,398	5,706	259,747	262,919	3,954	266,873	−7,126
2015	67,515	197,931	5,727	271,172	278,916	3,145	282,062	−10,890
2016	73,986	241,580	5,496	321,062	292,205	3,909	296,114	24,949
2017	81,522	217,253	6,796	305,571	310,836	5,014	315,850	−10,279
Intermediate estimates:								
2018	93,376	252,620	7,245	353,240	337,483	3,128	340,611	12,629

[1]See footnote 6 of table III.C4.

Estimates of the liability amounts for benefits incurred but unpaid as of the end of each financing period, and of the administrative expenses related to processing these benefits, appear in table III.C8. In some years, account assets have not been as large as liabilities. Nonetheless, the fund has remained positive, which has allowed payment of all claims.

Table III.C8.—Summary of Estimated Part B Assets and Liabilities as of the End of the Financing Period, for Periods through December 31, 2018

[Dollar amounts in millions]

	Balance in trust fund	General revenue due but unpaid	Total assets	Benefits incurred but unpaid	Administrative costs incurred but unpaid	Total liabilities	Excess of assets over liabilities	Ratio[1]
Historical data:								
As of June 30,								
1970	$57	$15	$72	$567	—	$567	−$495	−0.21
1975	1,424	67	1,491	1,257	$14	1,271	—	0.04
1980	4,657	—	4,657	2,621	188	2,809	1,848	0.15
As of December 31,								
1985	10,924	—	10,924	3,142	−38	3,104	7,820	0.28
1990	15,482	—	15,482	4,060	20	4,080	11,402	0.24
1995	13,130	6,893[2]	20,023	4,298	−214	4,084	15,939	0.23
2000	44,027	—	44,027	8,715	−285	8,430	35,597	0.35
2005	24,008	—	24,008	13,556	0	13,556	10,452	0.06
2010	71,435	—	71,435	18,886	0	18,886	52,549	0.23
2011	79,882	—	79,882	19,933	0	19,933	59,950	0.25
2012	68,093	—	68,093	20,053	0	20,053	48,041	0.20
2013	74,204	—	74,204	21,507	0	21,507	52,697	0.20
2014	68,074	—	68,074	22,522	0	22,522	45,552	0.16
2015	68,157	—	68,157	25,741	0	25,741	42,416	0.14
2016	87,964	—	87,964	28,494	0	28,494	59,469	0.19
2017	79,882	—	79,882	30,617	0	30,617	49,265	0.14
Intermediate estimates:								
2018	93,255	—	93,255	31,351	0	31,351	61,904	0.17

[1]Ratio of the excess of assets over liabilities to the following year's total incurred expenditures.
[2]This amount includes both the principal of $6,736 million and the accumulated interest through December 31, 1995 for the shortfall in the fiscal year 1995 appropriation for government contributions. Normally, this transfer would have occurred on December 31, 1995, and the trust fund balance would have reflected it. However, due to absence of funding, there was a delay in the transfer of the principal and the appropriate interest until March 1, 1996.

The amount of assets minus liabilities, compared with the estimated incurred expenditures for the following calendar year, forms a relative measure of the Part B account's financial status. The last column in table III.C8 shows such ratios for past years and the estimated ratio at the end of 2018. Actuarial analysis has indicated that a ratio of roughly 15-20 percent is sufficient to protect against unforeseen contingencies, such as unusually large increases in Part B expenditures.

The Secretary of Health and Human Services established Part B financing through December 31, 2018. Estimated income exceeds estimated incurred expenditures in 2018, as shown in table III.C7. The excess of assets over liabilities increases by an estimated $12.6 billion by the end of December 2018, as indicated in table III.C8. This increase occurs because 2018 Part B financing was set to restore the contingency reserve to a fully adequate level.

Since the financing rates are set prospectively, variations between assumed cost increases and subsequent actual experience could affect the actuarial status of the Part B account. To test the status of the account under varying assumptions, the Trustees prepared a lower-

growth-range projection and an upper-growth-range projection by varying the key assumptions for 2017 and 2018. These two alternative sets of assumptions provide a range of financial outcomes within which one might reasonably expect the actual experience of Part B to fall. The Trustees determined the values for the lower- and upper-growth-range assumptions from a statistical analysis of the historical variation in the respective increase factors.

The methods underlying this sensitivity analysis are fundamentally different from the methods underlying the low-cost and high-cost projections discussed previously in this section. This sensitivity analysis is based on stochastic modeling and is shown for the period for which the financing has been established (through 2018 for this report), whereas the low-cost and high-cost projections illustrate the financial impact of slower or faster growth trends throughout the entire short-range (10-year) projection period.

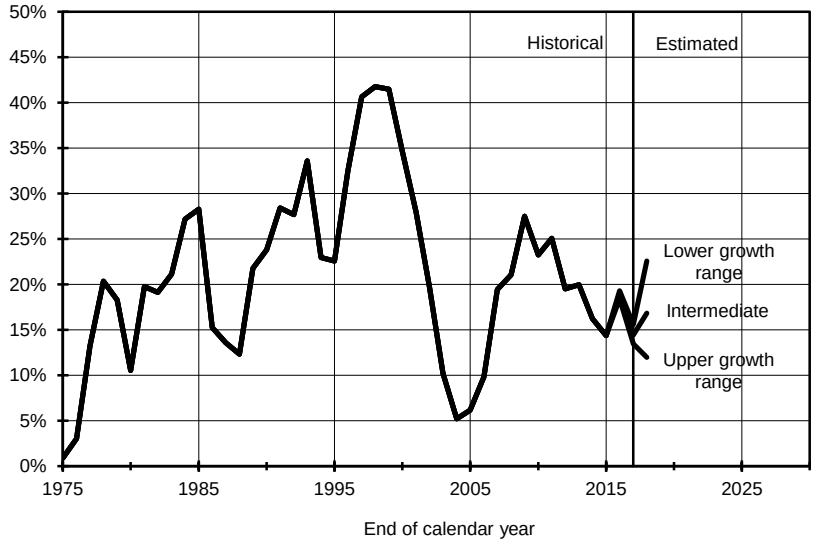
Table III.C9 indicates that, under the lower-growth-range scenario, account assets would exceed liabilities at the end of December 2018 by a margin equivalent to 22.6 percent of the following year's incurred expenditures. Under the upper-growth-range scenario, account assets would still exceed liabilities, but by a margin of 12.0 percent of incurred expenditures in 2018. Under the upper-growth-range scenario, future financing rates would need to increase to provide a fully adequate margin for adverse contingencies. Figure III.C3 shows the reserve ratio for historical years and for 2018 under the three cost growth scenarios.

Table III.C9.—Actuarial Status of the Part B Account in the SMI Trust Fund under Three Cost Sensitivity Scenarios for Financing Periods through December 31, 2018

As of December 31,	2016[1]	2017	2018
Intermediate scenario:			
Actuarial status (in millions)			
Assets	$87,964	$79,882	$93,255
Liabilities	28,494	30,617	31,351
Assets less liabilities	59,469	30,265	61,904
Ratio[2]	18.8%	14.5%	16.8%
Lower-range scenario:			
Actuarial status (in millions)			
Assets	$87,964	$79,882	$105,035
Liabilities	28,494	29,891	30,059
Assets less liabilities	59,469	49,990	74,976
Ratio[2]	19.3%	15.6%	22.6%
Upper-range scenario:			
Actuarial status (in millions)			
Assets	$87,964	$79,882	$81,110
Liabilities	28,494	31,322	32,683
Assets less liabilities	59,469	48,560	48,427
Ratio[2]	18.4%	13.4%	12.0%

[1]About $7,544 million of 2016 income was received by the Part B account of the SMI trust fund in 2015. The assets, assets less liabilities, and ratio for 2015 all reflect the early receipt of income.
[2]Ratio of assets less liabilities at the end of the year to the total incurred expenditures during the following year, expressed as a percent.

Figure III.C3.—Actuarial Status of the Part B Account in the SMI Trust Fund through Calendar Year 2018



Note: The Trustees measure the actuarial status of the Part B account in the SMI trust fund by the ratio of (i) assets minus liabilities at the end of the year to (ii) the following year's incurred expenditures.

Based on the test described above, the Trustees conclude that the financing established for the Part B account for calendar year 2018 is adequate to cover 2018 expected expenditures.

3. Long-Range Estimates

Section III.C2 presented the expected operations of the Part B account over the next 10 years. This section examines the long-range expenditures of the account under the intermediate assumptions. Due to its automatic financing provisions, the Trustees expect the Part B account to be adequately financed into the indefinite future and so have not conducted a long-range analysis using high-cost and low-cost assumptions.

Table III.C10 shows the estimated Part B incurred expenditures under the intermediate assumptions expressed as a percentage of GDP for selected years over the calendar-year period 2017-2092.[50] (The intermediate assumptions are discussed in sections II.C and IV.D.)

Table III.C10.—Part B Expenditures (Incurred Basis) as a Percentage of the Gross Domestic Product[1]

Calendar year	Part B expenditures as a percentage of GDP
2017	1.63%
2018	1.68
2019	1.73
2020	1.78
2021	1.85
2022	1.92
2023	1.99
2024	2.06
2025	2.14
2026	2.19
2027	2.26
2030	2.52
2035	2.76
2040	2.85
2045	2.84
2050	2.82
2055	2.82
2060	2.83
2065	2.84
2070	2.85
2075	2.86
2080	2.83
2085	2.79
2090	2.76
2092	2.76

[1]Expenditures are the sum of benefit payments and administrative expenses.

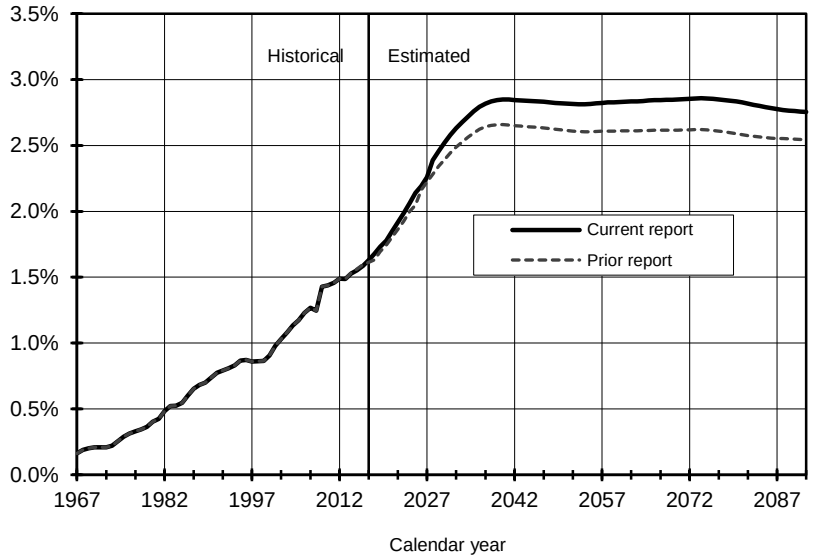
Note: Percentages are affected by economic cycles.

[50]These estimated incurred expenditures are for benefit payments and administrative expenses combined, unlike the values in table III.C5, which express only benefit payments on a cash basis as a percentage of GDP.

Under the intermediate assumptions, incurred Part B expenditures as a percentage of GDP increase from 1.63 percent in 2017 and reach 2.85 percent in 2041 before declining to 2.76 percent in 2092. (Part B expenditures instead increase to 4.26 percent in 2092 under the illustrative alternative scenario.)

Figure III.C4 compares the year-by-year Part B expenditures as a percentage of GDP for the 2018 report with the projections from the 2017 report. Both reports show a projected decline in the share of Part B spending as a percentage of GDP due to legislated updates, including those for physician payments. The expenditures in this year's report are higher than last year's mostly due to (i) the Bipartisan Budget Act of 2018, which eliminated the Independent Payment Advisory Board and removed payment caps for certain therapy services, and (ii) higher projected Medicare Advantage (MA) payments attributable to higher risk scores for beneficiaries enrolled in MA plans.

Figure III.C4.—Comparison of Part B Projections as a Percentage of the Gross Domestic Product: Current versus Prior Year's Reports



Note: Percentages are affected by economic cycles.

D. PART D FINANCIAL STATUS

This section presents actual operations of the Part D account in the SMI trust fund in 2017 and Part D projections for the next 75 years. Section III.D1 discusses Part D financial results for 2017, and sections III.D2 and III.D3 discuss the short-range Part D projections and the long-range projections, respectively. The projections shown in sections III.D2 and III.D3 assume no changes will occur in the statutory provisions and regulations under which Part D now operates.

1. Financial Operations in Calendar Year 2017

The total assets of the account amounted to approximately $7.6 billion on December 31, 2016. During calendar year 2017, total Part D expenditures were approximately $100.0 billion. General revenue was provided on an as-needed basis to cover the portion of these expenditures supported through Medicare subsidies. Total Part D receipts were $100.2 billion. As a result, total assets in the Part D account increased to $7.8 billion as of December 31, 2017.

Table III.D1 presents a statement of the revenue and expenditures of the Part D account of the SMI trust fund in calendar year 2017, and of its assets at the beginning and end of the calendar year.

Table III.D1—Statement of Operations of the Part D Account in the SMI Trust Fund during Calendar Year 2017
[In thousands]

Total assets of the Part D account in the trust fund, beginning of period		$7,597,826
Revenue:		
Premiums from enrollees:		
Premiums deducted from Social Security benefits	$5,022,827	
Premiums paid directly to plans[1]	10,471,008	
Total premiums		15,493,835
Government contributions:		
Prescription drug benefits	73,342,561	
Prescription drug administrative expenses[2]	−125,140	
Total government contributions		73,217,421
Payments from States		11,405,804
Interest on investments		53,599
Total revenue		$100,170,659
Expenditures:		
Part D benefit payments[1]		$100,102,624
Part D administrative expenses[2]		−125,140
Total expenditures		$99,977,485
Net addition to the trust fund		193,174
Total assets of the Part D account in the trust fund, end of period		$7,791,001

[1]Premiums paid directly to plans are not displayed on Treasury statements and are estimated. These premiums have been added to the benefit payments reported on the Treasury statement to obtain an estimate of total Part D benefits. Direct data on such benefit amounts are not yet available.
[2]Reflects a larger-than-usual downward adjustment of $0.3 billion for prior-year allocations among Part A, Part B, and Part D.

Note: Totals do not necessarily equal the sums of rounded components.

a. Revenues

The major sources of revenue for the Part D account are (i) contributions of the Federal Government authorized to be apportioned and transferred from the general fund of the Treasury; (ii) premiums paid by eligible persons who voluntarily enroll; and (iii) contributions from the States.

Of the total Part D revenue, $5.0 billion represented premium amounts withheld from Social Security benefits or other Federal benefit payments. Total premium payments, including those paid directly to the Part D plans, amounted to an estimated $15.5 billion or 15.5 percent of total revenue.

In calendar year 2017, contributions received from the general fund of the Treasury amounted to $73.2 billion, which accounted for 73.1 percent of total revenue. The payments from the States were $11.4 billion.

Another source of Part D revenue is interest received on investments held by the Part D account. Since this account holds a very low amount of assets, and only for brief periods of time, the interest on the investments of the account in calendar year 2017 was negligible ($54 million).

b. Expenditures

Part D expenditures include both the costs of prescription drug benefits provided by Part D plans to enrollees and Medicare payments to retiree drug subsidy (RDS) plans on behalf of beneficiaries who obtain their primary drug coverage through such plans. Unlike Parts A and B of Medicare, the Part D account in the SMI trust fund does not directly support all Part D expenditures. In particular, enrollee premiums that are paid directly to Part D plans, and thus do not flow through the Part D account, finance a portion of these expenditures. However, these premium amounts are included in the Part D account operations (both income and expenditures) presented in this report. Total expenditures are characterized as either benefits (representing the gross cost of enrollees' prescription drug coverage plus RDS amounts) or Federal administrative expenses.

All expenses incurred by the Department of Health and Human Services, the Social Security Administration, and the Department of the Treasury in administering Part D are charged to the account. These administrative duties include making payments to Part D plans,

fraud and abuse control activities, and experiments and demonstration projects designed to improve the quality, efficiency, and economy of health care services.

In addition, Congress has authorized expenditures from the trust funds for construction, rental and lease, or purchase contracts of office buildings and related facilities for use in connection with the administration of Part D. The account expenditures include such costs. However, the statement of Part D assets presented in this report does not carry the net worth of facilities and other fixed capital assets, because the value of fixed capital assets does not represent funds available for benefit or administrative expenditures and is not, therefore, pertinent in assessing the actuarial status of the funds.

Due to administrative cost recoveries from prior years that occurred in 2017, the gross Federal administrative expenses were slightly negative at −$0.1 billion, as the recovery amounts more than offset the $0.2 billion in administrative costs that were disbursed during the year. Accordingly, of the $100.0 billion in total Part D expenditures, $100.1 billion represented benefits, as defined above. The Medicare direct premium subsidy and reinsurance subsidy, together with enrollee premiums, implicitly cover administrative expenses incurred by Part D plans.

c. Actual experience versus prior estimates

Table III.D2 compares the actual experience in calendar year 2017 with the estimates presented in the 2016 and 2017 annual reports. A number of factors can contribute to differences between estimates and subsequent actual experience. In particular, actual values for key economic and other variables can differ from assumed levels, lawmakers may adopt legislative and regulatory changes after a report's preparation, and new, high-impact drugs can enter the market.

Compared to the 2017 report, actual premiums and State transfers for calendar year 2017 were about the same as projected. Government contributions and benefit payments were higher than projected last year primarily because the actual manufacturer rebates for 2016 were lower than expected, resulting in a slightly higher-than-projected reinsurance reconciliation payment in 2017.

Compared to the 2016 report, actual premiums, government contributions, and benefit payments for 2017 were all significantly lower than projected primarily for three reasons: (i) the drug rebates

were higher than previously assumed; (ii) the actual drug trend was lower due to a decline in hepatitis C drug spending; and (iii) the 2016 reinsurance reconciliation amounts paid in 2017 were lower than projected in the 2016 report. The relatively high difference in enrollee premiums is attributable to the factors affecting the difference in benefit payments plus higher actual risk scores than assumed in the 2016 report. The actual State transfer was higher than projected in the 2016 report because the annual percentage increase used to update the per capita transfer was higher than projected due to prior-year revisions, and because the number of dual-eligible low-income beneficiaries was somewhat higher.

Table III.D2.—Comparison of Actual and Estimated Operations of the Part D Account in the SMI Trust Fund, Calendar Year 2017

[Dollar amounts in millions]

Item	Actual amount	Comparison of actual experience with estimates for calendar year 2017 published in: 2017 report: Estimated amount[1]	2017 report: Actual as a percentage of estimate	2016 report: Estimated amount[1]	2016 report: Actual as a percentage of estimate
Premiums from enrollees	$15,494	$15,414	101%	$17,684	88%
State transfers	11,406	11,402	100	10,568	108
Government contributions	73,217	71,880	102	77,842	94
Benefit payments	100,103	98,752	101	105,069	95

[1]Under the intermediate assumptions.

d. Assets

The Department of the Treasury invests the portion of the Part D account not needed to meet current expenditures for benefits and administration in interest-bearing obligations of the U.S. Government.

The Social Security Act authorizes the issuance of special public-debt obligations for purchase exclusively by the account. The law requires that these special public-debt obligations shall bear interest at a rate based on the average market yield (computed on the basis of market quotations as of the end of the calendar month immediately preceding the date of such issue) for all marketable interest-bearing obligations of the United States forming a part of the public debt that are not due or callable until after 4 years from the end of that month. Since the inception of the SMI trust fund, the Department of the Treasury has always invested the assets in special public-debt obligations.[51] Table V.H10, presented in section V.H, shows the assets of the SMI trust fund (Parts B and D) at the end of fiscal years 2016 and 2017.

[51]The Department of the Treasury may also make investments in obligations guaranteed for both principal and interest by the United States, including certain federally sponsored agency obligations.

As explained in section III.D2, the flexible apportionment of general revenues for Part D eliminates the need to maintain a contingency reserve. As a result, Part D assets are very low and are held only briefly in anticipation of immediate expenditures.

2. 10-Year Actuarial Estimates (2018-2027)

Section III.D2 provides detailed information concerning the short-range financial status of the Part D account, including projected annual income, outgo, differences between income and outgo, and trust fund balances. The projected future operations of the Part D account are based on the Trustees' economic and demographic assumptions, as detailed in the OASDI Trustees Report, as well as other assumptions unique to Part D. Section IV.B2 presents an explanation of the effects of the Trustees' intermediate assumptions and other assumptions unique to Part D on the estimates in this report. This section presents estimates of the trust fund's operations and financial status for the next 10 years. Section III.D3 discusses the long-range actuarial status of the trust fund.

Generally, the income to the Part D account includes the beneficiary premiums described above and transfers from the general fund of the Treasury to cover each year's incurred benefit costs and other expenditures. The language that has generally been included in the Part D appropriation provides, without further Congressional action, resources for benefit payments under the Part D drug benefit program on an as-needed basis. The transfers from the Treasury reflect the direct premium subsidy, amounts of reinsurance payments, RDS amounts, low-income subsidies, net risk-sharing payments, administrative expenses, and advanced discount payments. This income requirement is reduced by the anticipated State transfers for the full-benefit dually eligible beneficiaries who used to be covered under Medicaid.

Until 2015, actual cash transfers from the Treasury were made on the day the benefit payments to plans were due, typically the first business day of a month, causing the Part D account balance at the end of a month to include only a modest amount from the State transfers to the account after the benefit payments were made. A new policy was developed prior to the end of the 2015 fiscal year[52] to transfer amounts from the Treasury into the account 5 business days before the benefit

[52]The new policy was applied prior to the October 2015 plan payment and again prior to the February 2016 plan payment, and it has been consistently applied after February 2016.

payments to the plans. As a result, the Part D account includes a more substantial balance at the end of most months to reflect this policy.

The beneficiary premiums and direct subsidy rate are calculated based on the national average bid amounts and defined prior to each year's operations. The average basic premium constitutes 25.5 percent of the expected total plan costs for basic Part D coverage. Beginning in 2011, beneficiaries with modified adjusted gross incomes exceeding a specified threshold pay income-related premiums in addition to the premiums charged by the plans in which the individuals have enrolled. The extra premiums are credited to the Part D trust fund account and reduce the general fund financing amounts. Starting in 2011, the drug manufacturers provide a 50-percent ingredient cost discount for brand-name drugs in the coverage gap that reduces beneficiary out-of-pocket expenses. Starting in 2019, the Bipartisan Budget Act of 2018 (BBA 2018) increases the brand-name drug discount in the coverage gap to 70 percent, with a corresponding decrease in plan benefits. Section V.A provides a complete list of Medicare amendments during the last year, including all changes resulting from BBA 2018. Medicare Part D pays advanced discount payments prospectively to the non-employer Part D plans and will be reimbursed for these amounts once the plans receive the discounts from the drug manufacturers.

Expenditures from the account include the premiums withheld from beneficiaries' Social Security benefits and transferred to the private drug plans, the direct premium subsidy payments, reinsurance payments, RDS amounts, low-income subsidy payments, net risk-sharing payments, administrative expenses, and advanced discount payments. As noted previously, the Trustees supplement these expenditures to include the amount of enrollee premiums paid directly to Part D plans, thereby providing an estimate of total Part D benefit payments and other expenditures.

Part D expenditures on direct premium subsidy payments, RDS amounts, advanced discount payments, and administrative expenses are affected by the sequestration of Medicare expenditures required by current law. Reinsurance, low-income cost-sharing subsidy amounts, and net risk-sharing payments are not affected. The sequestration reduces benefit payments by 2 percent from April 1, 2013 through March 31, 2027 and by 4 percent from April 1, 2027 through September 30, 2027. Due to sequestration, non-salary administrative expenses are reduced by an estimated 5 to 7 percent from March 1, 2013 through September 30, 2027.

Table III.D3 shows the estimated operations of the Part D account under the intermediate assumptions on a calendar-year basis through 2027.

Table III.D3.—Operations of the Part D Account in the SMI Trust Fund (Cash Basis) during Calendar Years 2004-2027

[In billions]

	Income					Expenditures			Account	
Calendar year	Premium income[1]	General revenue[2]	Transfers from States[3]	Interest and other	Total	Benefit payments[4]	Adminis-trative expense	Total	Net change	Balance at end of year[5]
Historical data:										
2004	—	$0.4	—	—	$0.4	$0.4	—	$0.4	—	—
2005	—	1.1	—	—	1.1	1.1	—	1.1	—	—
2006	$3.5	39.2	$5.5	$0.0	48.2	47.1	$0.3	47.4	$0.8	$0.8
2007	4.1	38.8	6.9	0.0	49.7	48.8	0.9	49.7	0.0	0.8
2008	5.0	37.3	7.1	0.0	49.4	49.0	0.3	49.3	0.1	0.9
2009	6.3[6]	47.1	7.6	0.0	61.0	60.5	0.3	60.8	0.1	1.1
2010	6.5[6]	51.1	4.0	0.0	61.7	61.7	0.4	62.1	−0.4	0.7
2011	7.7	52.6	7.1	0.0	67.4	66.7	0.4	67.1	0.3	1.0
2012	8.3	50.1	8.4	0.0	66.9	66.5	0.4	66.9	0.0	1.0
2013	9.9	51.0	8.8	0.0	69.7	69.3	0.4	69.7	0.0	1.0
2014	11.4	58.1	8.7	0.0	78.2	77.7	0.4	78.1	0.1	1.1
2015	12.8[6]	68.4	8.9	0.0	90.0	89.5	0.3	89.8	0.3	1.3
2016	13.8[6]	82.4	10.0	0.0	106.2	99.5	0.5	99.9	6.3	7.6
2017	15.5	73.2	11.4	0.1	100.2	100.1	−0.1[7]	100.0	0.2	7.8
Intermediate estimates:										
2018	15.8	66.2	11.8	0.0	93.8	94.1	0.4	94.5	−0.7	7.1
2019	16.6	75.3	12.3	0.0	104.2	103.3	0.4	103.7	0.5	7.6
2020	19.0[6]	82.3	13.2	0.0	114.5	113.3	0.4	113.7	0.7	8.3
2021	20.3[6]	89.2	14.4	0.0	123.9	122.7	0.5	123.2	0.7	9.1
2022	22.6	96.6	15.7	0.0	134.9	133.6	0.5	134.1	0.8	9.9
2023	24.6	104.3	17.1	0.0	146.0	144.7	0.5	145.2	0.8	10.7
2024	26.8	112.7	18.6	0.0	158.0	156.6	0.5	157.2	0.9	11.6
2025	28.7	119.8	20.1	0.0	168.6	167.3	0.5	167.8	0.8	12.4
2026	31.7[6]	128.9	21.7	0.0	182.3	180.7	0.6	181.3	1.0	13.4
2027	33.3[6]	139.8	23.3	0.0	196.4	194.7	0.6	195.3	1.1	14.5

[1]Premiums include both amounts withheld from Social Security benefits or other Federal payments and those paid directly to Part D plans.

[2]Includes, net of transfers from States, all government transfers required to fund benefit payments, administrative expenses, and State expenses for making low-income eligibility determinations.

[3]Payments from States with respect to the Federal assumption of Medicaid responsibility for drug expenditures for full-benefit dually eligible individuals.

[4]Includes payments to Part D plans, payments to retiree drug subsidy plans, payments to States for making low-income eligibility determinations, Part D drug premiums collected from beneficiaries, and transfers to Medicare Advantage plans and private drug plans. Includes amounts for the Transitional Assistance program of $0.4, $1.0, and $0.1 billion in 2004-2006, respectively.

[5]See text concerning nature of general revenue appropriations process and implications for contingency reserve assets.

[6]Section 708 of the Social Security Act modifies the provisions for the payment of Social Security benefits when the regularly designated day falls on a Saturday, Sunday, or legal public holiday. Payment of those benefits normally due January 3, 2010 actually occurred on December 31, 2009, and payment of benefits normally due January 3, 2016 occurred on December 31, 2015. Consequently, the Part D premiums withheld from these benefits were added to the Part D account on December 31, 2009 (about $0.2 billion) and December 31, 2015 (about $0.2 billion), respectively. Similarly, the expected payment date for those benefits normally due January 3, 2021 is December 31, 2020, and the expected payment date for those benefits normally due January 3, 2027 is December 31, 2026. Accordingly an estimated $0.3 billion will be added to the Part D account on December 31, 2020, and an estimated $0.5 billion will be added to the Part D account on December 31, 2026.

[7]Reflects a larger-than-usual downward adjustment of $0.3 billion for prior-year allocations among Part A, Part B, and Part D.

Note: Totals do not necessarily equal the sums of rounded components.

Actuarial Analysis

Table III.D4 shows prescription drug payment amounts in the aggregate, on a per capita basis, and relative to the Gross Domestic Product (GDP). It also shows rates of growth for the next 10 years based on the intermediate set of assumptions.

Over the past 10 years, Part D benefit payments have increased by an annual rate of 7.4 percent in aggregate and by 3.8 percent on a per enrollee basis. These results reflect the rapid growth in enrollment, together with multiple prescription drug cost and utilization trends that have varying effects on underlying costs. For example, there has been a substantial increase in the proportion of prescriptions filled with low-cost generic drugs that has helped constrain cost growth, while there has also been a significant increase in the cost of specialty drugs that has increased cost growth.

For 2017, per capita benefits decreased sharply as compared to recent historical years mainly for two reasons: (i) the projected rebates in the 2017 plan bids were significantly higher than in the 2016 plan bids, offsetting the increase in drug costs; and (ii) since the plans did not expect the large amount of hepatitis C drug spending in their 2015 bids, there were very significant reinsurance reconciliation payments from Part D to plans in 2016, which increased the 2016 cash benefit payments drastically. The 2018 per capita benefits are projected to decrease further because the rebates assumed in the 2018 plan bids were significantly higher than assumed for the 2017 bids, and because a significant decline in hepatitis C drug spending in 2017 will likely result in reinsurance reconciliation receipts from plans in 2018.

Table III.D4.—Growth in Part D Benefits (Cash Basis) through December 31, 2027

Calendar year	Aggregate benefits [billions]	Percent change	Per capita benefits	Percent change	Part D benefits as a percentage of GDP
Historical data:					
2004	$0.4	—	$362	—	0.00%
2005	1.1	—	596	—	0.01
2006	47.1	—	1,708	—	0.34
2007	48.8	3.7%	1,556	−8.9%	0.34
2008	49.0	0.4	1,504	−3.3	0.33
2009	60.5	23.4	1,798	19.6	0.42
2010	61.7	2.0	1,775	−1.3	0.41
2011	66.7	8.1	1,868	5.3	0.43
2012	66.5	−0.4	1,776	−5.0	0.41
2013	69.3	4.2	1,772	−0.2	0.42
2014	77.7	12.1	1,919	8.3	0.45
2015	89.5	15.1	2,140	11.5	0.49
2016	99.5	11.2	2,302	7.6	0.53
2017	100.1	0.6	2,252	−2.2	0.52
Intermediate estimates:					
2018	94.1	−6.0	2,057	−8.7	0.46
2019	103.3	9.8	2,189	6.4	0.49
2020	113.3	9.7	2,322	6.1	0.51
2021	122.7	8.3	2,436	4.9	0.53
2022	133.6	8.9	2,570	5.5	0.55
2023	144.7	8.3	2,703	5.2	0.57
2024	156.6	8.2	2,848	5.4	0.59
2025	167.3	6.8	2,963	4.1	0.60
2026	180.7	8.0	3,124	5.4	0.62
2027	194.7	7.7	3,293	5.4	0.64

Note: Percentages are affected by economic cycles.

In the future, the average per capita drug benefit growth rate is expected to exceed the rate of increase in other categories of medical spending. The relatively rapid projected aggregate benefit growth reflects that the expected per capita cost increase will return to a higher level as increases in the generic dispensing rate slow and increases in specialty drugs continue. Over the next 10 years, aggregate benefits are projected to increase at 6.9 percent annually, on average, while the average per capita rate of growth is 3.9 percent, as shown in table III.D4. The growth rates in this year's report are similar to the rates projected last year primarily due to two offsetting assumptions that project higher rebates and an overall higher cost trend.

The payment structure of the Part D program causes the somewhat volatile pattern of annual growth rates; prospective payments to the plans are made based on the plan bids and then are reconciled with actual prescription drug expenditures after the end of the year. In 2014 and 2015, spending exceeded plan bids due to increased spending on high-cost hepatitis C drugs, and accordingly about $11 billion and $10 billion in reconciliation payments were paid by Part D in 2015 and 2016, respectively. Plans are expected to have over-estimated the benefits in their 2017 bids, which will result in a reconciliation payment to Part D from the plans of roughly $2 billion in 2018.

Legislation and policy also contribute to the volatility of the annual growth rates. For example, the ACA will close the coverage gap from 2012 through 2020, a factor that will increase plan benefits and result in higher Part D expenditures and premiums. Starting in 2019, BBA 2018 further alters the coverage gap by increasing the manufacturer discount from 50 percent to 70 percent for brand-name drugs in the coverage gap and by decreasing plan benefits. Additionally, the policy to begin paying advanced reinsurance amounts to the employer/union-only group waiver plans in 2017 will affect the timing of the reinsurance payments, which were previously provided exclusively through the reconciliation process.

The Trustees have also prepared estimates using two alternative sets of assumptions. Table III.D5 summarizes the estimated operations of the Part D account for all three alternatives. Section IV.B2 presents the assumptions underlying the intermediate estimates in substantial detail, and it outlines the assumptions used in preparing estimates under the low-cost and high-cost alternatives.

Table III.D5.—Estimated Operations of the Part D Account in the SMI Trust Fund during Calendar Years 2017-2027, under Alternative Sets of Assumptions

[Dollar amounts in billions]

Calendar year	Premiums from enrollees	Other income[1]	Total income	Total expenditures	Balance in account at end of year	Expenditures as a percentage of GDP
Intermediate:						
2017[2]	$15.5	$84.7	$100.2	$100.0	$7.8	0.52%
2018	15.8	78.1	93.8	94.5	7.1	0.47
2019	16.6	87.6	104.2	103.7	7.6	0.49
2020	19.0[3]	95.5	114.5	113.7	8.3	0.51
2021	20.3[3]	103.6	123.9	123.2	9.1	0.53
2022	22.6	112.4	134.9	134.1	9.9	0.55
2023	24.6	121.4	146.0	145.2	10.7	0.57
2024	26.8	131.2	158.0	157.2	11.6	0.59
2025	28.7	139.9	168.6	167.8	12.4	0.60
2026	31.7[3]	150.6	182.3	181.3	13.4	0.62
2027	33.3[3]	163.1	196.4	195.3	14.5	0.64
Low-cost:						
2017[2]	15.5	84.7	100.2	100.0	7.8	0.52
2018	15.7	74.8	90.5	91.2	7.1	0.44
2019	14.8	76.8	91.6	91.7	7.0	0.42
2020	16.5[3]	86.0	102.5	102.1	7.5	0.43
2021	17.4[3]	91.5	108.9	108.4	8.0	0.43
2022	19.2	97.1	116.2	115.7	8.5	0.44
2023	20.7	102.5	123.2	122.6	9.0	0.44
2024	22.2	108.3	130.5	130.0	9.6	0.44
2025	23.6	112.9	136.5	136.1	10.0	0.43
2026	25.7[3]	118.8	144.5	143.9	10.6	0.43
2027	26.6[3]	125.9	152.5	151.9	11.2	0.43
High-cost:						
2017[2]	15.5	84.7	100.2	100.0	7.8	0.52
2018	15.8	81.6	97.4	98.1	7.1	0.49
2019	18.3	98.3	116.6	115.6	8.1	0.57
2020	21.6[3]	104.3	125.9	124.8	9.1	0.60
2021	23.5[3]	115.6	139.1	138.1	10.1	0.64
2022	26.4	128.1	154.5	153.4	11.3	0.69
2023	29.2	141.8	171.0	169.8	12.5	0.74
2024	32.1	157.0	189.1	187.7	13.8	0.79
2025	34.9	171.5	206.4	205.1	15.2	0.83
2026	39.0[3]	189.3	228.3	226.7	16.8	0.89
2027	41.5[3]	210.2	251.7	249.9	18.6	0.95

[1]Other income contains Federal and State government contributions and interest.
[2]Figures for 2017 represent actual experience.
[3]See footnote 6 of table III.D3.

Notes: 1. Totals do not necessarily equal the sums of rounded components.
2. Percentages are affected by economic cycles.

These alternatives provide two possible Part D scenarios. However, given the considerable variation in future demographic, economic, and healthcare-usage factors, actual Part D experience could fall outside of this range. The low- and high-cost scenarios in this year's report result in a narrower dollar range than in years prior to 2014 due to a change in the alternative assumptions in the 2014 Trustees Report.[53] The GDP

[53]The Trustees' alternative CPI assumptions were reversed in the 2014 report compared with those in previous reports, so that the high-cost assumptions in prior reports are the low-cost assumptions for the 2014 and later reports, and vice versa. Inflation rates are now ordered across alternatives according to their effect on the OASDI actuarial balance. This change resulted in a narrow range of impacts.

assumptions for the alternative scenarios are also affected by the assumption change. Therefore, spending as a percentage of GDP provides better insight into the variability of spending than the nominal dollar amounts, as shown in table III.D5.

The alternative projections shown in table III.D5 illustrate two important aspects of the financial operations of the Part D account:

- Despite the differing assumptions underlying the three alternatives, the balance between Part D income and expenditures remains relatively stable. This result occurs because the premiums and general revenue contributions underlying the Part D financing are reestablished annually. Thus, Part D income automatically tracks Part D expenditures fairly closely, regardless of the specific economic and other conditions.

- As a result of the close matching of income and expenditures described above, together with anticipated continuing flexibility in the apportionment of general revenues, the need for a contingency reserve to handle unanticipated fluctuations is minimal.

Adequacy of Part D Financing Established for Calendar Year 2017

As noted previously, the Part D account in the SMI trust fund will be in financial balance indefinitely because the premiums paid by enrollees and the amounts apportioned from the general fund of the Treasury are determined each year so as to adequately finance Part D expenditures. Moreover, the appropriation for Part D general revenues has generally included an indefinite authority provision allowing for amounts to be transferred to the Part D account on an as-needed basis. This provision allows previously apportioned amounts to change without additional Congressional action if those amounts are later determined to be insufficient. Consequently, once an appropriation with this provision has been made, no deficit will occur in the Part D account, and no contingency fund will be necessary to cover deficits.[54]

As described in section III.C on the financial status of the Part B account, it is important to maintain an appropriate level of assets to cover the liability for claims that have been incurred but not yet reported or paid. In the case of Part D, however, most such claims are the responsibility of the prescription drug plans rather than the Part D program. Accordingly, the Part D account is generally not at risk for

[54]The indefinite authority applies to all Part D outlays other than Federal administrative expenses. Those amounts are specifically appropriated each year.

incurred-but-unreported claim amounts, and no asset reserve is necessary for this purpose.

Another potential Part D liability exists to the extent that Part D reinsurance payments and low-income cost-sharing subsidy payments are based on plan estimates.[55] Since actual Part D costs, as subsequently determined, will generally differ from the plan bids, payment adjustments are made after the close of the year as needed to reconcile the accounts. When the plan bids have been below actual costs, Medicare has made such settlements in favor of the plans from the following year's appropriated general revenues; thus, creation of a reserve for payment of such settlement amounts is not required.

For these reasons, the Trustees have concluded that maintenance of Part D account assets for contingency or liability purposes is unnecessary at this time. Accordingly, evaluation of the adequacy of Part D assets is also unnecessary, and the Part D account is considered to be in satisfactory financial condition for 2017 and all future years as a consequence of its basis for financing.

3. Long-Range Estimates

Section III.D2 presented the expected operations of the Part D account over the next 10 years. This section describes the long-range expenditures of the account under the intermediate assumptions. Due to its automatic financing provisions, the Trustees expect adequate financing of the Part D account into the indefinite future and so have not conducted a long-range analysis using high-cost and low-cost assumptions. The 10-year projections under the alternative assumptions are presented in section IV.B2.

Table III.D6 shows the estimated Part D incurred expenditures under the intermediate assumptions expressed as a percentage of GDP, for selected years over the calendar-year period 2017-2092.[56] The 75-year projection period fully allows for the presentation of likely future trends, such as the large increase in enrollees after 2010 as the baby boom generation begins to receive benefits.

[55]These estimates are subject to actuarial review by the CMS Office of the Actuary.

[56]These estimated incurred expenditures are for benefit payments and administrative expenses combined, unlike the values in table III.D4, which express only benefit payments on a cash basis as a percentage of GDP.

Table III.D6.—Part D Expenditures (Incurred Basis) as a Percentage of the Gross Domestic Product[1]

Calendar year	Part D expenditures as a percentage of GDP
2017	0.48%
2018	0.48
2019	0.48
2020	0.51
2021	0.53
2022	0.55
2023	0.57
2024	0.59
2025	0.60
2026	0.62
2027	0.64
2030	0.70
2035	0.76
2040	0.81
2045	0.83
2050	0.86
2055	0.90
2060	0.94
2065	0.98
2070	1.02
2075	1.06
2080	1.09
2085	1.12
2090	1.15
2092	1.16

[1]Expenditures are the sum of benefit payments and administrative expenses.

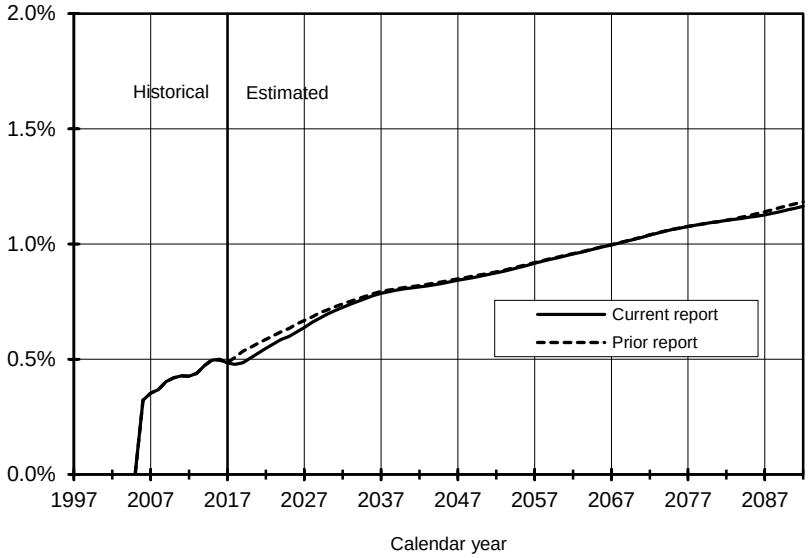
Note: Percentages are affected by economic cycles.

The Trustees assume that increases in Part D costs per enrollee during the initial 25-year period will decline gradually to the growth rates described in sections II.C and IV.D. Based on these assumptions and projected demographic changes, incurred Part D expenditures as a percentage of GDP would increase from 0.48 percent in 2017 to 1.16 percent in 2092.

The long-range Part D projections are based on the cost growth assumptions described previously. More information on these assumptions is available in section IV.D of this report. Section IV.B2 describes the data sources and assumptions underlying the updated Part D estimates.

Figure III.D1 compares the year-by-year Part D expenditures as a percentage of GDP for the current annual report with the corresponding projections from 2017. The Part D expenditure projections for the current report are lower than last year's projections in the short range primarily because of higher manufacturer rebates, a decline in spending for hepatitis C drugs, and a slowdown in spending growth for diabetes drugs, but they are similar to last year's long-range projections due to slightly higher growth rate assumptions in this year's report.

Figure III.D1.—Comparison of Part D Projections as a Percentage of the Gross Domestic Product: Current versus Prior Year's Reports



Note: Percentages are affected by economic cycles.

IV. ACTUARIAL METHODOLOGY AND PRINCIPAL ASSUMPTIONS FOR COST ESTIMATES FOR THE HOSPITAL INSURANCE AND SUPPLEMENTARY MEDICAL INSURANCE TRUST FUNDS

This section describes the basic methodology and assumptions used in the estimates for the HI and SMI trust funds under the intermediate assumptions and presents projections of HI and SMI costs under two alternative sets of assumptions.

The economic and demographic assumptions underlying the projections of HI and SMI costs shown in this report are consistent with those in the 2018 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds. That report describes these assumptions in more detail.

A. HOSPITAL INSURANCE

1. Cost Projection Methodology

The principal steps involved in projecting future HI costs are (i) establishing the present cost of services provided to beneficiaries, by type of service, to serve as a projection base; (ii) projecting increases in HI payments for inpatient hospital services; (iii) projecting increases in HI payments for skilled nursing, home health, and hospice services covered; (iv) projecting increases in payments to private health plans; and (v) projecting increases in administrative costs.

a. Projection Base

To establish a suitable base from which to project future HI costs, the incurred payments for services provided must be constructed for the most recent period for which a reliable determination can be made. Accordingly, payments to providers must be attributed to dates of service, rather than to payment dates; in addition, the nonrecurring effects of any changes in regulations, legislation, or administration, and of any items affecting only the timing and flow of payments to providers, must be eliminated. As a result, the rates of increase in the HI incurred costs differ from the increases in cash expenditures shown in the tables in section III.B.

For those expenses still reimbursed on a reasonable-cost basis, the costs for covered services are determined on the basis of provider cost reports. Due to the time required to obtain cost reports from providers, to verify these reports, and to perform audits (where appropriate), final settlements have lagged behind the original costs by as much as

several years for some providers. Additional complications arise from legislative, regulatory, and administrative changes, the effects of which cannot always be determined precisely.

The process of allocating the various types of HI payments made to the proper incurred period—using incomplete data and estimates of the impact of administrative actions—presents difficult problems, and the solutions to these problems can be only approximate. Under the circumstances, the best that one can expect is that the actual HI incurred cost for a recent period can be estimated within a few percent. This process increases the projection error directly by incorporating any error in estimating the base year into all future years.

b. Fee-for-Service Payments for Inpatient Hospital Costs

Payment for almost all inpatient hospital services for fee-for-service beneficiaries occurs under a prospective payment system. The law stipulates that the annual increase in the payment rate for each admission relate to a hospital input price index (also known as the hospital market basket), which measures the increase in prices for goods and services purchased by hospitals for use in providing care to hospital inpatients. For fiscal year 2018, the prospective payment rates have already been determined. For fiscal years 2019 and later, the statute mandates that the annual increase in the payment rate per admission equal the annual increase in the hospital input price index (for those hospitals submitting required quality measure data), minus a specified percentage. For this report, the Trustees assume that all hospitals will submit these data.

Increases in aggregate payments for inpatient hospital care covered under HI can be analyzed in five broad categories, presented in table IV.A1:

(1) Hospital input price index—the increase in prices for goods and services purchased by the hospital;

(2) Unit input intensity allowance—an amount added to or subtracted from the input price index (generally called for in legislation) to yield the prospective payment update factor;

(3) Volume of services—the increase in total output of units of service (as measured by covered HI hospital admissions);

(4) Case mix—the financial effect of changes in the average complexity of hospital admissions; and

(5) Other sources—a residual category reflecting all other factors affecting hospital cost increases (such as enacted legislative changes).

Table IV.A1 shows the estimated historical values of these principal components, as well as the projected trends used in the estimates. Unless otherwise indicated, the following discussions apply to projections under the intermediate assumptions.

Table IV.A1.—Components of Historical and Projected Increases in HI Inpatient Hospital Payments[1]

Calendar year	Input price index	Unit input intensity allowance[2]	Volume of services: HI enrollment	Volume of services: Managed care shift effect	Volume of services: Admission incidence	Case mix	Other sources	HI inpatient hospital payments
Historical data:								
2008	3.4%	0.0%	2.6%	−3.1%	−4.4%	1.9%	2.6%	2.8%
2009	3.2	0.0	2.5	−2.4	−2.8	2.7	−1.6	1.4
2010	2.2	−0.2	2.4	−0.9	−0.9	0.6	−1.7	1.5
2011	2.7	−0.5	2.5	−1.1	−1.6	0.0	−0.5	1.5
2012	2.9	−1.0	4.1	−1.8	−4.9	0.7	2.0	1.7
2013	2.6	−0.8	3.2	−2.2	−3.7	1.4	1.8	2.2
2014	2.6	−0.8	3.1	−2.5	−3.1	1.5	−0.3	0.4
2015	2.8	−0.7	2.8	−2.1	−0.9	0.5	−2.5	−0.3
2016	2.5	−0.8	2.7	−1.1	−2.0	3.1	−0.4	4.0
2017	2.7	−1.1	2.3	−2.5	−1.0	0.4	−1.1	−0.5
Intermediate estimates:								
2018	2.9	−1.4	2.5	−2.5	−0.7	0.5	−0.4	0.9
2019	3.7	−1.3	2.7	−1.1	−1.4	0.5	1.1	4.2
2020	3.8	−0.7	2.9	−0.5	−0.8	0.5	0.4	5.6
2021	3.8	−0.7	2.8	−0.6	−0.5	0.5	0.3	5.7
2022	3.7	−0.7	2.8	−0.6	−0.2	0.5	0.4	6.0
2023	3.7	−0.8	2.6	−0.5	0.0	0.5	0.2	5.7
2024	3.7	−0.9	2.5	−0.5	0.0	0.5	0.0	5.5
2025	3.7	−0.9	2.5	−0.4	0.0	0.5	0.0	5.4
2026	3.7	−1.0	2.4	−0.4	0.1	0.5	0.0	5.3
2027	3.6	−1.0	2.2	−0.3	0.2	0.5	−0.5	4.8

[1]Percent increase in year indicated over previous year, on an incurred basis.

[2]Reflects the allowances provided for in the prospective payment update factors. Also reflects the downward adjustments to price updates based on the 10-year moving average of economy-wide productivity growth in 2012 and later, and additional decreases in updates ranging from 0.1 percentage point to 0.75 percentage point from 2010 through 2019, as introduced by the ACA.

The input price index is a weighted average of the price proxies (prices of specific inputs) used in delivery of HI inpatient services. The methodology underlying this report utilizes least-squares regression models for each price proxy to project this index. The process begins by regressing the historical time series for each price proxy on one of three independent variables: average hourly compensation, GDP deflator, and CPI. The regression results are then applied to the projected independent variables to produce projections for each detailed price proxy, which are weighted together to produce the aggregate input price index.

The unit input intensity allowance is generally a downward adjustment provided for by law in the prospective payment update factor; that is, it is the amount subtracted from the input price index to yield the update factor.[57] Beginning in fiscal year 2004, the law provides that increases in payments to prospective payment system hospitals for covered admissions will equal the increase in the hospital input price index for those hospitals that submit the required quality measure data. For other hospitals, the increase will be slightly smaller. For this report, the Trustees assume that all hospitals will submit these data. Beginning in fiscal year 2010, the ACA mandates amounts to be subtracted from the input price index, including the increase in economy-wide productivity in 2012 and later, and amounts ranging from 0.1 percentage point to 0.75 percentage point for 2010 through 2019. As a result of these adjustments, the unit input intensity allowance, as indicated in table IV.A1, is negative throughout the first 10-year projection period.

Increases in payments for inpatient hospital services also reflect growth in the number of inpatient hospital admissions covered under HI fee-for-service. As shown in table IV.A1, increases in admissions are attributable to growth in both HI enrollment and admission incidence (admissions per beneficiary).[58] The historical and projected growth in enrollment reflects a more rapid increase in the population aged 65 and over than in the total population of the United States, as well as increasing numbers of disabled beneficiaries and persons with end-stage renal disease. Growth in enrollment is expected to continue and to mirror the ongoing demographic shift into categories of the population eligible for HI benefits and reduced by an increasing proportion of beneficiaries enrolling in private health plans.

The choice of more beneficiaries to join private health plans has been an offsetting factor to the HI enrollment growth, as shown in the "managed care shift effect" column of table IV.A1. In other words, greater enrollment in private health plans reduced the number of beneficiaries with fee-for-service Medicare coverage and thereby reduced hospital admissions paid through fee-for-service. Private

[57]The update factors are generally prescribed on a fiscal-year basis, while table IV.A1 is on a calendar-year basis. Calculations have therefore been performed to estimate the unit input intensity allowance on the basis of calendar years. The sum of the input price index and the unit input intensity allowance generally reflects the prescribed prospective payment update factor, but on a calendar-year, rather than a fiscal-year, basis.

[58]This factor has recently been negative and is projected to remain that way through 2021, reflecting the influx of beneficiaries aged 65 (and the resulting reduction in the average age of beneficiaries) due to the retirement of the baby boom generation. By the end of the projection period, the aging of this group is expected to increase the incidence of admissions.

Medicare health plan membership is projected to continue to grow for most of the projection period.

Since the beginning of the prospective payment system (PPS), inpatient hospital payments have varied based on the complexity of admissions. These variations are primarily due to (i) the changes in diagnosis-related group (DRG) coding as hospitals continue to adjust to the PPS and (ii) the trend toward treating less complicated (and thus less expensive) cases in outpatient settings, which results in an increase in the average prospective payment per admission.

The average complexity of hospital admissions (case mix) is expected to increase by 0.5 percent annually in fiscal years 2018 through 2027 as a result of an assumed continuation of the current trend toward treating less complicated cases in outpatient settings, ongoing changes in DRG coding, and the overall impact of new technology.

Hospital payments are also affected by other factors, as reflected in the "other sources" column of table IV.A1. For example, statutory budget neutrality adjustments offset costs from significant increases in case mix that occurred when the new Medicare severity diagnosis-related group (MS-DRG) system was introduced in 2008. Although the law limited the size of these adjustments in 2008 and 2009, it allows subsequent recovery of any extra payments that resulted. The "other sources" column reflects all of these actual and anticipated effects and adjustments. In addition, one can attribute part of the increase from "other sources" to the increase in payments for certain costs, not included in the DRG payment, that are generally growing at a rate slower than the input price index. These other costs include capital, medical education (both direct and indirect), disproportionate share hospital (DSH) payments, and payments to hospitals not included in the prospective payment system. A particularly important change affecting these costs is the reduction in Medicare DSH payments under the ACA. This change reflects the major coverage expansions that began in 2014 and that continue to result in significantly fewer uninsured hospital patients. In 2019, however, the elimination of the individual mandate is assumed to increase the number of uninsured, resulting in an increase in this factor.

Additional possible sources of changes in payments include (i) a shift to higher-cost or lower-cost admissions due to changes in the demographic characteristics of the covered population; (ii) changes in medical practice patterns; and (iii) adjustments in the relative payment levels for various DRGs, or addition/deletion of DRGs, in response to changes in technology.

The "other sources" column reflects, as appropriate, the impact of certain enacted legislation, including the sequestration process. Also reflected in this column is the impact of the estimated bonus payments and penalties for hospitals due to the health information technology incentives.

The increases in the input price index (less any intensity allowance specified in the law), units of service, and other sources are compounded to calculate the total increase in payments for inpatient hospital services. The last column of table IV.A1 shows these overall increases.

c. Fee-for-Service Payments for Skilled Nursing Facility, Home Health Agency, and Hospice Services

To project fee-for-service payments for skilled nursing facilities (SNFs), a method similar to that for inpatient hospitals is used. First, the number of covered days is determined, and then the average reimbursement per day is calculated. Historically, the number of days of care covered in SNFs under HI has varied widely. This extremely volatile experience has resulted, in part, from legislative and regulatory changes and from judicial decisions affecting the scope of coverage. For 2008, utilization rates increased by a fairly high amount. This trend leveled off from 2009 to 2011, and there have been significant decreases in utilization since 2012. The intermediate projections assume that these increases in covered SNF days will reflect the growth and aging of the population and an underlying trend that gradually increases to a level of 1 percent annually by 2024.

As with hospitals, a least-squares regression model was used to develop the market basket increases for SNFs. These market basket increases are reduced by the increase in economy-wide productivity beginning in 2012. Cost per day also increases by a case mix increase. The implementation of the new resource utilization group-53 (RUG-53) system of payment in 2006 was accompanied by increases of more than 3 percent for 2007 through 2009. In 2010, a reduction of about 3.3 percent was applied to all the rates to better match payments from the old payment system to the new payment system. The implementation of a new RUG system again caused a very large increase in case mix in 2011, and a reduction of about 12.6 percent was applied in 2012 to once again match payments. Since then, case mix increases have dropped from 2.0 percent in 2013 to 0 percent in 2017. For the projection, the case mix increases are assumed to gradually increase to a level of 1.5 percent annually by 2022. The required reduction in costs due to sequestration is also reflected in the projected

expenditures. These assumed trends result in projected rates of increase in cost per day that are assumed to decline to a level slightly higher than increases in general earnings throughout the projection period.

Table IV.A2 shows the resulting increases in fee-for-service expenditures for SNF and other types of services.

Table IV.A2.—Relationship between Increases in HI Expenditures and Increases in Taxable Payroll[1]

Calendar year	Inpatient hospital	Skilled nursing facility	Home health agency[2]	Hospice	Private plans	Weighted average	HI admin-istrative costs[3]	HI expendi-tures[3]	HI taxable payroll	Growth rate differential[4]
Historical data:										
2008	2.8%	9.2%	7.8%	8.4%	21.6%	7.7%	10.0%	7.7%	2.0%	5.6%
2009	1.4	5.5	4.4	7.6	19.2	6.2	−2.5	6.1	−4.8	11.4
2010	1.5	6.2	3.3	6.9	2.9	2.7	8.1	2.8	2.0	0.8
2011	1.5	11.7	−5.3	6.6	6.6	4.1	7.0	4.1	4.1	0.0
2012	1.7	−9.5	−1.5	8.4	8.8	2.4	7.9	2.5	4.9	−2.2
2013	2.2	2.0	0.1	0.1	4.6	2.7	8.4	2.7	2.4	0.3
2014	0.4	1.4	−1.2	0.2	0.0	0.3	4.8	0.4	5.1	−4.5
2015	−0.3	2.0	4.2	4.7	8.1	2.7	20.8	3.0	5.1	−2.0
2016	4.0	−2.2	−1.0	6.4	7.2	4.2	−9.1	4.0	2.6	1.3
2017	−0.5	−1.0	0.6	6.9	10.6	3.2	4.2	3.2	4.3	−1.1
Intermediate estimates:										
2018	0.9	1.7	2.9	6.5	8.8	3.9	4.0	3.9	4.9	−1.0
2019	4.2	4.4	6.8	7.8	8.0	5.8	6.3	5.8	5.0	0.8
2020	5.6	6.9	6.5	8.3	6.5	6.2	7.2	6.3	5.3	0.9
2021	5.7	7.5	7.8	8.2	8.4	7.0	6.8	7.0	5.2	1.7
2022	6.0	8.2	8.0	8.1	9.1	7.5	6.8	7.5	5.1	2.3
2023	5.7	8.5	8.1	8.0	8.7	7.3	6.6	7.2	5.0	2.2
2024	5.5	8.2	7.9	7.9	8.2	6.9	6.4	6.9	4.9	1.9
2025	5.4	8.2	7.8	7.9	7.8	6.8	6.4	6.8	4.8	1.9
2026	5.3	8.3	7.9	7.5	7.1	6.5	6.3	6.5	4.7	1.7
2027	4.8	8.0	7.3	7.8	7.2	6.3	7.6	6.3	4.4	1.8

[1]Percent increase in year indicated over previous year.
[2]Includes the declining share of costs drawn from HI for coverage of certain home health services transferred from HI to SMI Part B.
[3]Includes costs of Quality Improvement Organizations.
[4]The ratio of the increase in HI costs to the increase in taxable payroll. This ratio is equivalent to the percent increase in the ratio of HI expenditures to taxable payroll (the cost rate).

A similar methodology is used to project home health agency (HHA) payments. For most historical years, HI experience with HHA payments had shown an upward trend, frequently with sharp increases in the number of visits from year to year. For 2008 through 2009, the increases were large. Moreover, in certain areas of the country, outlier payments for treatment episodes increased at extraordinary rates during this period, prompting special rules to limit abusive practices. In 2010, limits were placed on the proportion of total payments that an agency could receive in the form of outlier payments, and prosecution of fraud cases resulted in the closing of a number of purported home health agencies. There was a slight decrease in utilization in 2010, followed by large decreases in 2011 and 2012 and a rebound in 2013 through 2015. Data available for 2016 and 2017 show

decreases in utilization. For 2018 and the rest of the projection period, these utilization and intensity increases are assumed to be equal to the growth and aging of the population plus 1 percent annually.

Reimbursement per episode of care[59] is assumed to increase at a slightly higher rate than increases in general earnings, but adjustments to reflect statutory limits on HHA reimbursement per episode are included where appropriate. As with other services, a least-squares regression model was used to develop market basket increases, which are reduced by the increase in economy-wide productivity beginning in 2015. Costs also increase by a case mix increase factor. Case mix increases have been modest and decreased in 2011 and 2012 before rebounding in 2013 through 2016. HHA case mix increases are projected to increase at a rate of 1.5 percent annually beginning in 2018. CMS adjusted HHA payment levels from 2008 through 2013 to gradually offset the financial effect of the unduly high mix of services in the first and subsequent years. HHA payment rates were rebased starting in 2014, with an estimated 14-percent reduction in payments to be phased in over a 4-year period. Projected HHA costs reflect these regulatory adjustments. As is the case for all types of Medicare benefits, the projected home health expenditures also reflect the specified reductions due to sequestration. Table IV.A2 shows the resulting increases in fee-for-service expenditures for HHA services.

HI covers certain hospice care for terminally ill beneficiaries. Hospice payments were originally very small relative to total HI benefit payments, but they have grown rapidly in most years and now substantially exceed the level of HI home health expenditures. This growth rate is composed of two factors: (i) the price update, which is a function of the hospital market basket with an adjustment for economy-wide productivity, and (ii) a residual, which includes all other factors. This residual grew at a rate of about 5 percent annually from 2008 to 2013, became negative in 2014, and rebounded in 2015 through 2017. For 2018 and the remainder of the projection period, it is expected to increase at the 2008-2013 rate. Although detailed hospice data are scant at this time, estimates for hospice benefit payment increases are based on mandated daily payment rates and annual payment caps, and these estimates assume a deceleration in the growth in the number of covered days.

[59]Under the HHA prospective payment system, Medicare payments are made for each episode of care, rather than for each individual home health visit.

d. Private Health Plan Costs

HI payments to private health plans have generally increased significantly from the time that such plans began to participate in the Medicare program in the 1970s. Most of the growth in expenditures has been attributable to the increasing numbers of beneficiaries who have enrolled in these plans. Section IV.C of this report contains a description of the private health plan assumptions and methodology.

e. Administrative Expenses

Historically, the cost of administering the HI trust fund has remained relatively small in comparison with benefit amounts. The ratio of administrative expenses to benefit payments has generally fallen within the range of 1 to 3 percent. The short-range projection of administrative cost is based on estimates of workloads and approved budgets for Medicare Administrative Contractors and CMS. In addition, due to the sequester, the administrative costs reflect an estimated 5- to 7-percent reduction for the period April 2013 through September 2027. In the long range, administrative cost increases are based on assumed increases in workloads, primarily due to growth and aging of the population, and on assumed unit cost increases equal to the increases in average annual covered wages.

2. Summary of Aggregate Reimbursement Amounts on an Incurred Basis under the Intermediate Assumptions

Table IV.A3 shows aggregate historical and projected reimbursement amounts by type of service on an incurred basis under the intermediate assumptions.

Table IV.A3.—Aggregate Part A Reimbursement Amounts on an Incurred Basis
[In millions]

Calendar year	Inpatient hospital	Skilled nursing facility	Home health agency	Hospice	Total FFS	Private health plans	Total Part A
Historical data:							
2008	$129,513	$24,855	$6,756	$11,404	$172,527	$49,480	$222,007
2009	131,365	26,216	7,052	12,274	176,906	58,958	235,865
2010	133,306	27,849	7,282	13,126	181,562	60,682	242,244
2011	135,274	31,104	6,896	13,986	187,260	64,704	251,964
2012	137,541	28,162	6,795	15,163	187,661	70,415	258,076
2013	140,510	28,727	6,805	15,175	191,218	73,664	264,882
2014	140,860	29,121	6,723	15,203	191,907	73,638	265,545
2015	140,466	29,694	7,005	15,923	193,087	79,637	272,725
2016	145,967	28,748	6,931	16,940	198,586	85,391	283,977
2017	145,105	29,235	6,975	18,109	199,424	94,415	293,839
Intermediate estimates:							
2018	145,833	29,235	7,178	19,279	201,525	102,736	304,261
2019	151,845	30,531	7,663	20,781	210,820	111,004	321,824
2020	160,276	32,639	8,158	22,496	223,570	118,252	341,822
2021	169,287	35,083	8,798	24,347	237,515	128,226	365,741
2022	179,429	37,975	9,501	26,325	253,230	139,958	393,188
2023	189,741	41,200	10,272	28,435	269,647	152,089	421,736
2024	200,102	44,598	11,087	30,693	286,480	164,539	451,019
2025	211,053	48,245	11,953	33,121	304,373	177,331	481,704
2026	222,317	52,236	12,892	35,611	323,056	189,962	513,018
2027	233,007	56,399	13,834	38,384	341,624	203,564	545,188

3. Financing Analysis Methodology

Because payroll taxes are the primary basis for financing the HI trust fund, HI costs can be compared on a year-by-year basis with the taxable payroll in order to analyze costs and evaluate the financing.

a. Taxable Payroll

Taxable payroll increases occur as a result of increases in both average covered earnings and the number of covered workers. The taxable payroll projection used in this report is based on the same economic assumptions used in the 2018 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds (OASDI). Table IV.A2 shows the projected increases in taxable payroll for this report, under the intermediate assumptions.

b. Relationship between HI Costs and Taxable Payroll

The most meaningful measure of HI cost increases, with regard to the financing of the system, is the relationship between cost increases and taxable payroll increases. If costs increase more rapidly than taxable payroll, either income rates must be increased or costs reduced (or some combination thereof) to finance the system in the future. Table IV.A4 shows the projected increases in HI costs relative to

taxable payroll over the 10-year projection period. These relative increases fluctuate, starting at −1.0 percent per year in 2018, becoming positive in 2019, increasing to 2.3 percent in 2022, and settling at 1.8 percent in 2027 for the intermediate assumption. The result of these relative growth rates is a steady increase in the year-by-year ratios of HI expenditures to taxable payroll, as shown in table IV.A4.

Table IV.A4.—Summary of HI Alternative Projections

	Changes in the relationship between expenditures and payroll[1]				
Calendar year	HI expenditures[2,3]	Taxable payroll	Ratio of expenditures to payroll	HI effective interest rate[4]	Nominal interest rate[4]
Intermediate estimates:					
2018	3.9%	4.9%	−1.0%	3.578%	2.310%
2019	5.8	5.0	0.8	3.500	2.690
2020	6.3	5.3	0.9	3.409	3.400
2021	7.0	5.2	1.7	3.252	3.940
2022	7.5	5.1	2.3	2.993	4.280
2023	7.2	5.0	2.2	2.756	4.600
2024	6.9	4.9	1.9	2.610	4.850
2025	6.8	4.8	1.9	2.529	5.070
2026	6.5	4.7	1.7	5.250	5.160
2027	6.3	4.4	1.8	5.250	5.300
Low-cost:					
2018	2.8	6.3	−3.3	3.663	2.310
2019	5.2	7.6	−2.3	3.860	3.520
2020	6.3	7.4	−1.1	4.080	4.830
2021	6.6	6.8	−0.2	4.296	5.140
2022	6.7	6.3	0.4	4.499	5.400
2023	6.4	6.1	0.2	4.759	5.580
2024	6.1	6.1	0.0	5.075	5.830
2025	6.0	6.1	−0.1	5.434	6.060
2026	5.7	5.9	−0.2	5.814	6.230
2027	5.5	5.7	−0.2	6.099	6.400
High-cost:					
2018	4.8	4.1	0.7	3.538	2.310
2019	5.2	0.2	5.0	3.345	2.140
2020	5.7	3.0	2.7	2.953	1.600
2021	7.7	4.1	3.4	2.184	2.730
2022	8.5	4.0	4.3	0.793	3.360
2023	8.2	3.9	4.1	3.875	3.680
2024	7.8	3.8	3.9	4.000	3.910
2025	7.7	3.7	3.8	4.125	4.010
2026	7.4	3.7	3.6	4.250	4.150
2027	7.1	3.3	3.7	4.250	4.200

[1]Percent increase for the year indicated over the previous year.
[2]On an incurred basis.
[3]Includes hospital, SNF, HHA, private health plan, and hospice expenditures; administrative costs; and costs of Quality Improvement Organizations.
[4]The Trustees calculate present values by discounting the future annual amounts of income and outgo using the projected effective rates of interest credited to the HI trust fund for the first 10 years and grade to the ultimate nominal interest rate assumption by year 15. The ultimate nominal interest rates for the intermediate, low-cost, and high-cost projections are 5.3, 6.4, and 4.2 percent, respectively.

4. Projections under Alternative Assumptions

Projected HI expenditures under current law are subject to considerable uncertainty. To illustrate this uncertainty, HI costs have been projected under three alternative sets of assumptions.

Under the low-cost alternative over the 10-year projection period, increases in HI expenditures, relative to increases in taxable payroll, follow a pattern similar to that for the intermediate assumption, but at a somewhat lower rate; the rate for expenditures becomes 3.3 percent less than the rate for taxable payroll by 2018 but then increases, reaching 0.2 percent less per year than taxable payroll by 2027. Under the high-cost alternative, the ratio of expenditures to payroll fluctuates from 0.7 percent in 2018 to 3.7 percent by 2027, as shown in table IV.A4.

Beyond the first 25-year projection period, HI costs under the intermediate assumptions are based on the assumption that average per beneficiary expenditures (excluding demographic impacts) will increase at the baseline rates determined by the economic model described in sections II.C and IV.D less the economy-wide productivity adjustments. This rate is about the same as the increase in the Gross Domestic Product (GDP) per capita in 2042 but would decelerate to 0.3 percentage point slower than GDP per capita by 2092. HI expenditures, which were 3.5 percent of taxable payroll in 2017, increase to 4.9 percent by 2042 and to 5.2 percent by 2092 under the intermediate assumptions. Accordingly, if all of the projection assumptions were realized over time, the HI income rates (3.95 percent of taxable payroll summarized over 75 years) would be inadequate to support the HI cost.

During the first 25-year projection period, the low-cost and high-cost alternatives contain assumptions that result in HI costs increasing, relative to taxable payroll increases, approximately 2 percentage points less rapidly and 2 percentage points more rapidly, respectively, than the results under the intermediate assumptions. Costs beyond the first 25-year projection period assume that the 2-percentage-point differential gradually decreases until 2067, when HI cost increases relative to taxable payroll are approximately the same as under the intermediate assumptions.

Assumptions regarding income to the HI trust fund—including payroll taxes, income from the taxation of benefits, interest, and other income items—and assumptions regarding administrative costs are consistent with those underlying the OASDI report.

B. SUPPLEMENTARY MEDICAL INSURANCE

SMI consists of Part B and, since 2004, Part D. The benefits provided by each part are quite different. The actuarial methodologies used to produce the estimates for each part reflect these differences and thus appear in separate sections (IV.B1 and IV.B2).

1. Part B

a. Cost Projection Methodology

Estimates under the intermediate assumptions are calculated separately for each category of enrollee and for each type of service. The estimates are prepared by establishing the allowed charges or costs incurred per enrollee for a recent year (to serve as a projection base) and then projecting these charges through the estimation period. The per enrollee charges are then converted to reimbursement amounts by subtracting the per enrollee values of the deductible and coinsurance. Aggregate reimbursement amounts are calculated by multiplying the per enrollee reimbursement amounts by the projected enrollment. In order to estimate cash expenditures, an allowance is made for the delay between receipt of, and payment for, the service.

(1) Projection Base

To establish a suitable base from which to project the future Part B costs, the incurred payments for services provided must be constructed for the most recent period for which a reliable determination can be made. Accordingly, payments to providers must be attributed to dates of service, rather than to payment dates; in addition, the nonrecurring effects of any changes in regulations, legislation, or administration, and of any items affecting only the timing and flow of payments to providers, must be eliminated. As a result, the rates of increase in the Part B incurred cost differ from the increases in cash expenditures.

(a) Practitioner Services

Private contractors acting for the Centers for Medicare & Medicaid Services (CMS) pay reimbursement amounts for services billed by practitioners, including physician services, durable medical equipment (DME), laboratory tests performed in physician offices and independent laboratories, and other services (such as physician-administered drugs, free-standing ambulatory surgical center facility services, ambulance services, and supplies). These Medicare Administrative Contractors (MACs) use CMS guidelines to determine whether Part B covers billed services, establish the allowed charges for

covered services, and transmit to CMS a record of the allowed charges, the applicable deductible and coinsurance, and the amount reimbursed after reduction for coinsurance and the deductible.

The data are tabulated on an incurred basis. As a check on the validity of the projection base, incurred reimbursement amounts are compared with cash expenditures.

(b) Institutional Services

The same MACs also pay reimbursement amounts for institutional services covered under Part B. These include outpatient hospital services, home health agency services, laboratory services performed in hospital outpatient departments, and such services as renal dialysis performed in free-standing dialysis facilities, services in outpatient rehabilitation facilities, and services in rural health clinics.

Separate payment systems exist for almost all the Part B institutional services. For these systems, the MACs determine whether Part B covers billed services, establish the allowed payment for covered services, and send to CMS a record of the allowed payment, the applicable deductible and coinsurance, and the amount reimbursed after reduction for coinsurance and the deductible.

For those services still reimbursed on a reasonable-cost basis, the costs for covered services are determined on the basis of provider cost reports. Reimbursement for these services occurs in two stages. First, bills are submitted by providers to the MACs, and interim payments are made on the basis of these bills. The second stage takes place at the close of a provider's accounting period, when a cost report is submitted and lump-sum payments or recoveries are made to correct for the difference between interim payments and final settlement amounts for providing covered services (net of coinsurance and deductible amounts). Tabulations of the bills are prepared by date of service, and the lump-sum settlements, which are reported only on a cash basis, are adjusted (using approximations) to allocate them to the time of service.

(c) Private Health Plan Services

Private health plans with contracts to provide Part B services to Medicare beneficiaries are reimbursed directly by CMS on either a reasonable-cost or capitation basis. Section IV.C of this report contains a description of the assumptions and methodology used to estimate payments to private plans.

(2) Projected Fee-for-Service Payments for Aged Enrollees and Disabled Enrollees without End-Stage Renal Disease (ESRD)

Part B enrollees with ESRD have per enrollee costs that are substantially higher and quite different in nature from those of most other beneficiaries. Accordingly, the analysis in this section excludes their Part B costs. Those costs, as well as costs associated with beneficiaries enrolled in private health plans, are discussed later in this section.

(a) Practitioner Services

i. Physician Services

Medicare payments for physician services are based on a fee schedule, which reflects the relative level of resources required for each service. The fee schedule amount is equal to the product of the procedure's relative value, a conversion factor, and a geographic adjustment factor. Payments are based on the lower of the actual charge and the fee schedule amount.

The physician fee schedule updates are specified by law for every future year. For 2018 the update is 0.5 percent, for 2019 the update will be 0.25 percent, and for 2020-2025 the annual update will be 0 percent. Starting in 2026, the annual update for qualified physicians in advanced alternative payment models (advanced APMs) will be 0.75 percent, and, for all other physicians, the update each year will be 0.25 percent.

Per capita physician charges have also changed each year as a result of a number of other factors besides fee increases, including more physician visits and related services per enrollee, the aging of the Medicare population, greater use of specialists and more expensive techniques, and certain administrative actions.

Table IV.B1 shows increases in total allowed charges per fee-for-service enrollee for the physician fee schedule and practitioner services. The sequestration of all Medicare payments in 2013 through September 2027 does not affect allowed charges and therefore is not reflected in table IV.B1; rather, that impact is included in table IV.B2.

Table IV.B1.—Increases in Total Allowed Charges per Fee-for-Service Enrollee for Practitioner Services

[In percent]

Calendar year	Physician fee schedule	DME	Lab	Other
Aged:				
2008	3.7%	6.4%	7.3%	4.2%
2009	3.0	−7.4	8.4	7.9
2010	3.9	1.2	1.4	3.3
2011	3.1	−3.7	−2.8	4.4
2012	−0.3	0.7	6.4	3.2
2013	0.1	−10.3	0.1	2.5
2014	1.1	−14.4	6.4	2.6
2015	0.2	5.8	1.5	4.4
2016	−1.3	−7.1	−2.3	6.8
2017	0.9	−5.4	4.4	6.9
2018	2.0	3.1	−5.0[1]	2.4
2019	3.7[2]	9.2	−3.8	4.8
2020	2.8	7.9	−2.0	5.6
2021	3.1	4.4	12.8	5.0
2022	3.4	4.3	5.2	4.8
2023	3.7	7.7	5.2	4.5
2024	3.6	4.2	13.6	5.8
2025	1.7	4.1	5.1	4.7
2026	3.7	7.6	5.2	4.8
2027	3.8	4.0	13.7	4.8
Disabled (excluding ESRD):				
2008	3.4	6.3	11.8	8.7
2009	5.9	−2.4	21.0	9.7
2010	4.9	1.4	−4.3	2.8
2011	3.0	−2.8	6.6	3.6
2012	0.9	1.0	24.7	1.9
2013	1.2	−9.5	9.5	1.2
2014	2.3	−11.3	12.2	3.9
2015	−0.4	6.1	5.6	5.1
2016	−1.4	−5.5	−14.6	6.2
2017	2.7	2.9	3.0	10.6
2018	1.9	3.0	−5.0[1]	0.9
2019	3.6[2]	9.1	−3.8	5.3
2020	2.8	7.8	−2.0	6.1
2021	3.1	4.2	12.8	5.4
2022	3.3	4.1	5.0	4.9
2023	3.5	7.6	5.0	4.3
2024	3.4	4.0	13.4	6.0
2025	1.6	4.0	5.0	4.7
2026	3.6	7.5	5.0	4.7
2027	3.6	3.9	13.4	4.7

[1]Beginning in 2018, payments under the laboratory fee schedule will no longer include an adjustment for economy-wide productivity. Instead, payments will reflect a survey of private sector lab payments and will be updated every 3 years.

[2]For 2019-2024, physicians in an advanced APM will receive an incentive payment amounting to 5 percent of their Medicare payments for the year. For those same years, a total of $500 million is available for additional payment adjustment under the merit-based incentive payment system (MIPS) for certain high-performing physicians.

Based on the increases in table IV.B1, and incorporating the sequestration of Medicare expenditures, table IV.B2 shows the estimates of the average incurred reimbursement for practitioner services per fee-for-service enrollee.

Table IV.B2.—Incurred Reimbursement Amounts per Fee-for-Service Enrollee for Practitioner Services

Calendar year	Fee-for-service enrollment [millions]	Physician fee schedule	DME	Lab	Other
Aged:					
2008	26.457	$1,905.33	$246.10	$131.10	$506.47
2009	26.230	1,963.19	227.83	142.10	546.20
2010	26.427	2,037.16	229.67	144.05	564.03
2011	26.592	2,114.57	221.24	139.97	590.36
2012	26.900	2,131.65	223.56	148.96	610.05
2013	27.107	2,101.56	197.49	146.88	616.39
2014	27.224	2,125.57	168.75	155.49	630.23
2015	27.440	2,127.06	178.72	157.84	658.51
2016	27.977	2,078.83	165.36	154.22	703.49
2017	28.201	2,086.92	156.37	161.03	753.70
2018	28.317	2,128.62	160.97	153.03	771.32
2019	28.923	2,216.11	176.12	147.18	809.07
2020	29.725	2,279.86	190.16	144.22	854.64
2021	30.528	2,349.66	198.40	162.74	897.56
2022	31.379	2,428.79	206.81	171.14	940.33
2023	32.253	2,516.63	222.82	180.02	982.49
2024	33.117	2,604.77	232.01	204.49	1,039.44
2025	34.010	2,631.00	241.47	215.02	1,088.69
2026	34.887	2,728.03	259.94	226.16	1,140.63
2027	35.708	2,815.24	268.92	255.90	1,189.87
Disabled (excluding ESRD):					
2008	5.311	1,491.27	376.01	121.91	462.48
2009	5.374	1,581.12	367.01	147.47	506.85
2010	5.556	1,669.01	371.44	141.13	521.49
2011	5.736	1,726.54	361.26	150.43	541.42
2012	5.779	1,768.63	366.28	187.53	552.78
2013	5.790	1,764.13	326.88	202.10	550.37
2014	5.732	1,826.44	289.37	225.66	570.32
2015	5.607	1,813.95	307.38	238.39	599.56
2016	5.477	1,767.26	289.44	203.69	636.45
2017	5.172	1,805.98	298.08	209.80	709.98
2018	4.872	1,841.34	301.06	199.29	714.87
2019	4.724	1,916.21	328.94	191.62	752.92
2020	4.676	1,971.43	354.76	187.81	798.82
2021	4.614	2,030.25	369.71	211.81	842.14
2022	4.500	2,094.38	384.80	222.39	883.43
2023	4.363	2,165.51	413.97	233.51	921.63
2024	4.217	2,237.34	430.54	264.81	976.76
2025	4.078	2,255.95	447.65	278.05	1,022.73
2026	3.956	2,335.10	481.38	291.96	1,070.92
2027	3.848	2,402.82	497.68	329.51	1,115.13

Starting in 2019, qualified physicians who are part of an advanced APM will receive payments that are different from those received by other physicians. For 2019 through 2024, qualified physicians in an advanced APM will receive an annual incentive payment equal to 5 percent of their Medicare payments. Physicians who are not qualified physicians in an advanced APM will instead be under the merit-based incentive payment system (MIPS) and will receive a payment adjustment according to their performance. The performance adjustment could range from −4 percent to 12 percent in 2019, from −5 percent to 15 percent in 2020, from −7 percent to 21 percent in 2021, and from −9 percent to 27 percent for 2022 and later. For 2019 through

2024, MIPS physicians could receive an additional payment adjustment for high performance of up to 10 percent. The total of all additional payment adjustments made to MIPS physicians in a year must not exceed $500 million. For 2026 and later, qualified physicians in an advanced APM will receive an update of 0.75 percent while MIPS physicians will receive a 0.25-percent update. Based on these payment mechanisms, the existing demonstration and payment models, the requirements for becoming an advanced APM qualified physician, and consideration of a November 2016 final rule,[60] the Trustees assume that physician participation in advanced APMs will grow from 13.5 percent of spending in 2019 to 100 percent by 2065.

ii. Durable Medical Equipment (DME), Laboratory, and Other Practitioner Services

Unique fee schedules or reimbursement mechanisms have been established not only for physician services but also for virtually all other non-physician practitioner services. Table IV.B1 shows the increases in the allowed charges per fee-for-service enrollee for DME, laboratory services, and other services. As noted previously, allowed charges are not affected by the sequestration of payment. Based on the increases in table IV.B1, table IV.B2 shows the corresponding estimates of the average incurred reimbursement amounts for these services per fee-for-service enrollee; these amounts are affected by the sequestration.

Prior to 2011, DME items and laboratory services were updated by increases in the CPI, together with any applicable legislated limits on payment updates. Beginning in 2011, these items and services were updated by the increase in the CPI minus the increase in the 10-year moving average of economy-wide productivity. However, a competitive-bidding process was implemented that year to determine Medicare payment for a certain portion of DME items, and as a result this portion is no longer updated by the CPI or affected by the annual productivity adjustments. Similarly, beginning in 2018, Medicare payments for laboratory services are linked to private payment rates, and consequently these services are no longer updated by the CPI

[60]This final rule, titled "Medicare Program; Merit-Based Incentive Payment System (MIPS) and Alternative Payment Model (APM) Incentive Under the Physician Fee Schedule, and Criteria for Physician-Focused Payment Models," was published in the *Federal Register* on November 4, 2016 and can be found at https://www.federalregister.gov/documents/2016/11/04/2016-25240/medicare-program-merit-based-incentive-payment-system-mips-and-alternative-payment-model-apm.

minus the productivity adjustments.[61] Per capita charges for these expenditure categories have also grown as a result of other factors, including increased number of services provided, the aging of the Medicare population, more expensive services, and certain administrative actions. This expenditure growth is projected based on recent past trends in growth per enrollee.

(b) Institutional Services

Over the years, legislation has established new payment systems for virtually all Part B institutional services, including a fee schedule for tests performed in laboratories in hospital outpatient departments. The Balanced Budget Act of 1997 implemented a prospective payment system (PPS), which began on August 1, 2000, for services performed in the outpatient department of a hospital. It also implemented a PPS for home health agency services, which began on October 1, 2000. Table IV.B3 shows the historical and projected increases in charges and costs per fee-for-service enrollee for institutional services, excluding the impact of sequestration.

[61]Under the Protecting Access to Medicare Act of 2014, these changes were to be effective in 2017; however, CMS delayed implementation until 2018. These changes also apply to outpatient hospital laboratory services.

Table IV.B3.—Increases in Costs per Fee-for-Service Enrollee for Institutional Services

[In percent]

Calendar year	Outpatient hospital	Home health agency	Outpatient lab	Other
Aged:				
2008	6.3%	12.4%	5.1%	6.0%
2009	5.7	14.7	−5.9	21.2
2010	6.6	1.9	2.7	4.0
2011	7.1	−6.2	4.5	4.3
2012	7.2	−3.7	3.9	5.4
2013	7.2	−1.3	−0.8	−0.9
2014	12.4[1]	−0.5	−29.1[1]	4.5
2015	7.3	1.2	2.4	5.0
2016	5.3	−0.9	3.1	2.8
2017	7.8	0.5	2.1	5.0
2018	7.9	3.0	−6.8[2]	9.4
2019	7.7	5.0	−5.6	5.1
2020	9.0	3.9	−3.8	5.0
2021	8.8	5.4	10.7	5.2
2022	8.8	5.6	3.2	5.1
2023	8.5	5.7	3.2	4.9
2024	8.2	5.6	11.4	4.8
2025	8.1	5.5	3.1	11.0
2026	8.1	5.6	3.1	4.8
2027	8.0	5.3	11.4	4.8
Disabled (excluding ESRD):				
2008	7.4	14.4	6.0	5.9
2009	11.1	16.3	−1.4	7.4
2010	6.5	−0.4	0.7	4.2
2011	6.3	−5.5	6.1	4.3
2012	7.4	−3.6	4.2	8.4
2013	6.5	−1.4	−1.9	1.6
2014	13.7[1]	−1.3	−36.0[1]	7.1
2015	6.9	−1.4	0.2	8.5
2016	5.1	−2.6	4.6	7.2
2017	8.7	1.7	1.9	11.5
2018	7.7	4.5	−6.9[2]	5.1
2019	7.5	6.0	−5.7	5.0
2020	8.6	4.7	−3.9	5.0
2021	8.7	5.8	10.6	4.9
2022	8.7	5.9	3.0	4.9
2023	8.4	5.9	3.0	4.9
2024	8.0	5.8	11.2	4.9
2025	8.0	5.7	3.0	5.1
2026	7.9	5.6	3.0	5.0
2027	7.8	4.8	11.2	5.0

[1]Effective January 1, 2014, a large portion of outpatient laboratory services were bundled into the outpatient prospective payment system.
[2]See footnote 1 of table IV.B1.

Based on the increases in table IV.B3, table IV.B4 shows the estimates of the incurred reimbursement for the various institutional services per fee-for-service enrollee. Each of these expenditure categories is projected on the basis of recent trends in growth per enrollee, along with applicable legislated limits on payment updates and the effects of sequestration.

Table IV.B4.—Incurred Reimbursement Amounts per Fee-for-Service Enrollee for Institutional Services

Calendar year	Fee-for-service enrollment [millions]	Outpatient hospital	Home health agency	Outpatient lab	Other
Aged:					
2008	26.457	$723.71	$341.56	$110.89	$323.18
2009	26.230	786.78	391.61	104.35	386.73
2010	26.427	843.18	398.92	107.12	399.76
2011	26.592	909.32	374.03	111.90	417.03
2012	26.900	979.94	360.09	116.30	439.20
2013	27.107	1,042.67	355.41	113.61	426.74
2014	27.224	1,178.56[1]	353.67	80.18[1]	442.83
2015	27.440	1,282.09	357.90	82.07	463.94
2016	27.977	1,358.67	354.56	84.61	473.54
2017	28.201	1,475.48	356.22	86.40	494.85
2018	28.317	1,593.27	366.92	80.56	543.44
2019	28.923	1,715.83	385.24	76.04	571.18
2020	29.725	1,869.91	400.25	73.13	599.80
2021	30.528	2,034.48	421.73	80.98	630.99
2022	31.379	2,214.90	445.18	83.53	662.82
2023	32.253	2,404.03	470.58	86.17	695.15
2024	33.117	2,600.23	497.15	95.98	728.39
2025	34.010	2,812.00	524.32	98.98	812.11
2026	34.887	3,039.46	553.63	102.07	851.10
2027	35.708	3,266.91	582.77	113.14	887.37
Disabled (excluding ESRD):					
2008	5.311	828.95	274.65	129.25	237.54
2009	5.374	947.26	319.30	127.40	246.53
2010	5.556	1,011.68	317.94	128.23	254.51
2011	5.736	1,080.86	300.35	136.04	264.12
2012	5.779	1,167.40	289.61	141.83	286.49
2013	5.790	1,234.77	285.54	137.03	284.41
2014	5.732	1,412.17[1]	281.86	87.29[1]	302.91
2015	5.607	1,527.77	277.90	87.48	328.87
2016	5.477	1,618.64	270.61	91.47	350.65
2017	5.172	1,772.60	275.10	93.17	390.50
2018	4.872	1,909.82	287.49	86.78	411.27
2019	4.724	2,053.54	304.60	81.83	432.24
2020	4.676	2,230.51	318.84	78.67	453.69
2021	4.614	2,424.67	337.43	87.04	475.91
2022	4.500	2,635.66	357.24	89.66	499.06
2023	4.363	2,856.38	378.35	92.35	523.33
2024	4.217	3,085.24	400.43	102.73	548.75
2025	4.078	3,332.68	423.42	105.81	576.68
2026	3.956	3,598.24	447.21	108.99	605.58
2027	3.848	3,861.44	468.80	120.60	632.59

[1]See footnote 1 of table IV.B3.

Part B expenditures for home health services had been increasing very rapidly through 2009, in part due to suspected fraud and abuse in South Florida and certain other parts of the country. In late 2008, CMS suspended payments to a number of home health agencies and increased program integrity efforts for this category of services. From 2010 onward, outlier payments to agencies have been capped as a percentage of total payments. Assumed growth rates for home health expenditures reflect this initiative, along with the ongoing effects of growth in the number of beneficiaries, payment rates, utilization of services, and legislated changes affecting future payments.

(3) Projected Fee-for-Service Payments for Persons with End-Stage Renal Disease (ESRD)

Most persons with ESRD are eligible to enroll for Part B coverage. For analytical purposes, this section includes two groups of enrollees: (i) those who qualify for Medicare due to ESRD alone and (ii) those who qualify not only because they have ESRD but also because they are disabled. Enrollees in this latter group, who are eligible as Disability Insurance beneficiaries, are included in this section because their per enrollee costs are both higher and different in nature from those of most other disabled persons. Specifically, most of the Part B reimbursements for both groups are related to kidney transplants and renal dialysis.

The estimates under the intermediate assumptions reflect the payment mechanism for reimbursing ESRD services. Payment for dialysis services occurs through a bundled payment system, which began in 2011. The bundled payment rate is updated annually by an annual ESRD market basket less the increase in economy-wide productivity. Also, the estimates assume a continued increase in enrollment. Table IV.B5 shows the historical and projected enrollment and costs for Part B benefits, including the effects of sequestration.

Table IV.B5.—Fee-for-Service Enrollment and Incurred Reimbursement for Beneficiaries under Age 65 with End-Stage Renal Disease[1]

	Average enrollment [thousands]		Reimbursement [millions]	
Calendar year	Disabled	Non-disabled	Disabled	Non-disabled
2008	109	87	$4,017	$2,658
2009	112	88	4,567	2,663
2010	119	88	4,786	2,715
2011	144	62	5,728	1,880
2012	145	65	5,999	2,065
2013	140	72	5,871	2,274
2014	130	83	5,680	2,649
2015	122	90	5,424	2,849
2016	128	85	5,702	2,704
2017	124	86	5,807	2,695
2018	120	88	6,256	3,119
2019	118	90	6,418	3,311
2020	121	92	6,810	3,491
2021	121	93	7,147	3,714
2022	120	94	7,411	3,934
2023	118	95	7,644	4,154
2024	116	95	7,863	4,381
2025	114	96	8,920	5,114
2026	113	97	9,197	5,376
2027	111	97	9,449	5,618

[1]The historical enrollment and reimbursement amounts for 2011 and later were revised to reflect a correction to the methodology used to categorize beneficiaries with ESRD in the Medicare claim systems. This revision results in an inconsistency with the amounts prior to 2011.

(4) Private Health Plan Costs

Part B payments to private health plans have generally increased significantly from the time that such plans began to participate in the Medicare program in the 1970s. Most of the growth in expenditures has been due to the increasing numbers of beneficiaries who have enrolled in these plans. Section IV.C of this report contains a description of the assumptions and methodology for the private health plans that provide coverage of Part B services for certain enrollees.

(5) Administrative Expenses

The ratio of Part B administrative expenses to total expenditures has been roughly 1.4 percent in recent years. Projections of administrative costs are based on estimates of changes in average annual wages, fee-for-service enrollment, and an estimated 5- to 7-percent reduction in expenditures due to sequestration for the period April 2013 through September 2027.

b. Summary of Aggregate Reimbursement Amounts on an Incurred Basis under the Intermediate Assumptions

Table IV.B6 shows aggregate historical and projected reimbursement amounts by type of service on an incurred basis under the intermediate assumptions.

Table IV.B6.—Aggregate Part B Reimbursement Amounts on an Incurred Basis

[In millions]

Calendar year	Practitioner					Institutional					Total FFS	Private health plans	Total Part B
	Physician fee schedule	DME	Lab	Other	Total	Hospital	Lab	Home health agency	Other	Total			
Historical data:													
2008	$59,686	$8,671	$4,321	$16,416	$89,095	$24,087	$3,707	$10,495	$13,579	$51,869	$140,964	$47,953	$188,917
2009	61,467	8,112	4,737	17,663	91,979	26,338	3,505	11,988	15,535	57,366	149,345	53,309	202,654
2010	64,712	8,301	4,815	18,371	96,199	28,574	3,628	12,309	16,159	60,670	156,869	55,233	212,102
2011	67,806	8,115	4,631	19,348	99,900	31,112	3,835	11,669	16,980	63,596	163,497	59,105	222,602
2012	69,299	8,290	5,141	20,148	102,878	33,931	4,031	11,360	18,140	67,462	170,340	66,077	236,417
2013	68,913	7,382	5,199	20,431	101,926	36,261	3,953	11,288	17,984	69,486	171,411	73,311	244,722
2014	70,112	6,372	5,576	20,954	103,013	41,150	2,728	11,244	18,636	73,758	176,771	85,622	262,393
2015	70,290	6,752	5,718	21,913	104,673	44,755	2,789	11,379	19,384	78,307	182,980	95,083	278,063
2016	69,580	6,332	5,479	23,629	105,021	47,932	2,917	11,402	20,097	82,348	187,369	103,671	291,040
2017	69,889	6,072	5,680	25,410	107,050	51,941	2,969	11,468	20,908	87,286	194,337	115,029	309,366
Intermediate estimates:													
2018	70,943	6,145	5,355	25,798	108,242	55,654	2,751	11,791	23,145	93,340	201,583	132,682	334,264
2019	74,909	6,779	5,211	27,449	114,348	60,652	2,630	12,581	24,490	100,354	214,702	146,491	361,193
2020	78,832	7,456	5,214	29,664	121,165	67,480	2,585	13,388	26,176	109,629	230,795	158,540	389,335
2021	83,007	7,914	6,000	31,837	128,758	74,900	2,922	14,432	28,002	120,255	249,013	174,927	423,940
2022	87,602	8,378	6,429	34,053	136,461	83,099	3,074	15,577	29,854	131,604	268,065	192,663	460,728
2023	92,637	9,160	6,885	36,300	144,982	91,872	3,233	16,829	31,746	143,679	288,661	211,689	500,350
2024	97,764	9,670	7,957	39,157	154,548	101,123	3,668	18,152	33,697	156,641	311,188	233,077	544,266
2025	100,751	10,215	8,517	41,834	161,317	111,373	3,855	19,559	38,848	173,635	334,951	255,388	590,339
2026	106,540	11,161	9,119	44,689	171,509	122,574	4,051	21,084	41,250	188,958	360,467	271,351	631,817
2027	111,955	11,711	10,489	47,460	181,616	133,972	4,568	22,614	43,530	204,684	386,299	293,844	680,143

c. Projections under Alternative Assumptions

Projections of Part B cash expenditures under the low-cost and high-cost alternatives were developed by modifying the growth rates estimated under the intermediate assumptions. Beginning in calendar year 2018, the low-cost and high-cost alternatives contain assumptions that result in benefits increasing, relative to the Gross Domestic Product (GDP), 2 percent less rapidly and 2 percent more rapidly, respectively, than the results under the intermediate assumptions. Administrative expenses under the low-cost and high-cost alternatives are projected on the basis of their respective wage series growth.

2. Part D

Part D is a voluntary Medicare prescription drug benefit that offers beneficiaries a choice of private drug insurance plans. Low-income beneficiaries can receive additional assistance on the cost sharing and premiums. Each year drug plan sponsors submit bids that include estimated total plan costs, reinsurance payments, and low-income cost-sharing subsidies for the coming year. Upon approval of these bids, a national average bid amount is calculated, and the result is used to determine the national average premium. The individual plan premium is calculated as the difference between the plan bid and the national average bid, which is then applied to the national average premium.

Each drug plan receives monthly risk-adjusted direct subsidies, prospective reinsurance payments, and prospective low-income cost-sharing subsidies from Medicare, as well as premiums from the beneficiaries and premium subsidies from Medicare on behalf of low-income enrollees. At the end of the year, the prospective reinsurance and low-income cost-sharing subsidy payments are reconciled to match the plan's actual experience. During the reconciliation process, if actual experience differs from the plan's bid beyond specified risk corridors, Medicare shares in the plan's gain or loss.

Expenditures for this voluntary prescription drug benefit were determined by combining estimated Part D enrollment with projections of per capita spending. Actual Part D spending information for 2017 was used as the base year.

Medicare also pays special subsidies on behalf of beneficiaries retaining primary drug coverage through retiree drug subsidy (RDS) plans. General revenues primarily finance the various Medicare drug subsidies. Since Medicaid is no longer the primary payer of drug costs

for full-benefit dually eligible beneficiaries, States are subject to a contribution requirement and must pay the Part D account in the SMI trust fund a portion of their estimated forgone drug costs for this population. From 2006 to 2015, the percentage of estimated costs paid by States was phased down from 90 percent to 75 percent. Beneficiaries can choose to have their drug insurance premiums withheld from their Social Security benefits and then forwarded to the drug plans on their behalf.[62] In 2017, around 26 percent of the non-low-income enrollees in Part D drug plans exercised this option.

a. Participation Rates

All individuals entitled to Medicare Part A or enrolled in Part B are eligible to enroll in the voluntary prescription drug benefit.

(1) Employer-Sponsored Plans

There are two ways that employer-sponsored plans can benefit from the Part D program. One way is the retiree drug subsidy (RDS), in which, for qualifying employer-sponsored plans, Medicare subsidizes a portion of their qualifying retiree drug expenses. As a result of tax deduction changes in the ACA, RDS program participation has declined significantly since 2012 and is assumed to decline further over the next several years. The Trustees expect that the majority of the retirees losing drug coverage through RDS plans will participate in other Part D plans.

The other way that an employer-sponsored plan can benefit from Part D is to enroll in an employer/union-only group waiver plan (EGWP) by either wrapping around an existing Part D plan or becoming a prescription drug plan itself. The subsidies for these types of arrangements are generally calculated in the same way as for other Part D plans. The Trustees expect that such plans will offer additional benefits beyond the standard Part D benefit package. Prior to 2015, EGWP enrollment increased significantly, primarily due to the participation of a large percentage of the beneficiaries who lost RDS coverage. In 2015 and 2016, EGWP enrollment did not change considerably because of the termination of certain EGWPs, which counteracted the continued shift from RDS plans to EGWPs. In 2017 and 2018 EGWP growth returned, with a majority of the enrollment increase occurring in Medicare Advantage Prescription Drug Plans (MA-PDs). Future EGWP enrollment increases are projected but at a

[62]The Part D income-related premium adjustment amount for each beneficiary is deposited into the Part D account.

slower rate due to a declining number of enrollees transferring from RDS plans.

(2) Low-Income Subsidy

Qualifying low-income beneficiaries can receive various degrees of additional Part D subsidies based on their resource levels to help finance premium and cost-sharing payments. The number of low-income enrollees constitutes about 28 percent of total Part D beneficiaries in 2018 and is assumed to grow at the same rate as that for Medicare beneficiaries who are enrolled in Part B. The proportion of low-income enrollees is projected to remain at approximately 28 percent of total Part D beneficiaries.

(3) Other Part D Beneficiaries

Medicare beneficiaries not covered by employer-sponsored plans and not qualified for the low-income subsidy have the option to enroll in a Part D plan. Once enrolled, they pay for premiums and any applicable deductible, coinsurance, and/or copayment. In 2018, about 63 percent of non-employer and non-low-income Medicare beneficiaries[63] opted to enroll in a Part D plan. Based on recent experience, this participation rate is projected to gradually grow to 67 percent by 2025 and then to level off for the remaining years of the projection period.

Table IV.B7 provides a summary of the estimated average enrollment in Part D, by category.

[63]A significant portion of the remaining eligible beneficiaries who do not participate in Part D plans receive creditable coverage through another source (such as the Federal Employees Health Benefits Program, TRICARE for Life, the Department of Veterans Affairs, and the Indian Health Service).

Table IV.B7.—Part D Enrollment

[In millions]

Calendar year	Retiree drug subsidy[1]	EGWP	Low-income subsidy				All others	Total
			Medicaid full-benefit dual eligible	Other, with full subsidy	Other, with partial subsidy	Total		
Historical data:								
2008	6.8	2.1	6.3	3.2	0.3	9.7	13.9	32.6
2009	6.7	2.3	6.4	3.3	0.3	10.0	14.6	33.6
2010	6.8	2.4	6.6	3.5	0.3	10.4	15.1	34.8
2011	6.2	2.8	6.6	3.7	0.3	10.6	16.0	35.7
2012	5.6	3.6	6.9	3.7	0.3	11.0	17.2	37.4
2013	3.3	5.9	7.2	4.0	0.3	11.5	18.4	39.1
2014	2.7	6.5	7.4	4.1	0.3	11.8	19.5	40.5
2015	2.3	6.5	7.5	4.2	0.3	12.1	21.0	41.8
2016	1.9	6.6	7.8	4.3	0.3	12.4	22.2	43.2
2017	1.7	6.7	7.9	4.4	0.3	12.7	23.4	44.5
Intermediate estimates:								
2018	1.5	6.9	8.0	4.6	0.3	12.9	24.5	45.7
2019	1.3	7.1	8.2	4.7	0.3	13.3	25.6	47.2
2020	1.1	7.2	8.5	4.8	0.4	13.6	26.9	48.8
2021	0.9	7.4	8.7	4.9	0.4	14.0	28.1	50.4
2022	0.9	7.6	8.9	5.1	0.4	14.4	29.1	52.0
2023	1.0	7.8	9.2	5.2	0.4	14.8	30.0	53.5
2024	1.0	8.0	9.4	5.3	0.4	15.2	30.9	55.0
2025	1.0	8.2	9.6	5.5	0.4	15.5	31.7	56.5
2026	1.0	8.4	9.9	5.6	0.4	15.9	32.5	57.8
2027	1.1	8.5	10.1	5.7	0.4	16.3	33.3	59.1

[1]Excludes Federal Government and military retirees covered by either the Federal Employees Health Benefit Program or the TRICARE for Life program. Such programs qualify for the retiree drug subsidy, but the subsidy will not be paid since it would amount to the Federal Government subsidizing itself.

b. Cost Projection Methodology on an Incurred Basis

(1) Drug Benefit Categories

Projected drug expenses are allocated to the beneficiary premium, direct subsidy, and reinsurance subsidy by the Part D premium formula based on the benefit formula specifications. Meanwhile, the additional premium and cost-sharing subsidies are projected for low-income beneficiaries.

The statute specifies that the base beneficiary premium is equal to 25.5 percent of the sum of the national average monthly bid amount and the estimated catastrophic reinsurance. The average premium amount per enrollee is estimated using the base beneficiary premium with an adjustment to reflect enrollees' tendency to select plans with below-average premiums. Moreover, Part D collects income-related premiums for individuals whose modified adjusted gross income exceeds a specified threshold. The amount of the income-related premium depends upon the individual's income level. Before 2019, the extra premium amount is the difference between 35, 50, 65, or 80 percent and 25.5 percent applied to the national average monthly bid amount adjusted for reinsurance. Starting in 2019, the Bipartisan

Budget Act of 2018 requires a portion of the beneficiaries currently in the 80-percent group to pay the difference between 85 percent and 25.5 percent.

(2) Projections

The projections are based in part on actual Part D spending data through 2017. These data include amounts for total prescription drug costs, costs above the catastrophic threshold, plan payments, and low-income cost-sharing payments.

The estimates under the intermediate assumptions are calculated by establishing the total prescription drug costs for 2017 and then projecting these costs with both Part D expenditure and enrollment growth rates through the estimation period. The growth rate assumptions for Part D costs are based on a Part D-specific short-term trend model and the national health expenditure (NHE) growth rate assumptions.[64] This short-term model provides the 2018 through 2020 drug-specific and therapeutic-class-specific growth rate projections. A transition factor is applied for 2021 and 2022 to converge to the NHE projected growth rates in 2023, which are then used for the remainder of the short-range projection period. The growth in expensive specialty drugs has been a major factor driving the gross drug trend rates, which in turn have resulted in fast-growing reinsurance in recent years. Therefore, the trend rates for the catastrophic portion are also assumed to generally grow somewhat more rapidly than the overall growth rates. Table IV.B8 shows the historical and projected Part D per capita growth rates along with the NHE trends.

To determine the estimated benefits for Part D, the total per capita drug costs are adjusted for two key factors. First, Part D benefit costs are reduced for the total amount of rebates that the prescription drug plans receive from drug manufacturers. Second, the plans incur administrative costs for plan operation and earn profits. Table IV.B8 displays these key factors affecting Part D expenditure estimates.

[64]Based on Recommendation II-28 of the 2010-2011 Medicare Technical Review Panel.

Table IV.B8.—Key Factors for Part D Expenditure Estimates[1]

Calendar year	National health expenditure (NHE) drug trend[2]	Part D per capita cost trend[3]	Manufacturer rebates[4]	Plan administrative expenses and profits[5]
Historical data:				
2008	1.5%	3.8%	10.4%	13.2%
2009	3.8	2.9	11.1	12.7
2010	−0.7	1.3	11.3	13.6
2011	1.5	3.7	11.5	13.1
2012	−0.6	−1.8	11.7	12.1
2013	1.6	2.6	12.9	12.2
2014	11.5	10.9	14.3	11.9
2015	8.1	8.3	18.2	11.6
2016	0.6	1.9	19.9	11.4
Intermediate estimates:				
2017	2.0	2.1	22.8	10.5
2018	5.6	5.2	25.3	10.9
2019	4.6	5.1	26.1	10.5
2020	5.3	6.4	26.7	11.1
2021	5.9	6.0	27.1	11.1
2022	6.1	6.0	27.2	11.0
2023	6.1	5.7	27.4	10.9
2024	6.1	5.8	27.6	10.9
2025	5.7	4.4[6]	27.8	10.9
2026	6.1	5.9	27.9	10.8
2027	6.1	5.9	28.1	10.7

[1]These factors do not reflect the impact of the sequestration for 2013-2027.
[2]On February 14, 2018, the CMS Office of the Actuary published the NHE projections through calendar year 2026; for 2027, the drug trend is the same as was used in 2026.
[3]Values reflect ACA add-on and other law changes.
[4]Expressed as a percentage of total drug costs.
[5]Expressed as a percentage of total gross plan benefit payments, which include plan benefits and administrative expenses with profits.
[6]Certain drugs to treat beneficiaries with ESRD will be transferred from Part D to Part B in 2025.

(3) Manufacturer Rebates

Prescription drug plans can negotiate rebates with drug manufacturers. Actual rebates for 2016 were 19.9 percent of total prescription drug costs—slightly lower than the plans estimated in their corresponding bid submissions mainly due to the unexpected decline in hepatitis C drug spending, which carries high rebates. For plan years 2017 and 2018, plans have increased their projected rebates significantly. Although the Trustees project the actual 2017 and 2018 rebates to be slightly lower than the assumed level in plan bids because the plans may not have fully accounted for the decline in hepatitis C drug spending, the assumed 2018 rebate level is still higher than projected last year. Meanwhile, the Trustees continue to project slight increases to future rebates from the 2018 level throughout the projection period. This upward revision to projected rebates is a major reason for decreases in overall Part D costs when compared to the 2017

Trustees Report. Projected manufacturer rebates are shown in table IV.B8.[65]

(4) Administrative Expenses

Administrative costs and profit margins are estimated from 2018 plan bids. Administrative expenses are projected to grow at the same rate as wages, and profit margins are projected to grow at the same rate as per capita benefits. Since drug expenses grow faster than administrative costs, the administrative expenses as a percentage of benefits slowly decrease over time even though health insurance plans are assessed an annual insurer fee by the ACA beginning in 2014, as shown in table IV.B8. However, under a provision of An Act Making Further Continuing Appropriations for the Fiscal Year Ending September 30, 2018, and for Other Purposes, which was enacted on January 22, 2018, collection of the annual insurer fee is suspended in 2019, causing a 1-year reduction in 2019 and a subsequent increase back to prior levels in 2020.

(5) Incurred Per Capita Reimbursements

Table IV.B9 shows estimated enrollments and average per capita reimbursements for beneficiaries in private prescription drug plans, low-income beneficiaries, and beneficiaries in RDS plans. The direct subsidy and retiree drug subsidy are affected by the sequestration of Medicare expenditures, which applies from April 1, 2013 to September 30, 2027. Under the sequestration, Medicare benefit payments will be reduced by a specified percentage, and administrative expenses will be reduced by an estimated 5 to 7 percent.

[65]These are average rebate percentages across all prescription drugs. Generic drugs, which represent about 88 percent of all Part D drugs dispensed and 24 percent of drug spending in 2017, typically do not carry manufacturer rebates. Many brand-name prescription drugs carry substantial rebates.

Table IV.B9.—Incurred Reimbursement Amounts per Enrollee for Part D Expenditures

	Private plans (PDPs and MA-PDs)							
	All beneficiaries				Low-income subsidy		Retiree drug subsidy	
Calendar year	Enrollment (millions)	Direct subsidy	Reinsur-ance	Risk sharing and other	Enrollment (millions)	Subsidy amount	Enrollment (millions)	Subsidy amount
Historical data:								
2008	25.8	$687	$366	−$6	9.7	$1,858	6.8	$553
2009	26.9	702	375	−27	10.0	1,955	6.7	578
2010	28.0	705	399	−2	10.4	2,020	6.8	570
2011	29.5	681	465	−31	10.6	2,093	6.2	577
2012	31.8	654	486	−35	11.0	2,045	5.6	536
2013	35.8	567	535	−20	11.5	2,023	3.3	514
2014	37.8	492	718	−1	11.8	2,052	2.7	506
2015	39.5	485	840	−28	12.1	2,122	2.3	501
2016	41.3	440	860	−27	12.4	2,125	1.9	500
2017	42.8	353	874	−22	12.7	2,167	1.7	504
Intermediate estimates:								
2018	44.3	301	887	4	12.9	2,238	1.5	531
2019	45.9	296	936	−8	13.3	2,337	1.3	553
2020	47.7	322	1,018	−16	13.6	2,359	1.1	576
2021	49.5	332	1,082	−17	14.0	2,478	0.9	608
2022	51.0	346	1,145	−18	14.4	2,614	0.9	644
2023	52.6	361	1,209	−19	14.8	2,751	1.0	681
2024	54.0	376	1,278	−19	15.2	2,896	1.0	720
2025	55.4	388	1,334	−20	15.5	3,009	1.0	751
2026	56.8	404	1,412	−21	15.9	3,169	1.0	795
2027	58.1	418	1,496	−22	16.3	3,337	1.1	836

(6) Incurred Aggregate Reimbursements

Table IV.B10 shows projected incurred aggregate reimbursements to plans and employers by type of payment.

Table IV.B10.—Aggregate Part D Reimbursement Amounts on an Incurred Basis

[In billions]

Calendar year	Premiums[1]	Direct subsidy	Reinsurance	Low-income subsidy	Retiree drug subsidy	Risk sharing and other[2]	Total
Historical data:							
2008	$5.0	$17.7	$9.4	$18.1	$3.8	−$0.2	$53.9
2009	6.1	18.9	10.1	19.6	3.9	−0.7	57.9
2010	6.7	19.7	11.2	21.1	3.9	−0.1	62.5
2011	7.3	20.1	13.7	22.2	3.6	−0.9	66.0
2012	7.8	20.8	15.5	22.5	3.0	−1.1	68.5
2013	9.3	20.3	19.2	23.2	1.7	−0.7	72.9
2014	10.5	18.6	27.2	24.3	1.3	−0.1	81.8
2015	11.5	19.2	33.2	25.6	1.1	−1.1	89.6
2016	12.7	18.2	35.5	26.4	1.0	−1.1	92.7
2017	14.0	15.1	37.4	27.5	0.8	−0.9	93.9
Intermediate estimates:							
2018	14.1	13.3	39.3	28.9	0.8	0.2	96.6
2019	14.7	13.6	43.0	31.0	0.7	−0.4	102.6
2020	16.5	15.3	48.6	32.2	0.6	−0.8	112.4
2021	18.1	16.4	53.5	34.7	0.6	−0.8	122.5
2022	19.8	17.6	58.5	37.7	0.6	−0.9	133.3
2023	21.5	19.0	63.6	40.7	0.7	−1.0	144.4
2024	23.4	20.3	69.0	43.9	0.7	−1.0	156.3
2025	25.0	21.5	73.9	46.7	0.8	−1.1	166.9
2026	27.1	23.0	80.2	50.4	0.8	−1.2	180.3
2027	29.3	24.3	86.8	54.3	0.9	−1.3	194.3

[1]Total premiums paid to Part D plans by enrollees (directly, or indirectly through premium withholding from Social Security benefits).

[2]Positive amounts represent net loss-sharing payments to plans, and negative amounts are net gain-sharing receipts from plans. Other payments are one-time in nature. In addition to the risk-sharing amounts, the figures shown in 2006 and 2007 include the reimbursement of State costs under the Medicare Part D transition demonstration. The amount in 2010 includes the $250 rebate to the beneficiaries spending more than the initial coverage limit.

d. Projections under Alternative Assumptions

Part D expenditures for the low-cost and high-cost alternatives were developed by modifying the estimates under the intermediate assumptions. Separate modifications were applied to the assumptions for the 2017 projection and to the assumptions for the projected years 2018-2027.

The 2017 base modifications include the following adjustments, since final data for 2017 will not be available until later in 2018:

- ±2 percent to account for the uncertainty of the completeness of the actual spending in 2017. The high-cost scenario increases the spending by 2 percent, and the low-cost scenario decreases the spending by 2 percent.

- ±2 percent for the average manufacturer rebate that drug plans negotiate. The high-cost scenario decreases the average rebate by 2 percent, and the low-cost scenario increases the average rebate by 2 percent.

For the projections beyond 2017, the per capita drug costs for the high-cost and low-cost scenarios are increased, relative to GDP, 2 percent more rapidly and 2 percent less rapidly, respectively, than under the intermediate assumptions. In addition, for RDS participation, participation in the low-income subsidies, and the participation rate for Part D-eligible individuals who do not qualify for the low-income subsidy or receive coverage through employer-sponsored plans, assumptions vary in the alternative scenarios. Table IV.B11 compares these varying assumptions.

Table IV.B11.—Part D Assumptions under Alternative Scenarios for Calendar Years 2017-2027

Calendar year	Intermediate assumptions	Alternatives: Low-cost	Alternatives: High-cost
Participation of retiree drug subsidy beneficiaries as a percentage of Part D enrollees			
2017	3.8%	3.8%	3.8%
2018	3.2	3.2	3.2
2019	2.7	3.3	1.9
2020	2.2	3.3	0.9
2021	1.8	3.3	—
2022	1.8	3.3	—
2023	1.8	3.3	—
2024	1.8	3.3	—
2025	1.8	3.3	—
2026	1.8	3.3	—
2027	1.8	3.3	—
Participation of low-income beneficiaries as a percentage of Part D enrollees			
2017	28.5	28.5	28.5
2018	28.2	28.2	28.2
2019	28.1	27.9	28.3
2020	27.9	27.5	28.4
2021	27.8	26.8	29.0
2022	27.7	26.0	29.5
2023	27.6	25.3	30.2
2024	27.6	24.6	30.8
2025	27.5	24.0	31.5
2026	27.5	23.4	32.3
2027	27.5	22.9	33.1
Part D participation rate of the non-employer and non-low-income Part D-eligible individuals			
2017	62.7	62.7	62.7
2018	63.4	63.4	63.4
2019	64.2	62.2	66.2
2020	65.0	61.0	69.0
2021	65.7	61.7	69.7
2022	66.2	62.2	70.2
2023	66.6	62.6	70.6
2024	66.9	62.9	70.9
2025	67.1	63.1	71.1
2026	67.1	63.1	71.1
2027	67.1	63.1	71.1

C. PRIVATE HEALTH PLANS

1. Legislative History

Dating back to the 1970s, some Medicare beneficiaries have chosen to receive their coverage for Part A and Part B services through private health plans. Over time, numerous pieces of legislation have been enacted that have increased or decreased the attractiveness of private plan coverage.

The foundation of the current program was established by the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 (Medicare Modernization Act or MMA), which renamed most of the private plans as Medicare Advantage (MA) plans. The MMA also

formally designated all private health insurance coverage options available through Medicare as Part C.[66] There has been a continuous increase in the prevalence of MA enrollment since enactment of the MMA.

Beginning in 2006, payments are based on competitive bids and their relationship to corresponding benchmarks, which are based on an annually developed ratebook. Also, rebates were introduced and are used to provide additional benefits not covered under Medicare, reduce cost sharing, and/or reduce Part B or Part D premiums. From 2006 through 2011, rebates were calculated as 75 percent of the difference, if any, between the benchmark and the bid.

In addition to the plan types that already existed, the MMA provided for the establishment of regional preferred provider organizations (RPPOs) and special needs plans (SNPs). Unlike other MA plans, which define their own service areas, RPPOs operate in pre-defined service areas referred to as regions and have special rules for capitation payment benchmarks, and they received special incentives under the MMA.

SNPs are products designed for, and marketed to, these special population groups: Medicaid dual-eligible beneficiaries, individuals with specialized chronic conditions, and institutionalized beneficiaries. The statutory authority for SNPs, which has been extended several times previously, has now been permanently extended under the Bipartisan Budget Act of 2018 (BBA 2018).

The ACA made fundamental changes to MA funding by linking the benchmark rates to Medicare fee-for-service costs and by requiring the use of quality measures to determine eligibility for bonuses and the share of bid savings versus benchmarks to be provided as a rebate.

Beginning in 2012, the ACA requires the MA county-level benchmarks to be based on a multiple of estimated fee-for-service costs in the county. The factor applied for a given county is based on the ranking of its fee-for-service cost relative to that for other counties, and the factors are phased in. This process was completed in 2017. The 25 percent, or quartile, of counties with the highest fee-for-service costs have a factor of 95 percent of county fee-for-service costs; the second quartile, 100 percent; the third quartile, 107.5 percent; and the lowest

[66]Of Medicare beneficiaries enrolled in private plans, about 94 percent are in Medicare Advantage plans. The remainder are in certain holdover plans reimbursed on a cost basis rather than through capitation payments, in Program of All-Inclusive Care for the Elderly (PACE) plans, or in Medicare-Medicaid Plans (MMPs).

quartile, 115 percent. Prior to the ACA, most county benchmarks were in the range of 100-140 percent of local fee-for-service costs.

Starting in 2012, plans are eligible to receive specified increases to their benchmark based on their quality rating scores. The statutory provisions call for a bonus of 5 percent for plans with at least a 4-star rating.

The bonuses are doubled for health plans in a qualifying county, defined as a county in which (i) per capita spending in original Medicare is lower than average; (ii) 25 percent or more of eligible[67] beneficiaries enrolled in Medicare Advantage as of December 2009; and (iii) the benchmark rate in 2004 was based on the minimum amount applicable to an urban area. There are special bonus provisions for newly established and low-enrollment plans.

The phase-in of the fee-for-service-based benchmarks was completed in 2017. Also, the phased-in benchmarks, including bonuses, are capped at the pre-ACA level.

The ACA also made changes regarding the share of the excess of benchmarks over bids to be paid to the plan sponsors as rebates, which the legislation varies based on quality. The highest quality plans (4.5 stars or higher) will receive a 70-percent rebate, plans with a quality rating of at least 3.5 stars and less than 4.5 stars will receive a 65-percent rebate, and plans with a rating of less than 3.5 stars will receive a 50-percent rebate.

Finally, the ACA requires that private insurers pay an assessment, or fee, based on their revenues from the prior year. The fees, which were first collected in 2014, apply to most health insurance sectors, including the majority of Medicare private health plans. Under the Consolidated Appropriations Act, 2016, there was a 1-year moratorium on the annual fee in 2017. In addition, under An Act Making Further Continuing Appropriations for the Fiscal Year Ending September 30, 2018, and for Other Purposes, which was enacted on January 22, 2018, section 4003 of Division D, "Suspension of Certain Health-Related Taxes," suspends collection of the fee for the 2019 calendar year.

It is important to note that Medicare coverage provided through private health plans, or Part C, does not have separate financing or an

[67]Beneficiaries are eligible for the Medicare Advantage program if they are entitled to coverage in Medicare Part A and enrolled in Medicare Part B.

associated trust fund. Rather, the Part A and Part B trust funds are the source for payments to such private health plans.

2. Participation Rates

a. Background

To account for the distinct benefit, enrollment, and payment characteristics of private health plans, enrollment and spending trends for such plans are analyzed at the product level:

- Local coordinated care plans (LCCPs), which include health maintenance organizations (HMOs), HMOs with a point-of-service option, and local preferred provider organizations (PPOs).
- Private fee-for-service (PFFS) plans.
- Regional PPO (RPPO) plans.
- Special needs plans (SNPs).
- Other products, which include cost plans, Program of All-Inclusive Care for the Elderly (PACE) plans, and Medicare-Medicaid plans (MMPs) under the capitated model.

All types of coverage except for those represented in the "other" category are Medicare Advantage plans. Also, the values represented in each category include enrollment not only in plans available to all beneficiaries residing in the plan's service area, but also in plans available only to members of employer or union groups.

b. Historical

Table IV.C1 shows historical and projected private health plan enrollment by type of plan. Between 2008 and 2017, private plan enrollment grew by 9.8 million or 98 percent, compared to growth in the overall Medicare population of 28 percent for the same period.

PFFS enrollment dropped 92 percent between 2009 and 2017 primarily due to plan reaction to new statutory provider network requirements beginning in 2011. Most of the enrollees in terminating PFFS plans transferred to LCCP or RPPO plans.

The 2017 enrollment includes 3.7 million beneficiaries with coverage through employer/union-only group waiver plans (EGWPs), the majority of whom are in LCCPs. Beginning in 2017, the bidding

requirements for these types of plans have been waived, and payments to these EGWPs, including RPPOs, are based on individual market bids. The new payment methodology for EGWPs is expected to be phased in over a multi-year period.

Table IV.C1.—Private Health Plan Enrollment[1]

[In thousands]

Calendar year	Local CCP HMO	Local CCP PPO	Regional PPO	PFFS	SNP	Other	Total private health plan	Total Medicare	Ratio of private health plan to total Medicare
2008	5,396	571	212	2,244	1,224	362	10,010	45,500	22.0%
2009	5,758	847	349	2,433	1,343	373	11,104	46,604	23.8
2010	6,261	1,285	740	1,674	1,320	412	11,693	47,720	24.5
2011	6,733	2,192	1,042	602	1,367	447	12,383	48,896	25.3
2012	7,396	2,852	835	526	1,497	483	13,588	50,874	26.7
2013	8,045	3,167	949	388	1,768	527	14,843	52,504	28.3
2014	8,555	3,698	1,040	303	1,990	657	16,243	54,104	30.0
2015	9,122	4,034	1,018	256	2,085	978	17,493	55,587	31.5
2016	9,629	4,157	1,085	231	2,230	1,058	18,391	57,090	32.2
2017	10,052	4,943	1,086	184	2,410	1,137	19,813	58,393	33.9
2018	10,699	5,376	1,145	190	2,709	1,188	21,308	59,862	35.6[2]
2019	11,206	5,645	1,199	199	2,859	1,211	22,319	61,495	36.3
2020	11,685	5,870	1,251	208	2,980	1,186	23,181	63,278	36.6
2021	12,160	6,092	1,303	216	3,102	1,190	24,062	65,055	37.0
2022	12,629	6,311	1,354	225	3,222	1,232	24,972	66,855	37.4
2023	13,086	6,522	1,403	233	3,339	1,273	25,858	68,611	37.7
2024	13,526	6,725	1,451	241	3,452	1,313	26,708	70,318	38.0
2025	13,961	6,925	1,499	249	3,564	1,351	27,549	72,058	38.2
2026	14,389	7,121	1,546	257	3,675	1,388	28,375	73,769	38.5
2027	14,796	7,307	1,590	264	3,780	1,424	29,161	75,395	38.7

[1]Most private plan enrollees are eligible for Medicare Part A and enrolled in Medicare Part B. Some enrollees have coverage for only Medicare Part B. For example, in 2016 the Part B-only private plan enrollment consisted of 70,000 in local CCPs and 51,000 in the "other" coverage category.
[2]This table presents the ratio of private health plan to total Medicare enrollment. The ratio of private health plan enrollees to Medicare beneficiaries with both Part A and Part B coverage in 2018 is 39.2 percent.

c. Projected

The current MA enrollment projection model was developed and implemented in 2015. The approach is to group counties by common characteristics and to model each of these groups using 2011 through 2017 base data, as follows:

- One group for Puerto Rico.
- One group for "cost plan" counties (defined as Part C enrollment in cost plans of at least 35 percent and a minimum Part C penetration rate of 10 percent in 2011).
- Ten groups for urban counties as defined by the fiscal year 2011 core-based statistical area (CBSA) designation. The deciles are sorted based on 2011 penetration rates and grouped with an approximately equal number of fee-for-service beneficiaries in each cohort.

- Five groups for rural counties as defined by the fiscal year 2011 CBSA designation. The quintiles are sorted based on 2011 penetration rates and grouped with an approximately equal number of fee-for-service beneficiaries in each cohort.

The private health plan enrollment projections are based on three cohorts of beneficiaries: (i) dual-eligible beneficiaries, (ii) beneficiaries with employer-sponsored coverage, and (iii) all others, including individual-market enrollees.

Private plan enrollment for the individual market is projected by calculating the penetration growth rates for individual plans in years 2011 through 2017 for each category described above and extrapolating those results through 2027. These growth rates are applied to the enrollment distribution for each county's specific 2017 plan type (for example, LCCP, PFFS, and RPPO) and are adjusted to reflect applicable legislative changes to the program, as described in more detail below.

Two categories of Medicare Advantage enrollees—those with employer coverage and those who are dually eligible—are modeled at the national level. Historically, EGWP and dual-eligible enrollment has had much larger enrollment variation from year to year while individual-market enrollment has trended at a more consistent level. Because of the fluctuations in enrollment, the cohort method does not work as well for the employer-sponsored and dual-eligible populations.

The private Medicare health plan enrollment projections for the 2018 Trustees Report are slightly higher than those in the 2017 report. As shown in table IV.C1, the share of Medicare enrollees in private health plans is projected to increase from 33.9 percent in 2017 to 38.7 percent in 2027. Modest increases are expected in private plan penetration rates between 2018 and 2027 due to higher relative bonus payments stemming from assumed improvements in quality rating scores.

SNP enrollment is expected to grow by 12 percent in 2018 after increasing by 8 percent in 2017. In 2019 and later years, the enrollment growth rate for these plans is expected to slow, ranging from 6 percent in 2019 to 3 percent in 2024.

For LCCP-HMOs, enrollment is expected to increase by 6 percent in 2018 following growth of 4 percent in 2017. For LCCP-PPOs, enrollment is expected to increase by 9 percent in 2018 after growth of 19 percent in 2017. A large portion of the increase in 2017, and of the expected increase in 2018, is from EGWPs.

The "other" category is expected to fluctuate over the next several years mainly due to enrollment in the MMP capitated model, which represents health plans that are capitated by CMS and States to provide comprehensive and coordinated care for Medicare-Medicaid enrollees. Since the introduction of MMPs in October 2013, enrollment has grown nationally from approximately 3,400 enrollees in a single State to over 400,000 enrollees across ten States in September 2017. These contracts are currently set to expire by 2020. It is assumed that once the contracts expire, the majority of the MMP enrollment will remain in the MA program.

Enrollment in the "other" category is expected to grow by 4 percent in 2018 after increasing by 16 percent during 2016 through 2017 and by 49 percent in 2015 due to the influx of MMP enrollment. It is expected to be flat from 2019 through 2021 before steadily increasing in 2022 and later years. Cost plans, along with MMPs, make up the majority of the enrollment in this coverage category. The historical and projected enrollment changes in cost plans are much more stable than the changes in MMPs.

3. Cost Projection Methodology

a. Background

Benchmarks form the foundation for payments to Medicare Advantage plans. Along with geographic, demographic, and risk characteristics of plan enrollees, these values determine the monthly prospective payments made to private health plans. Medicare Advantage benchmarks vary substantially by county. Benchmarks range between 95 and 115 percent of fee-for-service costs, plus applicable quality bonuses.

For non-RPPO plans, a plan's benchmark is an average of the statutory capitation ratebook values, weighted by projected plan enrollment in each county in the plan's service area. For RPPOs, the benchmark is a blend of the weighted ratebook values for all Medicare-eligible beneficiaries in the region and an enrollment-weighted average of RPPO bids for the region. The weight applied to the bid component to calculate the blended benchmark is the national Medicare Advantage participation rate.

Plans submit bids equal to their projected per enrollee cost of providing the standard Medicare Part A and Part B benefits. Plans with bids below the benchmark apply the rebate share of the *savings* to aid plan enrollees through coverage of Part A and Part B cost sharing, coverage

of additional non-drug benefits, and/or reduction in the Part B or Part D premium. The rebate percentage is based on the quality rating of the health plan and ranges from 50 to 70 percent. Beneficiaries choosing plans with bids above the benchmark must pay for both the full amount of the difference between the bid and the benchmark and the projected cost of the plans' supplemental benefits.

Medicare capitation payments to a Medicare Advantage plan are a product of the standardized plan bid, which is equal to the bid divided by the plan's projected risk score, and the actual enrollee risk score, which is based on demographic characteristics and medical diagnosis data. The risk score for a given enrollee may be adjusted retrospectively since CMS receives diagnosis data after the payment date.

Rebate payments are based on the projected risk profile of the plan and are not adjusted based on subsequent actual risk scores.

b. Incurred Basis

Private health plan expenditures are forecast on an incurred basis by coverage type. The bid-based expenditures for each quarter are a product of the average enrollment and the projected average per capita bid. Similarly, the rebate expenditures are a product of enrollment and projected average rebates.

Annual per capita benchmarks, bids, and rebates were determined on an incurred basis for calendar years 2007-2017 for each coverage category. These amounts include adjustments processed after the payment due date for retroactive enrollment and risk score updates.

Benchmark growth for 2012 through 2017 was significantly lower than it was before 2012 because of the phase-in of the fee-for-service-based ratebook beginning in 2012, which resulted in lower benchmark rates in most areas. Benchmark growth for years 2018 and later is estimated to be slightly higher than the growth rate of beneficiaries enrolled in Medicare fee-for-service. In addition, quality bonus payments are projected to increase slightly for 2018 and later years.

Private health plan expenditures are affected by the sequestration of non-salary Medicare expenditures. Under the sequestration, private health plan benefit payments will be reduced by a specified percentage. For years 2018 and later, the trend in the per capita bids is estimated to be equal to that of beneficiaries enrolled in Medicare fee-for-service.

c. Cash Basis

Cash Medicare Advantage expenditures are largely identical to incurred amounts, since both arise primarily from the monthly capitation payments to plans. Small cash payment adjustments are developed from incurred spending by accounting for the payment lag that results from CMS' receipt of post-payment diagnosis data, retroactive enrollment notifications, and corrections in enrollees' demographic characteristics.

Table IV.C2 shows Medicare private plan expenditures on an incurred and cash basis. The incurred payments are reported separately for the bid-related and rebate expenditures. As noted, most payments to plans are made as they are incurred, and cash and incurred amounts are generally the same.

Table IV.C2.—Medicare Payments to Private Health Plans, by Trust Fund

[Dollar amounts in billions]

Calendar year	Incurred basis[1]			Part A as a percentage of total[2]	Cash basis
	Bid	Rebate	Total		
2008	$87.0	$10.4	$97.4	50.8%	$98.7
2009	100.5	11.8	112.3	52.5	112.7
2010	106.1	9.8	115.9	52.4	115.9
2011	113.0	10.8	123.8	52.3	123.7
2012	124.7	11.8	136.5	51.6	136.2
2013	134.4	12.5	146.9	50.2	145.6
2014	147.1	12.0	159.1	46.3	159.6
2015	161.9	12.7	174.6	45.6	172.3
2016	174.7	14.4	189.1	45.2	188.6
2017	193.7	15.7	209.4	45.1	209.6
2018	217.3	18.1	235.4	43.6	234.6
2019	237.5	20.0	257.5	43.1	256.8
2020	255.9	20.9	276.8	42.7	276.2
2021	279.3	23.8	303.1	42.3	302.4
2022	305.6	27.1	332.7	42.1	331.7
2023	333.2	30.6	363.8	41.8	362.8
2024	363.3	34.3	397.6	41.4	396.6
2025	394.7	38.0	432.7	41.0	431.6
2026	420.2	41.2	461.4	41.2	460.4
2027	452.1	45.3	497.4	40.9	496.3

[1]The bid category includes all expenditures for non-Medicare Advantage coverage.
[2]The remaining percentage is paid from the Part B account of the SMI trust fund.

d. Incurred Expenditures per Enrollee

Table IV.C3 shows estimated incurred per enrollee expenditures for beneficiaries enrolled in private health plans. It combines the values for expenditures from the Part A and Part B trust funds.

Table IV.C3.—Incurred Expenditures per Private Health Plan Enrollee[1]

Calendar year	Local CCP HMO	Local CCP PPO	Regional PPO	PFFS	SNP	Other	Total
Bid-based expenditures[2]							
2008	$8,914	$7,493	$7,705	$8,087	$10,612	$5,340	$8,724
2009	9,188	7,789	7,774	8,752	11,265	5,285	9,082
2010	9,150	8,072	8,268	8,486	12,209	5,170	9,105
2011	9,160	8,331	8,210	8,277	12,768	4,842	9,152
2012	9,156	8,512	7,919	8,545	12,935	4,943	9,205
2013	8,859	8,521	8,110	8,924	12,710	5,061	9,079
2014	8,728	8,601	8,506	9,281	12,649	6,169	9,081
2015	8,820	8,829	8,444	9,552	12,960	8,208	9,274
2016	8,907	9,283	9,037	10,259	13,184	8,396	9,510
2017	9,153	9,587	8,918	10,697	13,682	8,784	9,797
2018	9,509	9,976	9,248	11,091	14,287	9,153	10,219
2019	9,921	10,429	9,644	11,565	14,890	9,399	10,663
2020	10,327	10,826	10,046	12,048	15,515	9,033	11,061
2021	10,865	11,413	10,565	12,670	16,317	9,212	11,632
2022	11,440	12,062	11,113	13,326	17,162	9,693	12,256
2023	12,046	12,727	11,698	14,026	18,062	10,211	12,911
2024	12,710	13,454	12,338	14,792	19,047	10,788	13,629
2025	13,382	14,178	12,981	15,566	20,075	11,362	14,356
2026	13,824	14,661	13,409	16,078	20,733	11,747	14,834
2027	14,472	15,360	14,036	16,829	21,696	12,310	15,532
Rebate expenditures[2]							
2008	$1,160	$776	$509	$613	$1,850	$0	$1,048
2009	1,272	800	615	478	1,781	0	1,064
2010	1,090	500	397	320	1,146	0	842
2011	1,135	401	474	450	1,132	0	877
2012	1,157	358	510	355	1,084	0	872
2013	1,124	289	456	255	1,119	0	842
2014	1,020	282	352	210	898	0	740
2015	1,049	212	298	217	955	0	731
2016	1,123	290	310	199	925	0	788
2017	1,120	281	403	194	1,084	0	796
2018	1,186	302	452	241	1,191	0	851
2019	1,255	321	487	268	1,214	0	897
2020	1,269	317	469	235	1,193	0	902
2021	1,377	353	533	293	1,333	0	990
2022	1,505	398	612	367	1,468	0	1,089
2023	1,627	440	684	431	1,600	0	1,184
2024	1,759	485	761	501	1,748	0	1,287
2025	1,880	525	829	559	1,884	0	1,381
2026	1,973	556	880	603	1,993	0	1,454
2027	2,102	598	950	662	2,156	0	1,556
Total expenditures[2]							
2008	$10,075	$8,269	$8,214	$8,700	$12,463	$5,340	$9,773
2009	10,460	8,589	8,389	9,230	13,046	5,285	10,146
2010	10,240	8,573	8,664	8,806	13,356	5,170	9,946
2011	10,295	8,732	8,684	8,727	13,899	4,842	10,029
2012	10,313	8,870	8,429	8,900	14,019	4,943	10,076
2013	9,983	8,810	8,565	9,178	13,829	5,061	9,920
2014	9,749	8,883	8,858	9,491	13,547	6,169	9,821
2015	9,868	9,042	8,742	9,769	13,915	8,208	10,006
2016	10,030	9,573	9,347	10,458	14,110	8,396	10,297
2017	10,273	9,868	9,321	10,890	14,765	8,784	10,593
2018	10,695	10,278	9,700	11,332	15,478	9,153	11,071
2019	11,176	10,750	10,131	11,833	16,105	9,399	11,560
2020	11,597	11,143	10,515	12,283	16,708	9,033	11,964
2021	12,243	11,766	11,098	12,963	17,650	9,212	12,623
2022	12,944	12,461	11,726	13,693	18,630	9,693	13,345
2023	13,673	13,166	12,382	14,457	19,662	10,211	14,095

Calendar year	Local CCP		Regional PPO	PFFS	SNP	Other	Total
	HMO	PPO					
2024	14,469	13,938	13,099	15,293	20,794	10,788	14,916
2025	15,262	14,703	13,810	16,125	21,959	11,362	15,736
2026	15,797	15,216	14,289	16,681	22,726	11,747	16,288
2027	16,574	15,957	14,985	17,491	23,853	12,310	17,088

[1]Values represent the sum of per capita expenditures for Part A and Part B.
[2]The bid category includes all expenditures for non-Medicare Advantage coverage.

Average Medicare payments per private plan enrollee vary by geographic location of the plan, plan efficiency, and average reported health status of plan enrollees. LCCPs and SNPs tend to be located in urban areas where prevailing health care costs tend to be above average. Conversely, PFFS plans and RPPOs generally reflect a more rural enrollment. These factors complicate meaningful comparisons of average per capita costs by plan category.

Per capita bids are expected to increase by 4.3 percent in 2018. For years 2019 through 2028, the per capita bid trend is expected to be equal to the average of growth in per capita Medicare fee-for-service expenditures and benchmark growth.[68] After 2028, average Medicare payments to private plans per enrollee are assumed to follow the aggregate growth trends of the HI and SMI Part B per capita benefits, as described in section IV.D of this report.

Annual increases in per capita rebates are projected to be in the mid to high single digits due to assumed increases in quality bonus payments and increases in benchmarks. The exception is in 2020, when per capita rebate growth is expected to be flat partly as a result of the end of the insurer fee moratorium.

D. LONG-RANGE MEDICARE COST GROWTH ASSUMPTIONS

Sections IV.A, IV.B, and IV.C have described the detailed assumptions and methodology underlying the projected expenditures for HI (Part A), SMI (Parts B and D), and private health plans (Part C) during 2018 through 2027. These projections are made for individual categories of Medicare-covered services, such as inpatient hospital care and physician services.

As the projection horizon lengthens, it becomes increasingly difficult to anticipate changes in the delivery of health care, the development of new medical technologies, and other factors that will affect future

[68]In addition, it is assumed that the insurer fee will be accounted for in the per capita bids in years 2018, 2020, and later.

health care cost increases. Accordingly, rather than extending the detailed projections by individual type of service for all future years, the Trustees use a more aggregated basis for setting cost growth assumptions in the long range. With enactment of the ACA and MACRA, such increases are subject to greater uncertainty in the long term, especially for the Medicare program.

The assumed long-range rate of growth in annual Medicare expenditures per beneficiary for this year's report is based on statutory price updates and volume and intensity growth derived from the "factors contributing to growth" model, which decomposes the major drivers of historical and projected health spending growth into distinct factors. The Trustees assume that the productivity reductions to Medicare payment rate updates will reduce volume and intensity growth by 0.1 percent below the factors model projection.[69]

Beginning with the 2001 Trustees Report, the Trustees assumed that the increase in average expenditures per beneficiary for the 25th through 75th years of the projection would equal the growth in per capita GDP plus 1 percentage point,[70] as recommended by the 2000 Medicare Technical Review Panel. Starting with the 2006 report, the Trustees revised the methodology to provide for a more gradual transition from historical health cost growth rates, which had been roughly 2 to 3 percentage points above the level of GDP growth, to the ultimate assumed level of GDP plus 0 percent just after the 75th year and for the indefinite future. The year-by-year growth rate assumptions for the 50 years were based on a stylized economic model, and those relative growth rates were scaled so that the 75-year actuarial balance for the HI trust fund was consistent with that generated by the constant GDP plus 1 growth rate methodology.

For the 2010 and 2011 Medicare Trustees Reports, the Trustees assumed a baseline long-range Medicare cost growth assumption, using the methods described above, and then incorporated the effects of the provisions of the ACA. For all HI (Part A) providers and some SMI Part B providers (outpatient hospitals, ambulatory surgical

[69]The Trustees' methodology is consistent with Finding III-2 and Recommendation III-3 of the 2010-2011 Medicare Technical Review Panel and with Finding 3-2 of the 2016-2017 Medicare Technical Review Panel. The Panels' final reports are available at http://aspe.hhs.gov/health/reports/2013/MedicareTech/TechnicalPanelReport2010-2011.pdf and at https://aspe.hhs.gov/system/files/pdf/257821/MedicareTechPanelFinalReport2017.pdf.

[70]This assumed increase in the average expenditures per beneficiary excludes the impacts of the aging of the population and changes in the gender composition of the Medicare population, which the Trustees estimated separately.

centers, diagnostic laboratories,[71] and most other non-physician services), the annual increases in Medicare payment rates were reduced for 2011 and later by the 10-year moving average increase in economy-wide productivity. The resulting long-range growth assumption averaged the increase in per capita GDP plus 1 percent, minus the productivity factor. The sustainable growth rate formula at that time governed increases in average physician expenditures per beneficiary to equal the rate of per capita GDP growth. The remaining Part B services and all Part D outlays had an assumed average growth rate of per capita GDP plus 1 percent.

In December 2011, the 2010-2011 Medicare Technical Review Panel unanimously recommended a new approach that builds off of the longstanding GDP plus 1 percent assumption while incorporating several key refinements.[72] Specifically, the Panel recommended two separate means of establishing long-range growth rates:

- The first approach is a refinement to the traditional GDP plus 1 percent growth assumption that better accounts for the level of payment rate updates for Medicare (prior to the effects of the ACA) compared to private health insurance and other payers of health care in the U.S. This refinement results in an increase in the long-range pre-ACA baseline cost growth assumption for Medicare to GDP plus 1.4 percent.

- The "factors contributing to growth" model approach builds upon the key considerations underlying the earlier GDP plus 1 percent assumption. The model is based on economic research that decomposes health spending growth into its major drivers—income growth, relative medical price inflation, insurance coverage, and a residual factor that primarily reflects the impact of technological development.[73] It benefits from additional information that was not available when the 2000 Technical Panel recommended the GDP plus 1 percent assumption.

For the 2012 report, the Trustees based the average ultimate Medicare growth rate on the refinement recommended by the Technical Panel

[71]Starting in 2017, the Protecting Access to Medicare Act of 2014 links payments for laboratory services to private payment rates.

[72]See Recommendation III-1. For convenience, the increase in Medicare expenditures per beneficiary, before consideration of demographic impacts, is referred to as the Medicare cost growth rate. Similarly, these growth rate assumptions are described relative to the per capita increase in GDP and characterized simply as GDP plus X percent.

[73]Smith, Sheila, Newhouse, Joseph P., and Freeland, Mark S. "Income, Insurance, and Technology: Why Does Health Spending Outpace Economic Growth?" *Health Affairs,* 28, no. 5 (2009): 1276-1284.

and used the factors model to create the specific, year-by-year declining growth rates during the last 50 years of the projection. Beginning with the 2013 report, the Trustees used the statutory price updates and the volume and intensity assumptions from the factors model to derive the year-by-year Medicare cost growth assumptions for the last 50 years of the projection period. The remainder of section IV.D discusses the factors model and its role in the Medicare projections. Section V.C explains the methods used to derive the long-range cost growth assumptions underlying the illustrative alternative projection.

The key assumptions and factors model output used in this year's report are similar to those first used in the 2015 report. In subsequent reports, the Trustees will determine if additional historical data warrant a re-evaluation of these assumptions and a re-estimation of the factors model output.

1. Long-Range Growth Assumptions for the Overall Health Sector

The first step to estimate the long-range Medicare trends is to determine the long-range assumptions affecting the overall health sector. The Trustees use the factors model to determine the year-by-year growth rates for the overall health sector over the last 50 years of the projection. Based on the factors model, the Trustees assume that the long-range per capita overall health spending growth is GDP plus 0.8 percent (or 4.7 percent) for 2042, gradually declining to GDP plus 0.5 percent by 2092 (or 4.3 percent). The per capita increase in overall health care costs is due to the combined effects of general inflation, medical-specific *excess* price inflation (above general price growth), and changes in the utilization of services per person and the intensity or average complexity per service. The Trustees assume that beginning in 2042 (i) general price inflation will remain constant at 2.2 percent per year, as measured by the GDP deflator; (ii) excess medical price inflation will remain constant at 0.8 percent per year, as discussed in more detail below; and (iii) the annual increase in the volume and intensity of services per person will decline gradually from approximately 1.7 percent in 2042 to 1.3 percent in 2092 based on the key economic assumptions and elasticity estimates from the factors model, as described below.

Excess medical price inflation for the overall health sector is assumed to grow at 0.8 percent annually from 2042 through 2092. This assumption is roughly equivalent to the difference between the growth in the personal health care deflator over the past quarter century and

the growth in the GDP deflator over this same period.[74] Combining this assumption with the ultimate assumed growth of 2.2 percent per year in the GDP deflator yields the Trustees' estimate of the long-range rate of medical price growth of 3.0 percent annually. Using the relationship between medical price growth and resource-based health sector productivity growth[75] allows for the determination of medical input price growth.[76] For resource-based health sector productivity, the Trustees assume that the rate of growth will be equivalent to published research[77] of 0.4 percent per year. Hence, the Trustees' estimate of the long-range rate of growth of medical input prices is 3.4 percent.

As stated earlier, the factors model is based on economic research that separates health spending growth into its major drivers—income growth, relative medical price inflation, insurance coverage, and a residual that primarily reflects the impact of technological development. The factors model provides the ability to model the expected behavioral effects associated with a continuing increase in the share of national income devoted to consumption of health care services. In particular, this approach is based on historically estimated income and price elasticities and uses measurable key variables, providing a foundation for developing the long-range growth assumptions.[78]

In the factors model, the sensitivity of health cost growth to each of the three factors must be estimated. Each sensitivity is measured as an elasticity, which is the percentage change in cost growth that is caused

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[74]Information on the personal health care deflator is available at http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/NationalHealthAccountsHistorical.html.

[75]Resource-based productivity is defined as the real value of provider goods and services divided by the real value of the resources (inputs) used to produce the goods and services, whereas price changes are measured across constant products—that is, defined health services with a constant mix of inputs. Resource-based productivity is used for this decomposition, rather than outcomes-based productivity (which incorporates the estimated value of improvements in health resulting from the services) because Medicare and most other payers reimburse providers based on their resource use.

[76]A third factor, provider profit margins, is assumed to remain constant over the long range.

[77]Information on updated estimates of hospital productivity is available at http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/ReportsTrustFunds/Downloads/ProductivityMemo2016.pdf; Fisher, Charles. "Multifactor Productivity in Physicians' Offices: An Exploratory Analysis." *Health Care Financing Review,* 29, no. 2 (2007): 15-32.

[78]Additional information on the "factors contributing to growth" model is available in a memorandum by the Office of the Actuary titled "The Long-Term Projection Assumptions for Medicare and Aggregate National Health Expenditures," available at https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/ReportsTrustFunds/Downloads/ProjectionMethodology2018.pdf.

by a 1-percent change in a factor. The first elasticity, the income-technology elasticity, reflects the increase in demand for health care and new medical technologies in response to growth in income. The second elasticity, the relative medical price elasticity, reflects the sensitivity of consumers and purchasers in consuming health care to changes in excess medical price inflation. The final key elasticity is the insurance elasticity, which reflects the change in demand for medical care as the level of insurance coverage changes.

For the income-technology elasticity, the Trustees developed a time-trend-based method for projecting the elasticity that reflects the historical declining trend, produces results consistent with the elasticity implied by the most recent short-range NHE projections, and converges to 1.0 within a range of roughly 75 to 150 years. In the resulting projection, the income-technology elasticity is 1.26 in the 25th year of the projection period (2042) and declines at a slowing pace to 1.08 in the 75th year of the period (2092). This methodology results in an income-technology elasticity that reaches 1.0 in 2125. These are the same elasticity assumptions that were used for 2042 and 2092 in the 2017 report.

For the medical price elasticity, the Trustees assume a rising sensitivity of demand for health care to changes in relative medical price as the share of income devoted to health care rises. The medical price elasticity is determined for a given year by subtracting an income effect from a pure substitution effect. The income effect is determined by multiplying the share of income devoted to health care in that year by the estimated yearly income-technology elasticity. The substitution effect is assumed to be equal to −0.2 and represents the change in demand in response to a change in the relative price of health care holding utility constant. For the 2018 report, the Trustees project the price elasticity to be −0.52 for the 25th year of the projection (2042) and assume that it will follow a non-linear path until it reaches −0.59 in the 75th year of the projection (2092). These are the same elasticity assumptions that were used for 2042 and 2092 in the 2017 report. Based on the RAND Health Insurance Experiment, the insurance elasticity was estimated at −0.2 and was assumed to be unchanged over the long range.[79]

[79]Newhouse, Joseph P., and the Insurance Experiment Group. *Free for All? Lessons from the RAND Health Insurance Experiment*. Cambridge: Harvard University Press, 1993. The coefficient of this elasticity is negative because the level of insurance coverage is measured using individuals' cost-sharing requirements (such as deductibles and coinsurance).

Two additional assumptions are required to complete the factors model determination. First, relative medical price inflation must be estimated over the long-range projection period. As discussed previously, the Trustees assume that relative medical price growth is 0.8 percent per year. Second, insurance coverage is assumed to be unchanged over the long range in order to maintain consistency with the concept of a Medicare projection in which the Medicare benefit package is not altered.

2. Long-Range Growth Assumptions for Medicare

The Trustees have assumed since 2001 that it is reasonable to expect over the long range that the drivers of health spending will be similar for the overall health sector and for the Medicare program. This view was affirmed by the 2010-2011 Medicare Technical Review Panel, which recommended use of the same long-range assumptions for the increase in the volume and intensity of health care services for the total health sector and for Medicare. Therefore, the overall health sector long-range cost growth assumptions for volume and intensity are used as the starting point for developing the Medicare-specific assumptions.

Prior to the ACA, Medicare payment rates for most non-physician provider categories were updated annually by the increase in providers' input prices for the market basket of employee wages and benefits, facility costs, medical supplies, energy and utility costs, professional liability insurance, and other inputs needed to produce the health care goods and services.[80] To the extent that health care providers can improve their productivity each year, their net costs of production (other things being equal) will increase more slowly than their input prices—but the Medicare payment rate updates prior to the ACA were not adjusted for potential productivity gains. Accordingly, Medicare costs per beneficiary would have increased somewhat faster than for the health sector overall. In particular, the Trustees assume that the full market basket increase would be approximately 3.4 percent annually, or about 0.4 percent greater than the net price increase of 3.0 percent per year described above for the total health sector. The ACA requires that many of these Medicare payment updates be reduced by the 10-year moving average increase in economy-wide productivity, which the Trustees assume will be 1.1 percent per year over the long range. The different statutory provisions for updating payment rates require the development of

[80]Historically, lawmakers frequently reduced the payment updates below the increase in providers' input prices in an effort to slow Medicare cost growth or to offset unwarranted changes in claims coding practices.

separate long-range Medicare cost growth assumptions for four categories of health care provider services:

(i) *All HI, and some SMI Part B, services that are updated annually by provider input price increases less the increase in economy-wide productivity.*

Under the ACA, the annual increase in Medicare payment rates for these services will be reduced by the 10-year moving average increase in economy-wide productivity. These gains are estimated to be 1.1 percent per year over the long-range period. Combined with an assumed market basket increase of 3.4 percent, the statutory price update for these services is 2.3 percent per year over the long-range projection period. The initial projected increase in the volume and intensity of these Medicare services is assumed to be equivalent to the average projected growth in the volume and intensity of services for the overall health sector. The Trustees believe that the use of a common baseline rate of volume and intensity growth across all Medicare services is reasonable, as there would be only a small likelihood that one part of the health sector could continue to grow indefinitely at significantly faster rates of growth than do other parts.

Additionally, the Trustees assume that the growth in Medicare payment rates will reduce the volume and intensity growth of these services by 0.1 percent per year relative to the assumption from the factors model. The Trustees' assumption is based on the work of the 2010-2011 and 2016-2017 Medicare Technical Review Panels, both of which concluded that there would likely be a small net negative impact on volume and intensity growth due to reduced incentives to develop new technologies, provider exits, and the impact of greater bundling of services for payment purposes.[81,82] For new technology that leads to new services, the ACA will result in lower fees than would otherwise be the case, and providers will be less likely to adopt new services and innovations, thereby lowering the demand for, and intensity of, the medical care provided. Regarding provider exits, as fee-for-service fees decline relative to the pre-ACA levels, facilities of marginal profitability are likely to exit the Medicare market,

[81]See Recommendation III-3 of the 2010-2011 Medicare Technical Review Panel and Finding 3-2 of the 2016-2017 Medicare Technical Review Panel.

[82]Other factors, such as reduced beneficiary cost-sharing requirements, would tend to increase the volume and intensity of services. The assumption of −0.1 percent reflects the Technical Panel's assessment that the overall impact would be a small net decrease in volume and intensity growth.

reducing capacity and volume. This change could also cause a more bifurcated health system in which only providers that can operate profitably under Medicare offer services to Medicare beneficiaries, with a tendency to provide only the more basic services not associated with new medical technologies. Finally, the innovations being tested under the ACA, such as bundled payments or accountable care organizations, could reduce incentives to adopt new cost-increasing technologies and increase incentives to adopt new cost-decreasing technologies for those participating in these programs and/or could contribute to greater efforts to avoid services of limited or no value within the service bundle.

Reflecting all of these considerations, the year-by-year long-range cost growth assumption for these HI and SMI Part B services starts at 3.9 percent in 2042, or GDP plus 0.0 percent, and gradually declines to 3.5 percent by 2092, or GDP minus 0.3 percent.

(ii) *Physician services*

Payment rate updates are 0.75 percent per year for those physicians assumed to be participating in advanced alternative payment models (advanced APMs) and 0.25 percent for those assumed to be participating in the merit-based incentive payment system (MIPS) in the long range. The year-by-year growth rates for physician payments are assumed to be 3.6 percent in 2042, or GDP minus 0.3 percent, declining to 2.8 percent in 2092, or GDP minus 1.0 percent.

(iii) *Certain SMI Part B services that are updated annually by the CPI increase less the increase in productivity.*

Such services include durable medical equipment (DME) that is not subject to competitive bidding,[83] care at ambulatory surgical centers, ambulance services, and medical supplies, which are updated by the CPI and affected by the ACA productivity adjustment. For these services, the Trustees initially assume that the rate of per beneficiary volume and intensity growth is equivalent to that derived for the overall health sector using the factors model. This volume and intensity growth is assumed to be reduced by 0.1 percent per year to reflect the ACA impact, as described above. The post-ACA volume and intensity assumption

[83]The portion of DME that is subject to competitive bidding is included with all other Medicare services since the price is determined by a competitive bidding process.

is combined with the long-range CPI assumption (2.6 percent) minus the productivity factor (1.1 percent) to produce a long-range growth assumption for these SMI Part B services. The corresponding year-by-year growth rates are 3.1 percent in 2042, or GDP minus 0.8 percent, gradually declining to 2.7 percent in 2092, or GDP minus 1.1 percent.

(iv) *All other Medicare services, for which payments are established based on market processes, such as prescription drugs provided through Part D and the remaining Part B services.*

The Trustees assume that per beneficiary outlays for these other Part B services, which constitute about 17 percent of total Part B expenditures in 2026, and for all Part D services grow at the same rate as the overall health sector as determined from the factors model. The services are assumed to grow similarly because their payment updates are determined by market forces, such as the competitive-bidding process for Medicare Part D. The year-by-year growth rates are 4.7 percent in 2042, or GDP plus 0.8 percent, gradually declining to 4.3 percent by 2092, or GDP plus 0.5 percent.

In addition, these long-range cost growth rates must be modified to reflect demographic impacts. For example, beneficiaries at ages 80 and above use Part A skilled nursing and home health services much more frequently than do younger beneficiaries. As the beneficiary population ages, Part A costs will grow at a faster rate due to increased use of these services. In contrast, the incidence of prescription drug use is more evenly distributed by age, and an increase in the average age of Part D enrollees has significantly less of an effect on Part D costs.

After combining the rates of growth from the four long-range assumptions, the weighted average growth rate for Part B is 3.6 percent per year for the last 50 years of the projection period, or GDP minus 0.3 percent, on average. When Parts A, B, and D are combined, the weighted average growth rate is 3.8 percent over this same time period, or GDP minus 0.1 percent, while the growth rate in 2092 is 3.7 percent, or GDP minus 0.1 percent.

As in the past, the Trustees have established detailed growth rate assumptions for the initial 10 years of the projection period by individual type of service (for example, inpatient hospital care and physician services), reflecting recent trends and the impact of all provisions of the ACA and other applicable statutory provisions. For each of Parts A, B, and D, the assumed growth rates for years 11

through 25 of the projection period are set by interpolating between the rate at the end of the short-range period and the rate at the start of the final 50 years of the long-range period described above. The 2016-2017 Medicare Technical Review Panel concluded that both the current length of the transition period and the current approach to the transition are reasonable, and they recommended that the Trustees continue to use the same approach to transitions between short-range and long-range projections for both HI and SMI.[84]

[84]See Findings 6-2 and 6-3 and Recommendation 6-1.

V. APPENDICES

A. MEDICARE AMENDMENTS SINCE THE 2017 REPORT

Since the 2017 annual report was transmitted to Congress on July 13, 2017, four laws have been enacted that have an effect on the Medicare trust funds. The more important provisions, from an actuarial standpoint, are described, in brief, in the following paragraphs. Certain provisions with a relatively minor financial impact, but which are important from a policy perspective, are briefly described as well.

1. The Disaster Tax Relief and Airport and Airway Extension Act of 2017 (Public Law 115-63, enacted on September 29, 2017) included one provision that affects the HI and SMI Part B programs.

- The funding amount of $270 million previously provided to the Medicare Improvement Fund, for services provided during and after fiscal year 2021, is decreased to $220 million. (This fund was intended to be available for improvements to the original fee-for-service program under Parts A and B.)

2. An Act to Provide for Reconciliation Pursuant to Titles II and V of the Concurrent Resolution on the Budget for Fiscal Year 2018 (Public Law 115-97, enacted on December 22, 2017, and also referred to as the Tax Cuts and Jobs Act of 2017) included three provisions that affect the HI program.

- Federal income tax rates for individuals are reduced, effective for taxable years beginning after December 31, 2017 and ceasing to apply after December 31, 2025. In addition, the inflation index applied to the tax bracket thresholds and standard deductions is changed, effective for taxable years beginning after December 31, 2017, such that these amounts will permanently grow more slowly than under prior law.

- The requirement that most individuals be covered by a health insurance plan or pay a financial penalty, commonly referred to as the individual mandate, is repealed, effective January 1, 2019. Accordingly, the percentage of people without health insurance is expected to increase. Because the change in this percentage is a factor used in determining payments to Medicare disproportionate share hospitals for uncompensated care, these payments are expected to increase as well. In

addition, in light of this repeal, it is expected that some individuals will drop their employer-sponsored health insurance, thereby slightly increasing HI covered wages and taxable payroll.

- Temporary tax changes for certain small businesses are made that will affect reported self-employment income and, in turn, HI covered wages and taxable payroll.

3. An Act Making Further Continuing Appropriations for the Fiscal Year Ending September 30, 2018, and for Other Purposes (Public Law 115-120, enacted on January 22, 2018) included one provision that affects the HI and SMI programs.

- A moratorium for calendar year 2019 is placed on the annual fee to be paid by health insurance providers. This fee is imposed on certain large health insurance providers, including those furnishing coverage under Medicare Advantage (Part C) and Medicare Part D.

4. The Bipartisan Budget Act of 2018 (BBA 2018; Public Law 115-123, enacted on February 9, 2018) included provisions that affect the HI and SMI programs.

BBA 2018 Provisions Affecting All Parts of Medicare

- The sequestration process that is in place should Congress fail to address the budget deficit by certain deadlines, as described in previous annual reports, is extended by 2 years, through fiscal years 2026 and 2027.

- The Independent Payment Advisory Board (IPAB) and all related provisions are repealed, effective upon enactment. (The IPAB was established by the Affordable Care Act to develop and submit proposals aimed at extending the solvency of Medicare, slowing Medicare cost growth, and improving the quality of care delivered to Medicare beneficiaries.)

- For Medicare Advantage plans and stand-alone Part D plans that undergo a contract consolidation approved on or after January 1, 2019, the star rating (and any quality bonus payment) for the surviving contract is to reflect an enrollment-weighted average of the ratings for the continuing and closed contracts.

- The authority for Medicare Advantage Special Needs Plans (SNPs), which was due to expire on December 31, 2018, is permanently extended. A number of reforms to dual-eligible SNPs and chronic-condition SNPs are also mandated.

- For Medicare Advantage plans, certain provisions are enacted, effective January 1, 2020, which permit plans to offer to chronically ill enrollees (i) a broader range of supplemental benefits (which may include services that are not primarily health care services), as long as the benefit offers a reasonable expectation of improving or maintaining health or overall function, and (ii) expanded telehealth services as supplemental benefits, subject to certain specified requirements. In addition, the Value-Based Insurance Design (VBID) Model, which is a pilot program allowing certain plans to offer supplemental benefits or reduced cost sharing to enrollees with certain chronic conditions, is expanded, effective no later than January 1, 2020, to allow plans in all States the opportunity to participate in it. The VBID program is also made exempt, through December 31, 2021, from certain spending and quality-of-care testing to which it would otherwise be subjected.

- For Medicare Accountable Care Organizations (ACOs), certain provisions are enacted to (i) provide more opportunities for beneficiaries to be assigned to, or voluntarily align with, ACOs; (ii) allow for the use of beneficiary incentive programs; and (iii) allow for expanded use of telehealth services. The specific types of ACOs to which each of these changes apply, as well as the effective dates, vary.

- Funding for the National Quality Forum is provided from the HI and SMI trust funds for the remainder of fiscal year 2017 and for fiscal years 2018 and 2019.

- Funding for certain low-income outreach and assistance programs is extended 2 years, through September 30, 2019.

- Certain existing civil and criminal penalties are substantially increased for providers and suppliers who violate health care fraud and abuse laws, effective upon enactment.

BBA 2018 Provisions Affecting HI and Part B of SMI

- For home health agencies serving beneficiaries in rural areas, the 3-percent add-on payment is extended 1 year, through December 31, 2018. Then, for services furnished in rural areas from 2019 through 2022, three separate tiers of add-on adjustments are established, based on Medicare home health utilization and low-population density; these adjustments diminish over varying periods of time (and become 0 percent no later than 2020). Also, for services furnished on or after January 1, 2019, home health agencies are required to report the county in which the services are furnished.

- For the Medicare home health prospective payment system (PPS), the annual update for calendar year 2020 is set at 1.5 percent.

- Under the home health PPS, the unit of payment for home health services is changed from a 60-day to a 30-day episode of care, beginning in 2020. This change must be made in a budget-neutral manner, but adjustments to offset anticipated behavior changes that could result from the modified methodology are allowed. Also beginning in 2020, therapy thresholds are removed from the home health case mix adjustment.

- To demonstrate home-bound and medical-necessity status when determining if a patient is eligible for home health services, documentation in the medical records of home health agencies can be used as supporting material, in addition to documentation in the medical records of the certifying physician, effective January 1, 2019.

- For telehealth services furnished for purposes of diagnosis, evaluation, or treatment of symptoms of an acute stroke, the geographic restriction that limits originating sites to rural areas is eliminated, provided that all other Medicare telehealth coverage requirements are satisfied. In addition, no originating site facility fee is to be paid to sites that do not meet the current geographic and site type requirements. This provision is effective beginning on January 1, 2019.

- For the Medicare electronic health records incentive program, the provision requiring more stringent measures of meaningful use, over time, is eliminated, effective upon enactment.

- The funding amount of $220 million previously provided for the Medicare Improvement Fund (as noted above) is eliminated.

BBA 2018 Provisions Affecting HI

- The Medicare-Dependent Hospital (MDH) program is extended for 5 fiscal years, through September 30, 2022. In addition, the program is extended to certain rural hospitals that are located in all-urban States and that otherwise meet the MDH criteria.

- Medicare inpatient hospital add-on payments for low-volume hospitals are extended for 5 fiscal years, through September 30, 2022. In addition, for fiscal years 2019 through 2022, changes are made to the qualifying criteria (which are to be based on total discharges or Medicare discharges, depending on the year, and on the distance from another inpatient hospital) and to the add-on adjustments (which are to be based on a sliding scale ranging from 25 percent to 0 percent).

- Two changes are made to the long-term care hospital (LTCH) site-neutral provision. First, the originally mandated 2-year transition period is extended for 2 additional years, covering fiscal years 2018 and 2019. Second, the inpatient hospital PPS comparable amount used in the site-neutral payment rate calculations for fiscal years 2018 through 2026 is to be reduced by 4.6 percent.

- For the inpatient hospital diagnosis-related groups (DRGs) subject to the post-acute care transfer policy, hospice is added as a setting of care, effective October 1, 2023.

- For the Medicare skilled nursing facility PPS, the annual update for fiscal year 2019 is set at 2.4 percent.

- Physician assistants are added to the types of providers who may serve as attending physicians for the purposes of hospice care, effective January 1, 2019. (Previously, only physicians and nurse practitioners could serve.) Like nurse practitioners, physician assistants are not permitted to provide the written certification of terminal illness required for hospice services.

BBA 2018 Provisions Affecting Both Part B and Part D of SMI

- A new income-related premium threshold is established. Specifically, beginning in calendar year 2019, individuals with incomes at or above $500,000 (and couples with incomes at or above $750,000) will pay premiums covering 85 percent (rather than 80 percent) of the average program cost for aged beneficiaries. These new threshold levels will not be inflation-adjusted until 2028 and later.

BBA 2018 Provisions Affecting Part B of SMI

- The 1.00 floor on the geographic index for physician work is extended for 2 additional years, through December 31, 2019.

- The physician fee schedule update for 2019, which had been set at 0.5 percent, is decreased to 0.25 percent.

- A number of changes are made to the merit-based incentive payment system (MIPS) for physicians, including that it be applied only to covered professional services instead of to items and services (thereby excluding, most prominently, physician-administered Part B drugs) and that its transition period be extended by 3 years (such that the post-transition period now begins in 2022, not 2019). Certain additional changes to the system are mandated for the extended transition period, and others are mandated for the period thereafter. Effective dates vary.

- The annual payment limits on therapy services are permanently repealed, beginning on January 1, 2018. The threshold for the targeted manual medical review process is lowered, from $3,700 to $3,000, effective as of the same date and until 2028, after which the threshold is to be increased by a specified formula.

- Outpatient physical and occupational therapy services furnished by a therapy assistant are paid at 85 percent of the amount that otherwise would have been paid under the fee schedule, effective January 1, 2022.

- The freeze on coding and valuation of certain radiation therapy services reimbursed under the fee schedule, in place for 2017 and 2018, is extended through 2019.

- For qualified home infusion therapy suppliers, a temporary transitional payment for administering home infusion therapy is established, beginning on January 1, 2019. Payment rates in three categories will apply during the transition period, which will end on December 31, 2020, after which a new payment methodology will begin.

- Certain ground ambulance add-on payments are extended 5 additional years, through December 31, 2022. (These add-on payments include a 3-percent bonus for services originating in rural areas, a 2-percent bonus for services originating in other locations, and a 22.6-percent *super rural* bonus for rural areas with the lowest population densities.) The development of a system to collect certain data from providers and suppliers of ground ambulance services is also mandated.

- For non-emergency ground ambulance transports of beneficiaries with end-stage renal disease (ESRD) to and from renal dialysis services, the reduction in payments is increased from 10 percent to 23 percent for transports furnished on or after October 1, 2018.

- For beneficiaries with ESRD who receive home dialysis, all monthly physician visits can be provided via telehealth, beginning on January 1, 2019, as long as the beneficiary receives one in-person visit monthly for the initial 3 months and at least one every 3 months thereafter. (Previously, at least one in-person visit per month was required.) Also, the originating site requirements are modified in several ways, and no site facility fee is to be paid if the beneficiary's home is the originating site.

- Conditions are added to those that allow a beneficiary who qualifies for cardiac rehabilitation services to qualify for the more intensive set of services, effective upon enactment. Also, the supervision requirements for cardiac rehabilitation, intensive cardiac rehabilitation, and pulmonary rehabilitation are changed to allow physician assistants, nurse practitioners, and clinical nurse specialists (in addition to physicians) to supervise these programs, effective January 1, 2024.

- A provision of the Steve Gleason Act of 2015, requiring that Medicare payment for rental or lump-sum purchase of speech-generating devices and accessories be made without a cap on the amount, is made permanent.

- Enforcement is delayed an additional year, through December 31, 2017, for the instruction that, for outpatient therapeutic services provided in critical access and small rural hospitals, a physician or non-physician practitioner must provide direct supervision throughout the performance of a procedure. (In the 2018 outpatient hospital PPS rule, CMS extended these non-enforcement instructions for 2018 and 2019 and noted that, for 2017, while there was not a non-enforcement instruction in place, Medicare administrative contractors were directed not to prioritize enforcement of this requirement for these hospitals. This legislation provides the non-enforcement instruction that had been lacking for 2017.)

BBA 2018 Provisions Affecting Part D of SMI

- Under the Part D standard benefit structure, the coverage gap closes 1 year earlier than previously scheduled for brand-name drugs only; that is, for brand-name drugs, beneficiaries in the coverage gap (excluding low-income enrollees eligible for cost-sharing subsidies) will pay 25 percent of drug costs beginning on January 1, 2019 (instead of 30 percent in 2019 and 25 percent thereafter). Also beginning on that date, these beneficiaries will receive a 70-percent manufacturer discount (instead of 50 percent) and a 5-percent benefit (instead of 20 percent in 2019 and 25 percent thereafter) from their Part D plans for *applicable* prescription drugs. (For purposes of drug discounts while beneficiaries are in the Part D coverage gap, *applicable* drugs are generally covered brand-name Part D drugs, while *non-applicable* drugs are generally covered generic Part D drugs.) For generic drugs, the law remains the same, with beneficiaries paying 37 percent of drug costs in 2019 and 25 percent thereafter.

- For purposes of drug discounts while beneficiaries are in the Part D coverage gap, the definition of *applicable* drugs is expanded to include biosimilars, effective January 1, 2019. (*Applicable* drugs previously included biologics but not biosimilars.)

B. TOTAL MEDICARE FINANCIAL PROJECTIONS

Medicare is the nation's second largest social insurance program, exceeded only by Social Security (OASDI). Although Medicare's two components—Hospital Insurance (HI) and Supplementary Medical Insurance (SMI)—are very different from each other in many key respects, it is important to consider the overall cost of Medicare and its financing. By reviewing Medicare's total expenditures, readers can assess the financial obligation created by the program. Similarly, the sources and relative magnitudes of HI and SMI revenues are an important policy matter.

The issues of Medicare's total cost to society and the means of financing that cost are different from the question of the financial status of the Medicare trust funds. The latter focuses on whether a specific trust fund's income and expenditures are in balance. The separate HI and SMI financial projections prepared for this purpose, however, can be usefully combined for the broader purposes outlined above. To that end, this section presents information on combined HI and SMI costs and revenues. Sections III.B, III.C, and III.D of this report present detailed assessments of the financial status of the HI trust fund and the Part B and Part D accounts of the SMI trust fund, respectively.

1. 10-Year Actuarial Estimates (2018-2027)

Table V.B1 shows past and projected Medicare income, expenditures, and trust fund assets in dollar amounts for calendar years,[85] with projections shown under the intermediate set of assumptions for the short-range projection period 2018 through 2027.

[85]The table shows amounts on a *cash* basis, reflecting actual expenditures made during the year, even if the payments were for services performed in an earlier year. Similarly, income figures represent amounts actually received during the year, even if incurred in an earlier year.

Table V.B1.—Total Medicare Income, Expenditures, and Trust Fund Assets during Calendar Years 1970-2027

[In billions]

Calendar year	Total income	Total expenditures	Net change in assets	Assets at end of year
Historical data:				
1970	$8.2	$7.5	$0.7	$3.4
1975	17.7	16.3	1.3	12.0
1980	37.0	36.8	0.1	18.3
1985	76.5	72.3	4.2	31.4
1990	126.3	111.0	15.3	114.4
1995	175.3	184.2	−8.9	143.4
2000	257.1	221.8	35.3	221.5
2005	357.5	336.4	21.0	309.8
2010	486.1[1]	522.9	−36.8	344.0
2011	530.0	549.1	−19.2	324.9
2012	537.0	574.2	−37.3	287.6
2013	575.8	582.9	−7.1	280.5
2014	599.3	613.3	−14.1	266.4
2015	644.4[1]	647.6	−3.2	263.2
2016	710.2[1]	678.7	31.5	294.7
2017	705.1	710.2	−5.0	289.6
Intermediate estimates:				
2018	752.5	745.0	7.5	297.1
2019	802.8	798.4	4.4	301.5
2020	874.6[1]	857.0	17.6	319.2
2021	910.3[1]	925.3	−15.0	304.2
2022	992.1	1,000.6	−8.5	295.7
2023	1,063.7	1,080.3	−16.6	279.1
2024	1,141.5	1,166.3	−24.7	254.4
2025	1,219.2	1,254.3	−35.1	219.3
2026	1,324.6[1]	1,341.7	−17.1	202.2
2027	1,374.8[1]	1,435.4	−60.6	141.6

[1]Section 708 of the Social Security Act modifies the provisions for the payment of Social Security benefits when the regularly designated day falls on a Saturday, Sunday, or legal public holiday. Payment of those benefits normally due January 3, 2010 actually occurred on December 31, 2009, and payment of benefits normally due January 3, 2016 occurred on December 31, 2015. Consequently, the Part B and Part D premiums withheld from these benefits and the associated Part B general revenue contributions were added to the Part B or Part D account, as appropriate, on December 31, 2009 (about $14.8 billion for Part B and about $0.2 billion for Part D) and December 31, 2015 (about $7.5 billion for Part B and about $0.2 billion for Part D), respectively. Similarly, the payment date for those benefits normally due January 3, 2021 will be on December 31, 2020, and the payment date for those benefits normally due January 3, 2027 will be on December 31, 2026. Accordingly an estimated $14.2 billion will be added to the Part B account, and an estimated $0.3 billion will be added to the Part D account, on December 31, 2020; and an estimated $22.8 billion will be added to the Part B account, and an estimated $0.5 billion will be added to the Part D account, on December 31, 2026.

Note: Totals do not necessarily equal the sums of rounded components.

As indicated in table V.B1, Medicare expenditures have increased rapidly during most of the program's history. From 1985 to 2017, expenditures grew at an average annual rate of 7.4 percent, and they are projected to increase at an average annual rate of 7.3 percent from 2017 through 2027.

Through most of Medicare's history, trust fund income has kept pace with increases in expenditures.[86] The Trustees estimate that total Medicare income will increase at a rate (6.9 percent annually) similar to that for expenditures from 2017 through 2027.

The Department of the Treasury has invested past excesses of income over expenditures in U.S. Treasury securities, with total trust fund assets accumulating to $289.6 billion at the end of calendar year 2017. Combined assets decreased from 2009 through 2015, increased in 2016, and decreased again in 2017. The change in assets fluctuates slightly over the remainder of the short-range projection period due to the timing of premium collections, as described in the footnote to table V.B1, and the return of HI deficits.[87]

2. 75-Year Actuarial Estimates (2018-2092)

Table V.B2 shows past and projected Medicare expenditures expressed as a percentage of GDP.[88] This percentage provides a relative measure of the size of the Medicare program compared to the general economy and represents the portion of the nation's total resources dedicated each year to providing health care services to beneficiaries through Medicare. Expenditures represented 0.7 percent of GDP in 1970 and had grown to 2.6 percent of GDP by 2005, reflecting rapid increases in the factors affecting health care cost growth. Starting in 2006, Medicare provided subsidized access to prescription drug coverage through Part D, which caused most of the increase in Medicare expenditures to 3.0 percent of GDP in the first year. The Trustees project much more moderate continuing growth in the long range, partially as a result of the lower price updates under current law, with total Medicare expenditures projected to reach about 6.2 percent of GDP by 2092.

Part of the projected increase is attributable to the prescription drug benefit in Medicare. When it was fully implemented in 2006, Part D represented 12 percent of incurred Medicare expenditures, and this share increased to 13 percent in 2017. With continuing faster growth

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[86]This balance resulted from periodic increases in HI payroll tax rates and other HI financing, from annual increases in SMI premium and general revenue financing rates (to cover the following year's estimated expenditures), and from frequent legislation designed to slow the rate of growth in expenditures.

[87]See sections III.B, III.C, and III.D regarding the asset projections for HI and Part B and Part D of SMI, separately.

[88]In contrast to the expenditure amounts shown in table V.B1, table V.B2 shows historical and projected expenditures on an incurred basis. Incurred amounts relate to the expenditures for services performed in a given year, even if payment for those expenditures occurs in a later year.

in drug costs, relative to the traditional HI and SMI Part B expenditures, the Trustees project that Part D will account for 19 percent of Medicare expenditures by the end of the projection period.

The projections shown in table V.B2 for total Medicare are slightly higher than in the 2017 report primarily due to (i) higher costs for Part A and Part B as a result of higher spending in 2017, (ii) legislation, and (iii) higher Medicare Advantage spending.

The details of these changes are described in sections III.B, III.C, and III.D.

Table V.B2.—HI and SMI Incurred Expenditures as a Percentage of the Gross Domestic Product

	HI	SMI		
Calendar year	Part A	Part B	Part D	Total
Historical data:				
1970	0.50%	0.21%	—	0.71%
1975	0.68	0.29	—	0.97
1980	0.91	0.40	—	1.31
1985	1.11	0.55	—	1.66
1990	1.12	0.74	—	1.85
1995	1.55	0.87	—	2.42
2000	1.29	0.91	—	2.20
2005	1.43	1.17	0.01%	2.61
2010	1.64	1.44	0.42	3.50
2011	1.65	1.46	0.43	3.54
2012	1.62	1.49	0.43	3.54
2013	1.62	1.49	0.44	3.54
2014	1.55	1.53	0.47	3.55
2015	1.54	1.55	0.50	3.59
2016	1.56	1.59	0.50	3.64
2017	1.54	1.63	0.48	3.66
Intermediate estimates:				
2018	1.53	1.68	0.48	3.69
2019	1.55	1.73	0.48	3.76
2020	1.57	1.78	0.51	3.86
2021	1.60	1.85	0.53	3.98
2022	1.65	1.92	0.55	4.11
2023	1.69	1.99	0.57	4.24
2024	1.72	2.06	0.59	4.37
2025	1.76	2.14	0.60	4.50
2026	1.80	2.19	0.62	4.61
2027	1.83	2.26	0.64	4.72
2030	1.98	2.52	0.70	5.20
2035	2.12	2.76	0.76	5.64
2040	2.21	2.85	0.81	5.86
2045	2.24	2.84	0.83	5.91
2050	2.25	2.82	0.86	5.93
2055	2.23	2.82	0.90	5.94
2060	2.22	2.83	0.94	6.00
2065	2.24	2.84	0.98	6.06
2070	2.26	2.85	1.02	6.13
2075	2.29	2.86	1.06	6.21
2080	2.29	2.83	1.09	6.22
2085	2.27	2.79	1.12	6.18
2090	2.25	2.76	1.15	6.16
2092	2.24	2.76	1.16	6.16

Note: Percentages are affected by economic cycles.

The 75-year projection period fully allows for the presentation of anticipated future developments, such as the impact of a large increase in enrollees from 2010 through 2030. This increase in the number of beneficiaries will occur because the relatively large number of persons born during the period between the end of World War II and the mid-1960s (known as the baby boom generation) will reach eligibility age and begin to receive benefits. Moreover, as this generation ages, these individuals will experience greater health care utilization and costs, thereby adding further to growth in program expenditures. Table V.B3 shows past and projected enrollment in the Medicare program.

As indicated in table V.B3, over the last 35 years the total number of Medicare beneficiaries approximately doubled, and the Trustees expect the total to increase by 57 percent over approximately the next 35 years. During this same historical period, the number of covered workers also increased rapidly (by about 55 percent), but the Trustees project this number to increase much more slowly (about 18 percent) over the next 35 years. This demographic shift and its implications for Medicare costs, relative to workers' earnings or to the GDP, are fairly well known.

The enrollment data also show that the number of Medicare beneficiaries enrolled in private health plans under Part C has increased substantially in recent years. This increase reflects the higher Medicare payments to Medicare Advantage plans specified by the Medicare Modernization Act, which enabled these plans to offer additional benefit coverage. (Section IV.C of this report describes the changes in enrollment growth since 2005.)

By 2018, the Trustees estimate that about 35 percent of eligible Medicare beneficiaries will be enrolled in private Part C health plans. The Trustees expect modest increases in private plan penetration rates between 2020 and 2027, with the estimated proportion of beneficiaries in such plans ultimately stabilizing at about 39 percent.

Table V.B3.—Medicare Enrollment
[In thousands]

Calendar year	HI	SMI			
	Part A	Part B	Part D	Part C	Total[1]
Historical data:					
1970	20,104	19,496	—	—	20,398
1975	24,481	23,744	—	—	24,864
1980	28,002	27,278	—	—	28,433
1985	30,621	29,869	—	1,271	31,081
1990	33,747	32,567	—	2,017	34,251
1995	37,175	35,641	—	3,467	37,594
2000	39,257	37,335	—	6,856	39,688
2005	42,233	39,752	1,841	5,794	42,606
2010	47,365	43,882	34,772	11,693	47,720
2011	48,549	44,917	35,720	12,383	48,896
2012	50,540	46,477	37,448	13,588	50,874
2013	52,169	47,952	39,103	14,843	52,504
2014	53,766	49,413	40,499	16,243	54,104
2015	55,246	50,753	41,804	17,493	55,587
2016	56,740	52,059	43,217	18,391	57,090
2017	58,035	53,395	44,455	19,813	58,393
Intermediate estimates:					
2018	59,495	54,704	45,738	21,308	59,862
2019	61,118	56,175	47,193	22,319	61,495
2020	62,892	57,795	48,793	23,181	63,278
2021	64,660	59,418	50,378	24,062	65,055
2022	66,450	61,065	51,991	24,972	66,855
2023	68,197	62,687	53,536	25,858	68,611
2024	69,895	64,252	55,004	26,708	70,318
2025	71,625	65,847	56,459	27,549	72,058
2026	73,328	67,427	57,850	28,375	73,769
2027	74,945	68,927	59,123	29,161	75,395
2030	79,285	72,966	62,588	31,189	79,757
2035	84,029	77,325	66,327	33,059	84,524
2040	86,430	79,568	68,251	33,973	86,935
2045	87,971	80,902	69,395	[2]	88,482
2050	90,045	82,799	71,022	[2]	90,567
2055	92,846	85,338	73,201	[2]	93,379
2060	96,351	88,595	75,994	[2]	96,911
2065	99,752	91,714	78,670	[2]	100,339
2070	103,470	95,125	81,595	[2]	104,092
2075	107,374	98,741	84,697	[2]	108,038
2080	109,894	101,068	86,693	[2]	110,595
2085	111,950	102,938	88,297	[2]	112,689
2090	115,126	105,820	90,769	[2]	115,916
2092	116,768	107,326	92,061	[2]	117,583

[1]Number of beneficiaries with HI and/or SMI coverage.
[2]The Trustees do not explicitly project enrollment in Part C beyond 2040.

Table V.B4 shows the past and projected amounts of Medicare revenues as a percentage of total non-interest Medicare income, under the intermediate assumptions. The table excludes interest income, which would not be a significant part of program financing in the long range.

Table V.B4.—Medicare Sources of Income as a Percentage of Total Non-Interest Income

Calendar year	Payroll taxes	Tax on benefits	Premiums[1]	Brand-name drug fees	State transfers	General revenue[2]
Historical data:						
1970	61.8%	—	13.7%	—	—	24.6%
1980	68.0	—	8.6	—	—	23.4
1990	62.2	—	9.8	—	—	27.9
2000	59.8	3.6%	9.1	—	—	27.6
2010	38.9	2.9	13.3	—	0.9%	44.0
2015	38.1	3.2	13.6	0.5%	1.4	43.2
2016	36.3	3.3	12.8	0.4	1.4	45.7
2017	37.7	3.5	14.6	0.6	1.6	42.0
Intermediate estimates:						
2018	36.2	3.2	15.3	0.6	1.6	43.2
2020	35.0	3.2	15.5	0.3	1.5	44.4
2030	28.8	4.5	16.9	0.2	1.7	48.0
2040	26.5	4.7	17.5	0.1	1.8	49.4
2050	26.9	4.8	17.4	0.1	1.9	49.0
2060	27.0	4.8	17.3	0.0	2.0	48.8
2070	26.9	4.9	17.3	0.0	2.1	48.7
2080	26.9	4.9	17.3	0.0	2.2	48.6
2090	27.2	4.9	17.3	0.0	2.3	48.3
2092	27.2	4.9	17.3	0.0	2.4	48.3

[1]Includes premium revenue from HI and both accounts in the SMI trust fund.
[2]Includes Part B repayment amounts in 2016-2021.

Note: Row sums may not exactly equal 100 percent due to rounding.

General revenues (primarily those for SMI) represented 42 percent of total non-interest income to the Medicare program in 2017 and have constituted the largest share of Medicare financing since 2009. HI payroll taxes were the next largest source of overall financing at 38 percent. Beneficiary premiums (again, primarily for SMI) were third, at 15 percent. Projected HI tax revenues fall short of projected HI expenditures in all future years. In contrast, SMI premium and general revenues will keep pace with SMI expenditure growth, and State payments[89] (on behalf of Medicare beneficiaries who also qualify for full Medicaid benefits) will grow with Part D expenditures. General revenue transfers to the Part B account increased significantly in 2016, as required by the Bipartisan Budget Act of 2015 to compensate for premium revenue that was not received in 2016 due to the hold-harmless provision. Under the ACA, another source of Part B financing, from fees on manufacturers and importers of brand-name prescription drugs, will increase from $2.5 billion in 2011 to $4.1 billion in 2018 but then decrease to $2.9 billion for 2019 and later. In the absence of legislation, HI tax income would represent a declining portion of total Medicare revenues. In 2026, for example, the projected year of depletion of the HI trust fund, currently scheduled HI payroll taxes would represent about 31 percent of total non-interest Medicare

[89]State payments to Part D amounted to 90 percent of their projected forgone Medicaid prescription drug costs in 2006, and this percentage phased down over a 10-year period to 75 percent in 2015.

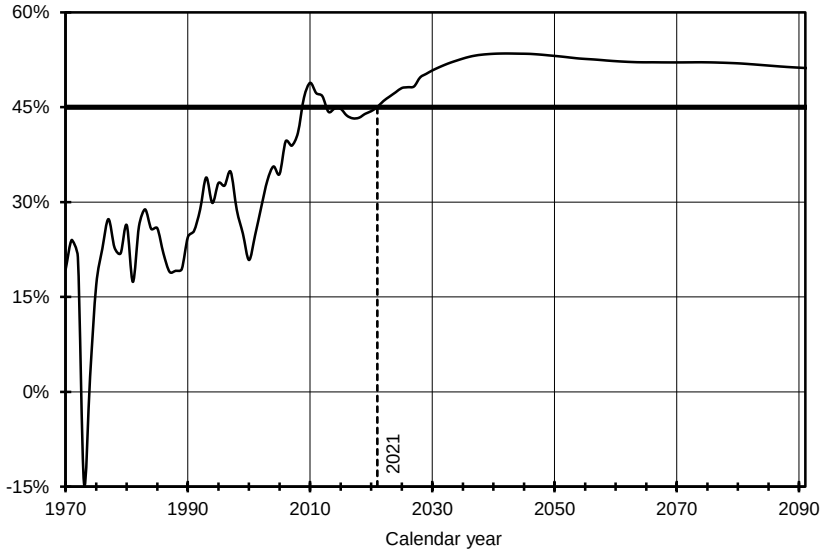
income. General revenues and beneficiary premiums would equal about 47 and 16 percent, respectively.

The law requires an expanded analysis of the combined expenditures and dedicated revenues of the HI and SMI trust funds. In particular, the law requires a determination as to whether the difference between total Medicare outlays and its dedicated financing sources is projected to exceed 45 percent of total outlays within the next 7 fiscal years (2018-2024). Dedicated Medicare financing sources include HI payroll taxes; income from taxation of Social Security benefits; State transfers for the prescription drug benefit; premiums paid under Parts A, B, and D; fees on brand-name prescription drugs paid to Part B; and any gifts received by the Medicare trust funds. The test uses expenditures adjusted to avoid temporary distortions arising from the payment of Medicare Advantage capitation amounts in September when the normal October payment date is a Saturday or Sunday.

Lawmakers established the 45-percent test to help call attention to Medicare's impact on the Federal budget. The Trustees made determinations of excess general revenue Medicare funding in each of the reports for 2006 through 2013 and in the 2017 report. Two consecutive such determinations trigger a Medicare funding warning. The 2007 through 2013 reports thus prompted Medicare funding warnings. Such findings require the President to submit to Congress, within 15 days after the date of the Budget submission for the succeeding year, proposed legislation to respond to the warning. The law also requires Congress to consider the legislation proposed in response to Medicare funding warnings on an expedited basis. To date, elected officials have not enacted legislation responding to these funding warnings.

Figure V.B1 displays, on a calendar-year basis, the historical and projected ratio of the difference between total Medicare outlays and dedicated financing sources to total Medicare outlays. As indicated, this ratio exceeded 45 percent at the end of calendar years 2009 through 2012 and is expected to again exceed that level at the end of calendar year 2021, the fourth year of the projection. Therefore, the Board of Trustees is issuing a determination of excess general revenue Medicare funding in this report. Since this is the second consecutive such finding, a Medicare funding warning is triggered.

Figure V.B1.—Projected Difference between Total Medicare Outlays and Dedicated Financing Sources, as a Percentage of Total Outlays



As figure V.B1 also indicates, the Board projects that the difference between outlays and dedicated funding sources will reach almost 54 percent of outlays by 2042 and will decline to 51 percent by the end of the 75-year period. It is important to recognize that current law provides for general revenue transfers only for certain purposes related to Parts A, B, and D, as follows:

- Financing specified portions of SMI Part B and SMI Part D expenditures;
- Reimbursing the HI trust fund for the costs of certain uninsured beneficiaries;
- Paying interest on invested assets of the trust funds; and
- Redeeming the special Treasury securities held as assets by the trust funds.

The difference between outlays and dedicated funding sources, as shown in figure V.B1, reflects all of these general revenue transfers, plus the imbalance between HI expenditures and dedicated revenues after HI asset depletion in 2026. There is no provision under current law to cover the shortfall after 2026.

The law also requires a comparison of projected growth in the difference between outlays and dedicated revenues with other health spending growth rates. Table V.B5 contains this comparison.

Table V.B5.—Comparative Growth Rates of Medicare, Private Health Insurance, National Health Expenditures, and GDP

	Average annual growth in:				
Calendar year	Incurred outlays minus dedicated revenues	Incurred Medicare outlays	GDP	National health expenditures[1]	Private health insurance[1]
2012	2.7%	4.2%	4.1%	4.0%	3.3%
2013	0.1	3.4	3.3	2.9	2.0
2014	5.5	4.8	4.4	5.1	5.7
2015	4.1	5.0	4.0	5.8	6.9
2016	1.4	4.4	2.8	4.3	5.1
2017	3.2	4.5	4.1	4.6	5.6
2018	6.7	5.6	4.8	5.5	4.8
2019	8.1	6.9	4.7	5.3	3.4
2020	8.4	7.4	4.8	5.6	4.9
2021	9.9	8.1	4.7	5.5	4.6
2022	10.3	8.1	4.7	5.6	4.4
2023	9.6	8.0	4.6	5.7	4.9
2024	9.5	8.0	4.6	5.7	4.9
2025	9.0	7.5	4.5	5.6	4.8
2026	7.2	6.9	4.5	5.6	4.6
2027	7.5	7.1	4.5	5.8	4.6
2028-2042	6.6	5.9	4.3	5.5	—
2043-2067	4.4	4.5	4.3	5.0	—
2068-2092	4.3	4.4	4.3	4.8	—

[1]Based on a national health expenditure (NHE) projections article published in February 2018 (*Health Affairs*, vol. 37, no. 3), updated to reflect the impact of the Bipartisan Budget Act of 2018. Data through 2016 are considered historical, and years after 2026 were determined based on the methods described in section IV.D. The findings presented in this article, along with the paper outlining its methodology, are available at http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/NationalHealthAccountsProjected.html.

The gap between outlays and dedicated revenues slowed after 2010 as Medicare spending decelerated and as cost-reducing provisions of the ACA began taking effect. As shown in table V.B5, this gap will increase faster than outlays in many years through 2042 since the dedicated sources of income to the HI trust fund will generally cover a decreasing percentage of HI outlays.

In addition to projected Medicare outlay growth, table V.B5 shows projected growth in GDP, total national health expenditures in the U.S., and private health insurance expenditures. The Trustees expect each of the health expenditure categories to continue the longstanding trend of increasing more rapidly than GDP in most years. Private health insurance expenditures equal the total premiums earned by private health insurers, including benefits incurred and the net cost of insurance. The net cost of insurance includes administrative costs, additions to reserves, rate credits and dividends, premium taxes, and profits or losses.

Several factors affect comparisons between aggregate Medicare and private health insurance cost growth:

- The number of Medicare beneficiaries is currently increasing by about 3 percent per year, and this growth rate will continue as more of the post-World War II baby boom generation reaches eligibility age. The number of individuals with private health insurance is estimated to increase at slower rates than the growth in the number of Medicare beneficiaries.
- Certain current-law provisions, such as the limitation on maximum out-of-pocket costs in 2014 and later and the 40-percent excise tax on high-cost employer-sponsored insurance plans in 2022 and later, will also affect the average actuarial value of private health insurance benefits.
- The use of health care services differs significantly between Medicare beneficiaries (who are generally over 65) and individuals with private health insurance (who are predominantly below age 65). The former group, for example, has a higher incidence of hospitalization, skilled nursing care, and home health care. For the latter group, physician services represent a greater proportion of their total health care needs. Different cost growth trends by type of service will affect overall growth rates and reflect the distribution of services for each category of people.
- There is some overlap between people with Medicare and those with private health insurance. For example, many Medicare beneficiaries have supplemental health insurance coverage through private Medigap insurance policies or employer-sponsored retiree health benefits, and private health insurance includes both of these categories. About 10 million Medicare beneficiaries receive supplemental coverage through the Medicaid program; neither the growth rates for Medicare nor those for private health insurance reflect the Medicaid costs for these dual beneficiaries.

A number of research studies have attempted to control for some or all of these differences in comparing growth trends. Over long historical periods, average, demographically adjusted, per capita growth rates for common benefits have been somewhat lower for Medicare than for private health insurance. For shorter periods, however, the rates of growth have often diverged substantially, and the differential has been negative in some years and positive in others. More information on past and projected national and private health expenditures, and on comparisons to Medicare growth rates, is available in the sources cited in table V.B5.

C. ILLUSTRATIVE ALTERNATIVE PROJECTIONS

The Social Security Act requires the Trustees to evaluate the financial status of the Medicare trust funds. To comply with this mandate, the Trustees must assess whether the financing provided under current law is adequate to cover the benefit payments and other expenditures required under current law. Accordingly, the estimates shown in this report are based on all of the current statutory requirements, including (i) the reductions in payment updates by the increase in economy-wide productivity for most non-physician provider categories; (ii) the physician payment updates specified by MACRA for all future years; and (iii) the expiration in 2025 of the 5-percent bonuses for qualifying physicians in advanced alternative payment models (advanced APMs) and of the $500-million payments for physicians in the merit-based incentive payment system (MIPS).

As discussed in the Introduction, there is substantial uncertainty regarding the adequacy of future Medicare payment rates under current law. This section illustrates the higher Medicare outlays that would result if certain statutory Medicare payment provisions were not fully implemented in all future years. A few changes have occurred since last year's report that affect the illustrative alternative and the ways in which it differs from the current-law projections. In particular, the Trustees have implemented a recommendation from the 2016-2017 Medicare Technical Review Panel that the transition from current law to the ultimate illustrative alternative assumptions start at later dates than assumed previously.[90] In addition, the Independent Payment Advisory Board (IPAB) and all related provisions were repealed as part of the Bipartisan Budget Act of 2018. In prior reports, the IPAB provisions reduced Medicare spending under current law, but they were assumed to not take effect under the illustrative alternative scenario. Therefore, the repeal of the IPAB increases current-law spending in this year's report but does not affect the illustrative alternative scenario.

For all Part A services and some other (non-physician) Part B services, payment updates will be reduced in all future years by the increase in

[90]The ultimate assumptions underlying the illustrative alternative are similar to those in the 2017 report, which the 2016-2017 Medicare Technical Review Panel concluded were reasonable (Finding 2-3). However, they are implemented over a later time frame, based on a recommendation from the 2016-2017 Panel (Recommendation 2-4).

economy-wide productivity.[91] By the end of the long-range projection period, payment rates for affected providers would be about 57 percent lower than their level in the absence of these reductions. In 2014, the Medicare payment rates for inpatient hospital services declined to about 60 percent of those paid by private health insurance.[92] If future improvements in productivity were to remain similar to what providers have achieved in the recent past (about 0.4 percent annually), then Medicare payment levels for inpatient hospital services at the end of the long-range projection period would be less than 37 percent of the corresponding level paid by private health insurance. This comparison assumes that private payer rate increases would continue to be set through the same negotiation process used to date, independent of the Medicare reductions or other health system changes. Specifically, private payer rates would grow by 3.0 percent per year, or the increase in the price of inputs to the provision of health care (3.4 percent) less the assumed growth in hospital productivity (0.4 percent). By comparison, Medicare payment rates would grow by 2.3 percent per year, or 3.4 percent less the assumed growth in economy-wide productivity (1.1 percent).

Simulations that take into account the lower Medicare payment rates, other payment provisions, sequestration, changes to Medicare and Medicaid disproportionate share hospital payments, and coverage expansions collectively suggest a deterioration of facility margins for hospitals, skilled nursing facilities, and home health agencies, particularly over the long run. From 2011 through 2019, the simulations suggest that up to 5 percent more hospitals would experience negative total facility margins and that approximately 15 percent more would experience negative Medicare margins. Other factors, such as efforts to improve efficiency in lower-performing hospitals, could mitigate some of the impact of the ACA payment provisions, though there is a wide range of uncertainty regarding these types of behavioral changes. By 2040, simulations suggest that approximately half of hospitals, roughly two-thirds of skilled nursing facilities, and over 80 percent of home health agencies would have negative total facility margins, raising the possibility of access and

[91]In addition to the productivity adjustments, current law requires certain other reductions in payment updates for 2010 through 2019. For inpatient hospital services, the cumulative impact of these adjustments is a further reduction of 3.6 percent in payment levels. Also, Medicare payments to providers will be affected by the sequestration of outlays in April 2013 through September 2027.

[92]See http://www.aha.org/research/reports/tw/chartbook/2015/table4-4.pdf. Private payer hospital payments are roughly 44 percent above costs while Medicare hospital payments are roughly 12 percent below costs.

quality-of-care issues for Medicare beneficiaries. A memorandum on these provider margin simulations is available on the CMS website.[93]

Over time, unless providers could alter their use of inputs to reduce their cost per service correspondingly, Medicare's payments for health services would fall increasingly below providers' costs. Providers could not sustain continuing negative margins and would have to withdraw from serving Medicare beneficiaries or (if total facility margins remained positive) shift substantial portions of Medicare costs to their non-Medicare, non-Medicaid payers. Under such circumstances, lawmakers might feel substantial pressure to override the productivity adjustments, much as they did to prevent reductions in physician payment rates while the sustainable growth rate (SGR) system was in effect.

While the physician payment system put in place by MACRA avoided the significant short-range physician payment issues resulting from the SGR system approach, it nevertheless raises important long-range concerns that will almost certainly need to be addressed by future legislation. In particular, additional updates totaling $500 million per year and 5-percent annual bonuses are scheduled to expire in 2025, resulting in a payment reduction for most physicians. In addition, the law specifies the physician payment updates for all years in the future, and these updates do not vary based on underlying economic conditions, nor are they expected to keep pace with the average rate of physician cost increases. The specified rate updates could be an issue in years when levels of inflation are high and would be problematic when the cumulative gap between the price updates and physician costs becomes large. The Trustees previously estimated that physician payment rates under current law will be lower than they would have been under the SGR formula by 2048 and will be about 30 percent lower by the end of the projection period. Absent a change in the delivery system or level of update by subsequent legislation, the Trustees expect access to Medicare-participating physicians to become a significant issue in the long term.

In view of these issues, it is important to note that the actual future costs for Medicare may exceed the projections shown in this report, possibly by substantial amounts. Use of an alternative projection can illustrate the potential magnitude of this difference.

[93]See http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/ReportsTrustFunds/Downloads/ACAmarginsimulations2017.pdf.

It is conceivable that health care providers could improve their productivity, reduce wasteful expenditures, and take other steps to keep their cost growth within the bounds imposed by the Medicare price limitations. For such efforts to be successful in the long range, however, providers would have to generate and sustain unprecedented levels of productivity gains—a very challenging and uncertain prospect.

A transformation of health care in the U.S., affecting both the means of delivery and the method of paying for care, is also a possibility. Private health insurance and Medicare are taking important steps in this direction by initiating programs of research into innovative payment and service delivery models, such as accountable care organizations, patient-centered medical homes, improvement in care coordination for individuals with multiple chronic health conditions, better coordination of post-acute care, payment bundling, pay for performance, and assistance for individuals in making informed health choices. Such changes have the potential to reduce health care costs and cost growth rates and could, as a result, help lower health care spending to levels compatible with the lower price updates payable under current law.

The ability of new delivery and payment methods to lower cost growth rates is uncertain at this time. Preliminary indications are that some of these delivery reforms have had modest levels of success in lowering costs. It is too early to tell if these reductions in spending will continue or if they will grow to the magnitude needed to align with the statutory Medicare price updates. Given these uncertainties, it will be important for policy makers to monitor the adequacy of Medicare payment rates over time to ensure beneficiary access to high-quality care.

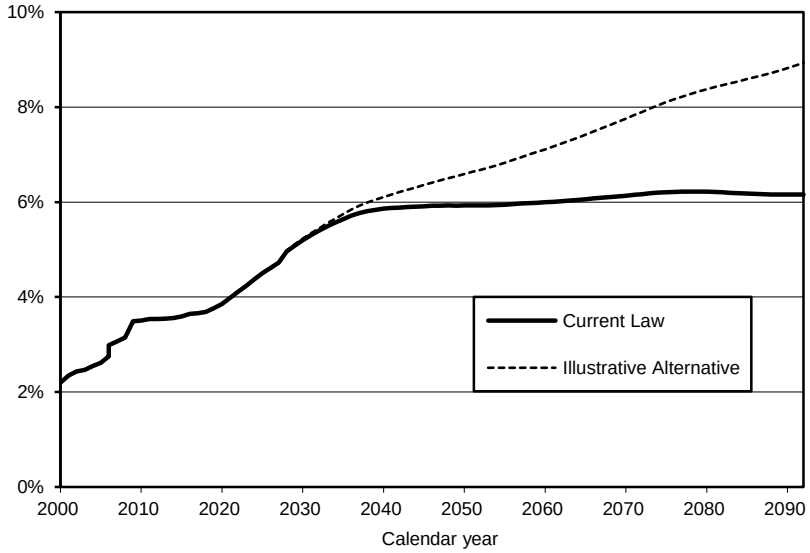
To help illustrate and quantify the potential magnitude of the cost understatement, the Trustees asked the Office of the Actuary to prepare an illustrative Medicare trust fund projection under a hypothetical alternative.[94] The 2016-2017 Medicare Technical Review Panel recommended that the Trustees continue to prepare such a projection and that, under this illustrative alternative, Medicare

[94]The 2010-2011 Medicare Technical Review Panel supported the continued use of illustrative alternative projections for this purpose (Recommendation IV-3). In addition, the Panel recommended a graphical comparison of the current-law and alternative projections within the Medicare annual report, highlighting the potential effects of both the SGR system and productivity adjustments (Recommendation IV-4). The Panel's report, *Review of Assumptions and Methods of the Medicare Trustees' Financial Projections,* can be found at http://aspe.hhs.gov/health/reports/2013/MedicareTech/TechnicalPanelReport2010-2011.pdf. The text summarizes the specific assumptions chosen by the Trustees for the illustrative alternative projections.

spending reflect less than full implementation of the payment updates to providers specified under current law.[95]

There are multiple ways in which the law could be changed if these provider updates prove unsustainable. The illustrative scenario presented in this report is just one possibility among many that demonstrates the degree to which the current-law projections may be understated. While a particular set of illustrative alternative update assumptions for specific years is used, the transition from current law to the illustrative alternative ultimate assumptions over time is intended to reflect an increasing likelihood of modifications to current law rather than a specific forecast of when current law will cease to be fully implemented. Figure V.C1 compares the illustrative alternative projection with the projections under current law.

Figure V.C1.—Medicare Expenditures as a Percentage of the Gross Domestic Product under Current Law and Illustrative Alternative Projections



Note: Percentages are affected by economic cycles.

The top curve in figure V.C1 shows the cost levels under the illustrative alternative. This scenario illustrates the impact that would occur if the payment updates that are affected by the productivity adjustments transition from current law to the payment updates assumed for

[95]See Recommendation 2-3 of the 2016-1017 Medicare Technical Review Panel report, available at https://aspe.hhs.gov/system/files/pdf/257821/MedicareTechPanelFinalReport2017.pdf.

private health plans over the period 2028 to 2042.[96] It also reflects physician payment updates that transition from current law to the increase in the Medicare Economic Index over the same period. Finally, the scenario assumes the continuation of the 5-percent bonuses for physicians in advanced alternative payment models (advanced APMs) and of the $500-million payments for physicians in the merit-based incentive payment system (MIPS), which are set to expire in 2025. Under this alternative, the average long-range per beneficiary growth rate for all Medicare services would be similar to the long-range growth rate assumed for the overall health sector.

Under the illustrative alternative scenario, Medicare costs as a percentage of GDP continue to increase rapidly throughout the projection period, reaching 6.2 percent of GDP in 2042 and 8.9 percent in 2092—considerably higher than under current law (5.9 percent of GDP in 2042 and 6.2 percent of GDP in 2092).

[96]Section IV.D of this report describes the price component of health care cost increases for the overall health sector.

D. AVERAGE MEDICARE EXPENDITURES PER BENEFICIARY

Table V.D1 shows historical average per beneficiary expenditures for HI and SMI, as well as projected costs for calendar years 2018 through 2027 under the intermediate assumptions. Starting with the 2014 report, this section presents per beneficiary expenditures based on when the service is performed rather than when payment for the service is made.

For both HI and SMI Part B, costs increased very rapidly in the early years, in part because the availability of Medicare coverage enabled many beneficiaries to obtain the full range of health services they needed. The rapid inflation of the 1970s and early 1980s also contributed to rapid Medicare expenditure increases, and the cost-based reimbursement mechanisms in place provided relatively little incentive for efficiency in the provision of health care. Growth in average HI expenditures moderated dramatically following the introduction of the inpatient hospital prospective payment system in fiscal year 1984, but it accelerated again in the late 1980s and early 1990s due to rapid growth in skilled nursing and home health expenditures. During this same period, SMI Part B average costs generally continued to increase at relatively fast rates but slowed somewhat in the early 1990s with the implementation of physician fee reform legislation.

Expenditure growth moderated again during the late 1990s due to the effects of further legislation and efforts to control fraud and abuse. In addition, historically low levels of general and medical inflation helped reduce Medicare payment updates. The growth rates rebounded from 2001 through 2005 and then moderated somewhat for the remainder of the decade.

For 2010 through 2015, HI and Part B of SMI experienced the lowest 5-year per beneficiary growth rates in the program's history. This slow growth, which continued in 2016 and 2017, was driven in part by legislated update reductions, low provider payment updates caused by the economic recession, and adjustments for documentation and coding that did not reflect changes in real case mix. In addition, increased enrollment resulting from eligibility of the baby boom generation has decreased the average age of Medicare beneficiaries, thereby reducing per beneficiary costs. The growth rates also reflect the impact of the sequestration process, which is required under current law and reduces Medicare expenditures by 2 percent per year beginning April 1, 2013. Finally, growth in the volume and intensity of the

services delivered has also been relatively low, highlighted by reductions in the number of hospital admissions over this period.

Although SMI Part D began in 2004, full prescription drug coverage did not start until 2006. Accordingly, this discussion includes only the per beneficiary expenditures for 2006 and later. The initial open enrollment period for Part D ran through May 15, 2006. Beneficiaries who enrolled at the beginning of the year tended to have higher costs than those who enrolled toward the end of the open enrollment period. Consequently, average per beneficiary costs in 2006 were relatively high, resulting in a growth rate for 2007 that was lower than normal. Growth rebounded in 2008 through 2011 but was negative in 2012 due to the patent expiration of certain high-cost drugs. The large growth in 2014 and 2015 was due to utilization of the new, expensive specialty drugs used to treat hepatitis C. Lower utilization of these drugs contributed to the drop in average spending in 2016. In 2017, larger rebates caused average per beneficiary costs to drop.

Table V.D1.—HI and SMI Average Incurred per Beneficiary Costs

Calendar year	Average per beneficiary costs				Average percent change[1]			
		SMI				SMI		
	HI	Part B	Part D	Total	HI	Part B	Part D	Total
Historical data:								
1970	$270	$115	—	$385	13.8%	13.8%	—	13.8%
1975	472	205	—	677	11.8	12.3	—	12.0
1980	929	423	—	1,352	14.5	15.6	—	14.8
1985	1,579	795	—	2,373	11.2	13.4	—	11.9
1990	1,979	1,355	—	3,334	4.6	11.3	—	7.0
1995	3,194	1,867	—	5,061	10.0	6.6	—	8.7
2000	3,383	2,496	—	5,879	1.2	6.0	—	3.0
2005	4,439	3,839	—	8,278	5.6	9.0	—	7.1
2010	5,194	4,907	$1,808	11,908	3.2	5.0	—	7.5
2011	5,275	5,038	1,858	12,171	1.6	2.7	2.8%	2.2
2012	5,194	5,174	1,839	12,207	−1.5	2.7	−1.0	0.3
2013	5,170	5,174	1,874	12,218	−0.5	0.0	1.9	0.1
2014	5,036	5,392	2,031	12,459	−2.6	4.2	8.4	2.0
2015	5,049	5,544	2,152	12,745	0.3	2.8	5.9	2.3
2016	5,111	5,678	2,155	12,944	1.2	2.4	0.2	1.6
2017	5,160	5,915	2,110	13,185	0.9	4.2	−2.1	1.9
Intermediate estimates:								
2018	5,230	6,226	2,120	13,576	1.4	5.3	0.5	3.0
2019	5,388	6,553	2,183	14,123	3.0	5.2	3.0	4.0
2020	5,564	6,862	2,313	14,739	3.3	4.7	6.0	4.4
2021	5,792	7,264	2,441	15,496	4.1	5.9	5.5	5.1
2022	6,058	7,667	2,573	16,297	4.6	5.6	5.4	5.2
2023	6,330	8,100	2,707	17,137	4.5	5.6	5.2	5.2
2024	6,604	8,596	2,851	18,050	4.3	6.1	5.3	5.3
2025	6,881	9,092	2,965	18,939	4.2	5.8	4.0	4.9
2026	7,157	9,500	3,127	19,784	4.0	4.5	5.4	4.5
2027	7,443	10,004	3,296	20,742	4.0	5.3	5.4	4.8

[1]Percent changes for 1970 represent the average annual increases from 1967 (the first full year of trust fund operations) through 1970. Similarly, percent changes shown for 1975, 1980, 1985, 1990, 1995, 2000, 2005, and 2010 represent the average annual increase over the 5-year period ending in the indicated year.

Per Beneficiary Cost

On average, annual increases in per beneficiary costs have been greater for SMI Part B than for HI during the previous four decades—by approximately 1.0 percent, 4.5 percent, 1.0 percent, and 2.6 percent per year in the 1970s, 1980s, 1990s, and 2000s, respectively. The HI increase remains lower than the SMI Part B increase over the next 10 years due to lower utilization of HI services.

Note that the rapid growth rates in the 1970s and 1980s are not expected to recur for either HI or SMI Part B due to more moderate inflation rates and the conversion of Medicare's remaining cost-based reimbursement mechanisms to prospective payment systems as part of the Balanced Budget Act of 1997. In addition, the reduction in Medicare price updates for most categories of providers that affected the growth rates over the last several years will continue to reduce growth rates throughout the projection period.

E. MEDICARE COST-SHARING AND PREMIUM AMOUNTS

HI beneficiaries who use covered services may be subject to deductible and coinsurance requirements. A beneficiary is responsible for an inpatient hospital deductible amount, which is deducted from the amount payable by the HI trust fund to the hospital, for inpatient hospital services furnished in a spell of illness. When a beneficiary receives such services for more than 60 days during a spell of illness, he or she is responsible for a coinsurance amount equal to one-fourth of the inpatient hospital deductible for each of days 61-90 in the hospital. After 90 days in a spell of illness, each individual has 60 lifetime reserve days of coverage, for which the coinsurance amount is equal to one-half of the inpatient hospital deductible. A beneficiary is responsible for a coinsurance amount equal to one-eighth of the inpatient hospital deductible for each of days 21-100 of skilled nursing facility services furnished during a spell of illness. No cost sharing is required for home health or hospice services.

Most persons aged 65 and older and many disabled individuals under age 65 are insured for HI benefits without payment of any premium. The Social Security Act provides that certain aged and disabled persons who are not insured may voluntarily enroll, subject to the payment of a monthly premium. In addition, since 1994, voluntary enrollees may qualify for a reduced premium if they have at least 30 quarters of covered employment.

Table V.E1 shows the historical levels of the HI deductible, coinsurance amounts, and premiums, as well as projected values for future years based on the intermediate set of assumptions used in estimating the operations of the trust funds. The values listed in the table for future years are estimates, and the actual amounts are likely to be somewhat different as experience emerges.

Table V.E1.—HI Cost-Sharing and Premium Amounts

Year	Inpatient hospital deductible[1]	Inpatient daily coinsurance[1]		SNF daily coinsurance[1]	Monthly premium	
		Days 61-90	Lifetime reserve days		Standard[2]	Reduced[1]
Historical data:						
1970	$52	$13	$26	$6.50	—	—
1975	92	23	46	11.50	$40	—
1980	180	45	90	22.50	78	—
1985	400	100	200	50.00	174	—
1990	592	148	296	74.00	175	—
1995	716	179	358	89.50	261	$183
2000	776	194	388	97.00	301	166
2005	912	228	456	114.00	375	206
2006	952	238	476	119.00	393	216
2007	992	248	496	124.00	410	226
2008	1,024	256	512	128.00	423	233
2009	1,068	267	534	133.50	443	244
2010	1,100	275	550	137.50	461	254
2011	1,132	283	566	141.50	450	248
2012	1,156	289	578	144.50	451	248
2013	1,184	296	592	148.00	441	243
2014	1,216	304	608	152.00	426	234
2015	1,260	315	630	157.50	407	224
2016	1,288	322	644	161.00	411	226
2017	1,316	329	658	164.50	413	227
2018	1,340	335	670	167.50	422	232
Intermediate estimates:						
2019	1,376	344	688	172.00	440	242
2020	1,424	356	712	178.00	455	250
2021	1,476	369	738	184.50	474	261
2022	1,528	382	764	191.00	496	273
2023	1,580	395	790	197.50	518	285
2024	1,632	408	816	204.00	541	298
2025	1,688	422	844	211.00	564	310
2026	1,744	436	872	218.00	587	323
2027	1,800	450	900	225.00	611	336

[1]Amounts shown are effective for calendar years.
[2]Amounts shown for 1970-1980 are for the 12-month periods ending June 30; amounts shown for 1985 and later are for calendar years.

The *Federal Register* notice[97] announcing the HI deductible and coinsurance amounts for 2018 included an estimate of the aggregate cost to HI beneficiaries for the changes in the deductible and coinsurance amounts from 2017 to 2018. At the time of the notice's publication, it was estimated that in 2018 there would be 7.23 million inpatient deductibles paid at $1,340 each, 1.77 million inpatient days subject to coinsurance at $335 per day (for hospital days 61 through 90), 0.87 million lifetime reserve days subject to coinsurance at $670 per day, and 38.0 million extended care days subject to coinsurance at $167.50 per day. Similarly, it was estimated that in 2017 there would be 7.16 million deductibles paid at $1,316 each, 1.75 million days subject to coinsurance at $329 per day (for hospital days 61 through 90), 0.86 million lifetime reserve days subject to coinsurance at $658 per day, and 37.2 million extended care days subject to coinsurance at $164.50 per day. The total increase in cost to

[97]See https://www.gpo.gov/fdsys/pkg/FR-2016-11-15/pdf/2016-27389.pdf.

beneficiaries was estimated to be $550 million due to (i) the increase in the inpatient deductible and coinsurance amounts and (ii) the increase in the number of deductibles and daily coinsurance amounts paid.

Table V.E2 displays the SMI cost-sharing and premium amounts for Parts B and D. The projected values for future years are based on the intermediate set of assumptions used in estimating the operations of the Part B and Part D accounts. As a result, these values are estimates, and the actual amounts are likely to be somewhat different as experience emerges. The premiums for 2010 and 2011 also reflect significant additional increases designed to offset the loss of revenues attributable to the hold-harmless provision, as described later in this appendix. Similarly, the 2017 premium was increased due to loss of revenues from the very low Social Security cost-of-living adjustment and the hold-harmless provision.

Table V.E2.—SMI Cost-Sharing and Premium Amounts

	Part B		Part D			
Calendar year	Standard monthly premium[1]	Annual deductible[2]	Base beneficiary premium	Deductible	Initial benefit limit	Catastrophic threshold
Historical data:						
1970	$4.00	$50	—	—	—	—
1975	6.70	60	—	—	—	—
1980	8.70	60	—	—	—	—
1985	15.50	75	—	—	—	—
1990	28.60	75	—	—	—	—
1995	46.10	100	—	—	—	—
2000	45.50	100	—	—	—	—
2005	78.20	110	—	—	—	—
2006	88.50	124	$32.20	$250	$2,250	$3,600
2007	93.50	131	27.35	265	2,400	3,850
2008	96.40	135	27.93	275	2,510	4,050
2009	96.40	135	30.36	295	2,700	4,350
2010	110.50	155	31.94	310	2,830	4,550
2011	115.40	162	32.34	310	2,840	4,550
2012	99.90	140	31.08	320	2,930	4,700
2013	104.90	147	31.17	325	2,970	4,750
2014	104.90	147	32.42	310	2,850	4,550
2015	104.90	147	33.13	320	2,960	4,700
2016	121.80	166	34.10	360	3,310	4,850
2017	134.00	183	35.63	400	3,700	4,950
2018	134.00	183	35.02	405	3,750	5,000
Intermediate estimates:						
2019	135.50	185	35.52	415[3]	3,820[3]	5,100[3]
2020	141.10	193	38.13	435	4,020	6,350
2021	148.50	204	40.16	460	4,260	6,750
2022	154.50	215	42.35	490	4,530	7,150
2023	163.30	227	44.55	520	4,810	7,600
2024	173.20	241	46.90	550	5,090	8,050
2025	182.50	254	48.79	580	5,390	8,500
2026	191.00	266	51.43	610	5,660	8,950
2027	202.70	282	54.23	645	5,960	9,450

[1]Amounts shown for 1970-1980 are for the 12-month periods ending June 30; amounts shown for 1985 and later are for calendar years.

[2]Prior to the Medicare Modernization Act, the Part B deductible was fixed by statute and had only occasionally been adjusted. The Medicare Modernization Act raised the deductible to $110 in 2005 and specified that it be indexed by average per beneficiary Part B expenditures thereafter.
[3]These amounts have already been determined.

The Part B monthly premiums displayed in table V.E2 are the standard premium rates paid by most Part B enrollees. However, there are three provisions that alter the premium rate for certain Part B enrollees. First, there is a premium surcharge for those beneficiaries who enroll after their initial enrollment period.

Second, beginning in 2007, there is a higher income-related premium for those individuals whose modified adjusted gross income exceeds a specified threshold. Table V.E3 displays these Part B income-related premium amounts for 2007 through 2027, based on the intermediate set of assumptions. In 2017, approximately 3.5 million beneficiaries paid a Part B income-related premium.

Table V.E3.—Part B Income-Related Monthly Premium Amounts[1]

	Ultimate percentage of program costs represented by premium[2]				
Calendar year	35%	50%	65%	80%	85%
Historical data:					
2007	$105.80	$124.40	$142.90	$161.40	—
2008	122.20	160.90	199.70	238.40	—
2009	134.90	192.70	250.50	308.30	—
2010	154.70	221.00	287.30	353.60	—
2011	161.50	230.70	299.90	369.10	—
2012	139.90	199.80	259.70	319.70	—
2013	146.90	209.80	272.70	335.70	—
2014	146.90	209.80	272.70	335.70	—
2015	146.90	209.80	272.70	335.70	—
2016	170.50	243.60	316.70	389.80	—
2017	187.50	267.90	348.30	428.60	—
2018	187.50	267.90	348.30	428.60	—
Intermediate estimates:					
2019	189.70	271.00	352.30	433.60	$460.70
2020	197.50	282.20	366.90	451.50	479.70
2021	207.90	296.90	386.00	475.00	504.80
2022	216.20	308.90	401.60	494.20	525.10
2023	228.60	326.60	424.60	522.60	555.20
2024	242.40	346.30	450.20	554.10	588.70
2025	255.50	365.00	474.50	584.00	620.50
2026	267.30	381.90	496.50	611.00	649.20
2027	283.80	405.40	527.00	648.60	689.20

[1]Includes the impact of the 3-year transition in 2007 and 2008.
[2]The Bipartisan Budget Act of 2018 created an additional premium level for 2019 and later.

In 2018 the initial threshold is $85,000 for an individual tax return and $170,000 for a joint return. The thresholds are not indexed to inflation in the years 2011 through 2019 but are indexed thereafter. Individuals exceeding the threshold will pay premiums covering 35, 50, 65, 80, or, beginning in 2019, 85 percent of the average program cost for aged beneficiaries, depending on their income level, compared to the standard premium covering 25 percent. Effective in 2018, MACRA lowered certain income thresholds used for determining the income-

related monthly adjustment amounts to be paid by beneficiaries, resulting in a greater number of beneficiaries paying the higher amounts. In addition, beginning in 2020, the legislation adjusted the methodology used to index the thresholds, and accordingly more beneficiaries will be subject to the income-related premiums. The Bipartisan Budget Act of 2018 (BBA 2018) established an additional premium level beginning in 2019 for individuals with incomes at or above $500,000 (and couples with incomes at or above $750,000), and they will pay a premium covering 85 percent of the average program cost. These new thresholds will not be indexed until 2028 and later.

Third, Part B premiums may also vary from the standard rate because a hold-harmless provision can lower the premium rate for individuals who have their premiums deducted from their Social Security benefits. On an individual basis, this provision limits the dollar increase in the Part B premium to the dollar increase in the individual's Social Security benefit. As a result, the person affected pays a lower Part B premium, and the net amount of the individual's Social Security benefit does not decrease despite the greater increase in the premium.

Most services under Part B are subject to an annual deductible and coinsurance. The annual deductible was set by statute through 2005. Thereafter, it increases with the increase in the Part B aged actuarial rate to approximate the growth in per capita Part B expenditures.[98] After meeting the deductible, the beneficiary pays an amount equal to the product of the coinsurance percentage and the remaining allowed charges. The coinsurance percentage is 20 percent for most services. For those services not subject to the deductible or coinsurance (clinical laboratory tests, home health agency services, and most preventive care services), the beneficiary pays nothing.

The Part D average premiums displayed in table V.E2 are the estimated base beneficiary premiums. Starting in 2009, the national average plan bid is based on the enrollment-weighted average. The actual premium that a beneficiary pays varies according to the plan in which the beneficiary enrolls. The average paid premium has always been lower than the base beneficiary premium; the average paid premium was about $34.61 in 2017 and decreased somewhat to $33.65 in 2018 primarily due to a significant increase in projected drug

[98]The current mechanism to index the Part B deductible has technical computational issues mainly due to the timing of the calculation. The Part B deductible for any given year is indexed by the increase in the monthly aged actuarial rate for that same year, which represents estimated monthly per capita expenditures. However, these expenditures are dependent on the Part B deductible, which is not known until the actuarial rate is determined. The result is circularity in the modeling process.

rebates in the 2018 plan bids. Since beneficiaries may switch plans each year once the premium rates become known, the Trustees assume that the estimated average premium rate paid by beneficiaries will continue to be slightly less than the base beneficiary premium in future years.

Similar to Part B, there are two provisions that affect the premium rate for certain Part D beneficiaries. First, there is a Part D late enrollment penalty for those beneficiaries enrolling after their initial enrollment period. Second, starting in 2011, individuals whose modified adjusted gross income exceeds the same thresholds applicable to the Part B premium pay an income-related premium in addition to the premium charged by the plan in which the individual enrolled. The amount of the income-related premium adjustment is dependent on the individual's income level, and the extra premium amount is the difference between 35, 50, 65, 80, or 85 percent and 25.5 percent, applied to the National Average Monthly Bid Amount adjusted for reinsurance. In addition, the changes to the income ranges and threshold methodology that are required by MACRA and BBA 2018 and that were previously described for Part B also apply to Part D. Table V.E4 displays the historical and projected Part D income-related premium adjustment amounts for 2011 through 2027, based on the intermediate set of assumptions. In 2017, approximately 2.5 million beneficiaries paid a Part D income-related premium.

Table V.E4.—Part D Income-Related Monthly Premium Adjustment Amounts

	Percentage of program costs represented by premium[1]				
Calendar year	35%	50%	65%	80%	85%
Historical data:					
2011	$12.00	$31.10	$50.10	$69.10	—
2012	11.60	29.90	48.10	66.40	—
2013	11.60	29.90	48.30	66.60	—
2014	12.10	31.10	50.20	69.30	—
2015	12.30	31.80	51.30	70.80	—
2016	12.70	32.80	52.80	72.90	—
2017	13.30	34.20	55.20	76.20	—
2018	13.00	33.60	54.20	74.80	—
Intermediate estimates:					
2019	13.20	34.10	55.00	75.90	$82.90
2020	14.20	36.60	59.10	81.50	89.00
2021	15.00	38.60	62.20	85.80	93.70
2022	15.80	40.70	65.60	90.50	98.80
2023	16.60	42.80	69.00	95.20	104.00
2024	17.50	45.10	72.60	100.20	109.40
2025	18.20	46.90	75.60	104.30	113.80
2026	19.20	49.40	79.70	109.90	120.00
2027	20.20	52.10	84.00	115.90	126.50

[1]The Bipartisan Budget Act of 2018 created an additional premium level for 2019 and later.

In addition, there are Part D premium and cost-sharing subsidies for those beneficiaries with incomes less than 150 percent of the Federal poverty level and with assets in 2018 less than $14,100 for an

individual and $28,150 for a couple. The asset thresholds are indexed in subsequent years by the Consumer Price Index (CPI-U). Under the current statutory adjustment formula, the asset figures for 2018 increase for both an individual and a couple as a result of increases in the CPI-U.

Under standard Part D coverage, there is an initial deductible. After meeting the deductible, the beneficiary pays 25 percent of the remaining costs up to the initial benefit limit. Beyond this limit, prior to 2011, the beneficiary paid all the drug costs until his or her total out-of-pocket expenditures reached the catastrophic threshold. (This total includes the deductible and coinsurance payments for expenses up to the initial benefit limit.) The ACA requires the coverage gap to be gradually closed beginning in 2011 until 2020, and BBA 2018 requires the coverage gap for brand-name drugs to close 1 year earlier, in 2019. Starting in 2020, for all drugs, beneficiaries will pay 25 percent of the costs between the deductible and the catastrophic threshold under the standard coverage. In 2018, after reaching the catastrophic threshold, the beneficiary pays the greater of (i) 5 percent of the drug cost or (ii) $3.35 for generic or preferred multiple-source drugs or $8.35 for preferred single-source drugs. The latter copayment amounts from 2018 are indexed annually by per enrollee Part D average costs. Beneficiaries qualifying for the Part D low-income subsidy pay substantially reduced premium and cost-sharing amounts. Many Part D plans offer alternative coverage that differs from the standard coverage described above. The majority of beneficiaries have not enrolled in the standard benefit design but rather in plans with low or no deductibles, flat copayments for covered drugs, and, in some cases, partial coverage in the coverage gap.

F. MEDICARE AND SOCIAL SECURITY TRUST FUNDS AND THE FEDERAL BUDGET

One can view the financial operations of Medicare and Social Security in the context of the programs' trust funds or in the context of the overall Federal budget. The financial status of the trust funds differs fundamentally from the impact of these programs on the budget, and people often misunderstand the relationship between these two perspectives. Each perspective is appropriate and important for its intended purpose; this appendix attempts to clarify their roles and relationship.

By law, the annual reports of the Medicare and Social Security Boards of Trustees to Congress include a statement of the financial status of the programs' trust funds—that is, whether these funds have sufficient revenues and assets to enable the payment of benefits and administrative expenses. This trust fund perspective is important because the existence of trust fund assets provides the statutory authority to make such payments without the need for an appropriation from Congress. Medicare and Social Security benefits can be paid only if the relevant trust fund has sufficient income or assets.

The trust fund perspective does not encompass the interrelationship between the Medicare and Social Security trust funds and the overall Federal budget. The budget is a comprehensive display of all Federal activities, whether financed through trust funds or from the general fund of the Treasury. This broader focus may appropriately be termed the budget perspective or government-wide perspective and is officially presented in the *Budget of the United States Government* and in the *Financial Report of the United States Government*.

Payroll taxes, income taxes on Social Security benefits, Medicare premiums, and special State payments to Medicare finance the majority of Medicare and Social Security costs. In addition to these earmarked receipts from workers, employers, beneficiaries, and States, and interest payments on their accumulated assets, the trust funds (principally the SMI trust fund) rely on Federal general fund revenues for some of their financing. The financial status of a trust fund appropriately considers all sources of financing provided for that fund, including the availability of trust fund assets that Medicare or Social Security can use to meet program expenditures. From a budget perspective, however, general fund transfers represent a draw on other Federal resources for which there is no earmarked source of revenue from the public. For this appendix, interest payments to the trust funds

and asset redemptions, both of which occur due to the postponed use of earmarked revenues, are classified as draws on other Federal resources, since they require payments from the Treasury general fund. The budget perspective does not reflect that publicly held debt and interest payments to the public are both lower because the trust funds hold some of the debt.

In the past, general fund and interest payments for Medicare and Social Security were relatively small. These amounts have increased substantially over the last two decades, however, and the expected future growth of Medicare and Social Security will make their interaction with the Federal budget increasingly important. As the difference between earmarked and total trust fund revenues grows, the financial operations of Social Security and Medicare can appear markedly different depending on which of the two perspectives one uses.[99]

Illustration with Actual Data for 2017

Table V.F1 illustrates the trust fund and budget perspectives using actual data on Federal financial operations for fiscal year (FY) 2017. The first three columns show revenues and expenditures for HI, SMI, and OASDI, respectively, and the fourth column is the sum of these three columns. The fifth column shows total revenues and expenditures for all other government programs (including the general fund account of the Treasury), and the final column is the sum of the "Combined" and "Other Government" columns. The table shows earmarked revenues from the public separately from revenues from other government accounts (general revenue transfers and interest credits). Note that the transfers and interest credits received by the trust funds appear in total as negative entries under the "Other Government" column and are thus offsetting when summed for the total budget in the final column. These two intragovernmental transactions are key to the differences between the two perspectives.

[99]A more complete treatment of this topic appears in the *2017 Financial Report of the United States Government* at www.fms.treas.gov/fr/ and in a May 2009 Treasury report titled "Social Security and Medicare Trust Funds and the Federal Budget" at http://www.treasury.gov/resource-center/economic-policy/ss-medicare/Documents/budget_trust_fund_perspectives_2009.pdf. Additional information is available in a *Health Care Financing Review* article titled "Medicare Financial Status, Budget Impact, and Sustainability: Which Concept Is Which?" at http://www.cms.gov/Research-Statistics-Data-and-Systems/Research/HealthCareFinancingReview/Downloads/05-06Winpg127.pdf and in a *Social Security Bulletin* article titled "Social Security Trust Fund Cash Flows and Reserves" at https://www.ssa.gov/policy/docs/ssb/v75n1/v75n1p1.html.

Table V.F1.—Annual Revenues and Expenditures for Medicare and Social Security Trust Funds and the Total Federal Budget, Fiscal Year 2017

(In billions)

Revenue and expenditures categories	Trust funds				Other government	Total[1]
	HI	SMI	OASDI	Combined		
Revenues from public:						
Payroll and benefit taxes	$283.9	—	$905.4	$1,189.3	—	$1,189.3
Premiums[2]	5.1	$95.3	—	100.3	—	100.3
Other taxes, fees, and payments[3]	—	15.2	—	15.2	$2,011.3	2,026.5
Total	289.0	110.5	905.4	1,304.9	2,011.3	3,316.2
Total expenditures to public[4]	293.3	414.1	944.7	1,652.1	2,329.4	3,981.6
Net Results for Budget Perspective	**−4.3**	**−303.6**	**−39.3**	**−347.3**	**−318.1**	**−665.4**
Revenues from other government accounts:						
Transfers	2.1	309.6	0.0	311.8	−311.8	—
Interest credits	7.4	2.3	86.5	96.3	−96.3	—
Total	9.5	312.0	86.5	408.0	−408.0	—
Net Results for Trust Fund Perspective	**5.3**	**8.3**	**47.2**	**60.8**	**n/a**	**n/a**

[1]This column is the sum of the preceding two columns and shows data for the total Federal budget. The figure $665.4 billion was the estimated total Federal budget deficit for fiscal year 2017.
[2]Includes Part D premiums paid directly to plans, which are not displayed on Treasury statements and are estimated.
[3]Includes Part D State transfers.
[4]The OASDI figure includes $4.5 billion transferred to the Railroad Retirement Board.

Notes: 1. For comparison, HI taxable payroll, OASDI taxable payroll, and GDP were $8,670 billion, $6,956 billion, and $19,385 billion, respectively, in 2017.
2. Totals do not necessarily equal the sums of rounded components.
3. n/a indicates not applicable.

The trust fund perspective reflects both categories of revenues for each trust fund. For HI, revenues from the public plus transfers/credits from other government accounts were $5.3 billion more than total expenditures in FY 2017, as shown at the bottom of the first column.[100] For the SMI trust fund, the statutory revenues from beneficiary premiums, State transfers, general revenue transfers, and interest earnings collectively were $8.3 billion more than expenditures in FY 2017. Note that it is appropriate to view the general revenue transfers from other government accounts as financial resources from the trust fund perspective since they are available to help meet trust fund outlays. For OASDI, total trust fund revenues from all sources (including $86.5 billion in interest payments and $0.0 billion in general fund reimbursements) exceeded total expenditures by $47.2 billion.

From the government-wide or budget perspective, only earmarked revenues received from the public—principally taxes on payroll and

[100]The Department of the Treasury invests surplus revenues from the public over expenditures to the public in special Treasury securities, which thereby represent a loan from the trust funds to the general fund of the Federal Government. These loans reduce the amount that the general fund has to borrow from the public to finance a deficit (or likewise increase the amount of debt paid off if there is a surplus). Interest is credited to the trust funds while the securities are being held. Trust fund securities can be redeemed at any time if needed to help meet program expenditures.

benefits, plus premiums—and expenditures made to the public are important for the final balance.[101] For HI, the difference between such revenues ($289.0 billion) and total expenditures made to the public ($293.3 billion) was $4.3 billion in FY 2017, indicating that HI had a negative effect on the overall budget in FY 2017. For SMI, beneficiary premiums, fees on brand-name prescription drugs to Part B, and State payments to Part D of Medicare were the only sources of revenues from the public in FY 2017 and represented only about 27 percent of total expenditures. The remaining $303.6 billion in FY 2017 outlays represented a substantial net draw on the Federal budget in that year.[102] For OASDI, the difference between revenues from the public ($905.4 billion) and total expenditures ($944.7 billion) was $39.3 billion, indicating that OASDI also had a negative effect on the overall budget last year if the effects of past trust fund cash flows on interest payments from the Federal Government to the public are not taken into account.

Thus, from the trust fund perspective, HI, SMI, and OASDI had annual surpluses in FY 2017. From the budget perspective, HI, SMI, and OASDI each required a net draw on the budget. HI, SMI, and OASDI collectively had a trust fund surplus of $60.8 billion in FY 2017 but a net draw of $347.3 billion on the budget.

It is important to recognize that each viewpoint is appropriate for its intended purpose but that one perspective cannot be used to answer questions related to the other. In the case of SMI, the trust fund will always be in balance and there will always be a net draw on the Federal budget. In the case of HI, trust fund surpluses in a given year may occur with either a positive or negative direct impact on the budget for that year. Conversely, a positive or negative budget impact from HI offers minimal insight into whether its trust fund has sufficient total revenues and assets to permit payment of benefits.

The next section illustrates the magnitude of the long-range difference between projected expenditures and revenues for Medicare and Social Security from both the trust fund and budget perspectives.

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[101]For this purpose, the public includes State governments since they are outside of the Federal Government.

[102]Three types of trust fund transactions constituted this net budget obligation: $309.6 billion was drawn in the form of general revenue transfers, and another $2.3 billion in interest payments, while $8.3 billion was transferred from the trust fund to the general fund through the purchase of special-issue Treasury securities in an amount equal to the trust fund surplus for the year.

Future Obligations of the Trust Funds and the Budget

Table V.F2 collects from the Medicare and OASDI Trustees Reports the present values of projected future revenues and expenditures over the next 75 years. For HI and OASDI, tax revenues from the public are projected to fall short of statutory expenditures by $4.7 trillion and $16.1 trillion, respectively, in present value terms.[103]

Table V.F2.—Present Values of Projected Revenue and Cost Components of 75-Year Open-Group Obligations for HI, SMI, and OASDI
(In trillions, as of January 1, 2018)

Revenue and expenditure categories	HI	SMI	OASDI	Combined
Revenues from public:				
Payroll and benefit taxes	$22.5	—	$65.1	$87.6
Premiums	0.3	$11.2	—	11.5
Other taxes and fees[1]	—	1.4	—	1.4
Total	22.8	12.6	65.1	100.5
Total expenditures to public	27.5	45.6	81.1	154.2
Net Results for Budget Perspective	**−4.7**	**−33.0**	**−16.1**	**−53.7**
Revenues from other government accounts:				
Transfers	0.0	32.9	0.0	32.9
Interest credits	n/a	n/a	n/a	n/a
Total	0.0	32.9	0.0	32.9
Trust fund assets on January 1, 2018	0.2	0.1	2.9	3.2
Net Results for Trust Fund Perspective	**−4.5**	**0.1**	**−13.2**	**−17.6**

[1]Includes Part B revenues from fees on manufacturers and importers of brand-name prescription drugs and Part D State transfers.

Notes: 1. For comparison, the present values of HI taxable payroll, OASDI taxable payroll, and GDP are $582.3 trillion, $491.1 trillion, and $1,297.9 trillion, respectively, over the next 75 years. This present value of GDP is calculated using HI-specific interest discount factors and differs slightly from the corresponding amount shown in the OASDI Trustees Report.
2. Medicare present values are calculated using HI-specific discount factors, while OASDI amounts use OASDI-specific discount factors.
3. Totals do not necessarily equal the sums of rounded components.
4. n/a indicates not applicable.
5. 0.0 indicates an amount of less than $50 billion.

From the budget perspective, these are the additional amounts that would be necessary in order to pay HI and OASDI benefits and other costs at the level scheduled over the next 75 years. From the trust fund perspective, the amounts needed are smaller by the value of the accumulated assets in the respective trust funds—$0.2 trillion for HI and $2.9 trillion for OASDI—that could be drawn down to cover a part of the projected shortfall in tax revenues. Three points about this comparison in table V.F2 are important to note:

- The trust fund and budget perspectives differ in the treatment of the starting trust fund assets. Those accumulated reserves are

[103]Interest income is not a factor in this table, as dollar amounts are in present value terms.

credited to the trust fund programs under the trust fund perspective but are not under the budget perspective.

- The amounts shown in table V.F2 assume payment of full scheduled benefits, which is not permissible under current law after trust fund depletion. For both the budget and trust fund perspectives, the 75-year HI and OASDI deficits reflect the financial imbalance after trust fund depletion. By law, however, once assets are depleted, expenditures cannot be made except to the extent covered by ongoing tax receipts and other trust fund income.

- In practice, the long-range HI and OASDI deficits would likely be addressed by future legislation to reduce expenditures, increase payroll or other earmarked tax revenues, or some combination of such measures. For Medicare, in particular, lawmakers have frequently enacted legislation to slow the growth of expenditures.

The situation for SMI is somewhat different. SMI expenditures for Part B and Part D are projected to exceed premium and other dedicated revenues by $33.0 trillion. To keep the SMI trust fund solvent for the next 75 years will require general fund transfers of this amount, and these transfers represent a formal budget requirement. From the trust fund perspective, the present value of projected total premiums and general revenues is about equal to the present value of future expenditures.

From the 75-year budget perspective, the present value of the additional resources that would be necessary to meet projected expenditures, for the three programs combined, is $53.7 trillion.[104] To put this very large figure in perspective, it would represent 4.1 percent of the present value of projected GDP over the same period ($1,298 trillion). The components of the $53.7-trillion total are as follows:

[104]As noted previously, the long-range HI and OASDI financial imbalances could instead be partially addressed by expenditure reductions, thereby reducing the need for additional revenues. Similarly, SMI expenditure reductions would reduce the need for general fund transfers.

Unfunded Medicare and OASDI obligations (trust fund perspective)[105]	$17.6 trillion	(1.4% of GDP)
HI, SMI, and OASDI asset redemptions	3.2 trillion	(0.2% of GDP)
SMI general revenue financing	32.9 trillion	(2.5% of GDP)

These resource needs would be in addition to the payroll taxes, benefit taxes, and premium payments. As noted, the asset redemptions and SMI general revenue transfers represent formal budget commitments, but no provision exists for covering the HI and OASDI trust fund deficits once assets are depleted.

As discussed throughout this report, the Medicare projections shown here could be substantially understated as a result of other potentially unsustainable elements of current law. Although this issue does not affect the nature of the budget and trust fund perspectives described in this appendix, it is important to note that actual long-range present values for HI expenditures and SMI expenditures and revenues could exceed the amounts shown in table V.F2 by a substantial margin.

[105]Additional revenues and/or expenditure reductions totaling $17.7 trillion, together with $3.1 trillion in asset redemptions, would cover the projected financial imbalance but would leave the HI and OASDI trust funds depleted at the end of the 75-year period. The long-range actuarial deficits for HI and OASDI include a cost factor to allow for a normal level of fund assets. See section III.B3 in this report, and section IV.B4 in the OASDI Trustees Report, for the numerical relationship between the actuarial deficit and the unfunded obligations of each program.

G. INFINITE HORIZON PROJECTIONS

Consistent with the practice of previous reports, this report focuses on the 75-year period from 2018 to 2092 for the evaluation of the long-range financial status of the Medicare program. The estimates are for the open-group population—all persons, some of whom are not yet born, who will participate during the period as either taxpayers or beneficiaries, or both—and consist of payments from, and on behalf of, employees now in the workforce, as well as those who will enter the workforce over the next 75 years.

Experts have noted that limiting the projections to 75 years understates the magnitude of the long-range unfunded obligations because summary measures (such as the actuarial balance and open-group unfunded obligations) reflect the full amount of taxes paid by the next two or three generations of workers, but not the full amount of their benefits. One approach to addressing the limitations of 75-year summary measures is to extend the projection horizon indefinitely, so that the overall results reflect the projected costs and revenues after the first 75 years.[106] Such extended projections can also help indicate whether the financial imbalance would be improving or continuing to worsen beyond the normal 75-year period.

Table V.G1 presents estimates of HI unfunded obligations that extend to the infinite horizon. The extension assumes that the HI program and the demographic and economic trends used for the 75-year projection continue indefinitely except that average HI expenditures per beneficiary increase at the same rate as GDP per capita less the productivity adjustments after 2092. If the slower HI price updates under the ACA were able to continue indefinitely, then the HI financial imbalance would actually improve beyond the 75-year period. Specifically, under these assumptions, extending the calculations beyond 2092 *subtracts* $6.7 trillion in unfunded obligations from the amount estimated through 2092. Over the infinite horizon, the HI program thus has a projected surplus of $2.16 trillion.

[106]The calculation of present values, in effect, applies successively less weight to future amounts over time, through the process of interest discounting. For example, the weights associated with the 25th, 75th, and 200th years of the projection would be about 33.5 percent, 2.5 percent, and 0.00399 percent, respectively, of the weight for the first year. In this way, it is possible to calculate a finite summary measure for an infinite projection period.

Table V.G1.—Unfunded HI Obligations from Program Inception through the Infinite Horizon

[Present values as of January 1, 2018; dollar amounts in trillions]

	Present value	As a percentage of: HI taxable payroll	GDP
Unfunded obligations through the infinite horizon[1]	−$2.16	−0.2%	−0.1%
Unfunded obligations from program inception through 2092[1]	4.51	0.8	0.3

[1]Present value of future expenditures less income, reduced by the amount of trust fund assets at the beginning of the period.

Notes: 1. The present values of future HI taxable payroll for 2018-2092 and for 2018 through the infinite horizon are $582.3 trillion and $1,050.3 trillion, respectively.
2. The present values of GDP for 2018-2092 and for 2018 through the infinite horizon are $1,297.9 trillion and $2,492.3 trillion, respectively. (These present values differ slightly from the corresponding amounts shown in the OASDI Trustees Report due to the use of HI-specific interest discount factors.)

It is possible to separate the projected HI unfunded obligation over the infinite horizon into the portions associated with current participants versus future participants. The first line of table V.G2 shows the present value of future expenditures less future taxes for current participants, including both beneficiaries and covered workers. Subtracting the current value of the HI trust fund (the accumulated value of past HI taxes less outlays) results in a closed-group unfunded obligation of $11.6 trillion. In contrast, the projected difference between taxes and expenditures for future participants is a surplus of $13.7 trillion.

The year-by-year HI deficits described in section III.B have shown that HI taxes will not be adequate to finance the program on a pay-as-you-go basis (whereby payroll taxes from today's workers provide benefits to today's beneficiaries).[107] The unfunded obligations shown in table V.G2 for current participants further indicate that their HI taxes are not adequate to cover their own future costs when they become eligible for HI benefits—and that this situation has also occurred for workers in the past. For future workers, however, the compounding effects of the lower HI price updates would, if they were able to continue indefinitely, lower costs to the point that scheduled HI taxes would be more than sufficient. In practice, lawmakers could address the projected aggregate HI deficits by raising additional revenue or reducing benefits (or some combination of these actions). The impact of such changes on the unfunded obligation amounts for current versus future participants would depend on the specific policies selected.

[107]As noted previously, the HI trust fund also receives small amounts of income in the form of income taxes on OASDI benefits, interest, and general revenue reimbursements for certain uninsured beneficiaries.

Table V.G2.—Unfunded HI Obligations for Current and Future Program Participants through the Infinite Horizon

[Present values as of January 1, 2018; dollar amounts in trillions]

	Present value	As a percentage of: HI taxable payroll	GDP
Future expenditures less income for current participants	$11.8	1.1%	0.5%
Less current trust fund (income minus expenditures to date for past and current participants)	0.2	0.0	0.0
Equals unfunded obligations for past and current participants[1]	11.6	1.1	0.5
Plus expenditures less income for future participants for the infinite horizon	−13.7	−1.3	−0.6
Equals unfunded obligations for all participants for the infinite future	−2.2	−0.2	−0.1

[1]This concept is also referred to as the closed-group unfunded obligation.

Notes: 1. The estimated present value of future HI taxable payroll for 2018 through the infinite horizon is $1,050.3 trillion.
2. The estimated present value of GDP for 2018 through the infinite horizon is $2,492.3 trillion. See note 2 in table V.G1.
3. Totals do not necessarily equal the sums of rounded components.

Tables V.G3 and V.G4 show the infinite horizon estimates for Part B. The extension assumes that the demographic and economic trends used for the 75-year projection continue indefinitely and that the productivity adjustments to payment updates for some providers remain unchanged. To simplify and stabilize the modeling for the infinite horizon, the Trustees project that average Part B expenditures per beneficiary will increase at about the same rate as GDP per capita minus 0.3 percentage point in every year, reflecting the mix of costs by provider category after 2092 and the payment rate updates applicable to each category.

Table V.G3 shows an estimated present value of Part B expenditures through the infinite horizon of $63.8 trillion, of which $34.5 trillion would occur during the first 75 years. Because such amounts, calculated over extremely long horizons, can be difficult to interpret, they are also shown as percentages of the present value of future GDP. So expressed, the corresponding figures are 2.6 percent and 2.7 percent, respectively. The table also indicates that beneficiary premiums will finance approximately 27 percent of expenditures for each time period and that fees related to brand-name prescription drugs will finance about 0.1 percent. General revenues pay for the remaining 73 percent.

Table V.G3.—Unfunded Part B Obligations from Program Inception through the Infinite Horizon

[Present values as of January 1, 2018; dollar amounts in trillions]

	Present value	As a percentage of GDP
Unfunded obligations through the infinite horizon[1]	$0.0	0.0%
Expenditures	63.8	2.6
Income	63.8	2.6
Beneficiary premiums	17.3	0.7
General revenue contributions	46.4	1.9
Fees related to brand-name prescription drugs	0.1	0.0
Unfunded obligations from program inception through 2092[1]	0.0	0.0
Expenditures	34.5	2.7
Income	34.5	2.7
Beneficiary premiums	9.3	0.7
General revenue contributions	25.1	1.9
Fees related to brand-name prescription drugs	0.1	0.0

[1]Present value of future expenditures less income, reduced by the amount of trust fund assets at the beginning of the period.

Notes: 1. The present values of GDP for 2018-2092 and for 2018 through the infinite horizon are $1,297.9 trillion and $2,492.3 trillion, respectively. See note 2 of table V.G1.
2. Totals do not necessarily equal the sums of rounded components.

Table V.G4 shows corresponding present values separately for current versus future beneficiaries. As indicated, about 46 percent of the projected total, infinite-horizon cost is attributable to current beneficiaries, with the remaining 54 percent attributable to beneficiaries becoming eligible for Part B benefits after January 1, 2018.

Table V.G4.—Unfunded Part B Obligations for Current and Future Program Participants through the Infinite Horizon

[Present values as of January 1, 2018; dollar amounts in trillions]

	Present value	As a percentage of GDP
Future expenditures less income for current participants	$0.1	0.0%
Expenditures	29.0	1.2
Income	28.9	1.2
Beneficiary premiums	7.8	0.3
General revenue contributions	21.0	0.8
Fees related to brand-name prescription drugs	0.0	0.0
Less current trust fund (Income minus expenditures to date for past and current participants)	0.1	0.0
Equals unfunded obligations for past and current participants[1]	0.1	0.0
Expenditures	28.9	1.2
Income	28.8	1.2
Beneficiary premiums	7.8	0.3
General revenue contributions	20.9	0.8
Fees related to brand-name prescription drugs	0.0	0.0
Plus expenditures less income for future participants for the infinite horizon	−0.1	0.0
Expenditures	34.7	1.4
Income	34.9	1.4
Beneficiary premiums	9.5	0.4
General revenue contributions	25.4	1.0
Fees related to brand-name prescription drugs	0.0	0.0
Equals unfunded obligations for all participants for the infinite future	−0.1	0.0
Expenditures	63.7	2.6
Income	63.7	2.6
Beneficiary premiums	17.2	0.7
General revenue contributions	46.3	1.9
Fees related to brand-name prescription drugs	0.0	0.0

[1]This concept is also referred to as the closed-group unfunded obligation.

Notes: 1. The estimated present value of GDP for 2018 through the infinite horizon is $2,492.3 trillion. See note 2 of table V.G1.
2 Totals do not necessarily equal the sums of rounded components.

Tables V.G5 and V.G6 present revenue and expenditure estimates for Part D that extend to the infinite horizon. The extension assumes that the demographic and economic trends used for the 75-year projection continue indefinitely except that average Part D expenditures per beneficiary would increase at the same rate as GDP per capita after 2092.

Table V.G5 shows an estimated present value of Part D expenditures through the infinite horizon of $27.2 trillion, of which $11.1 trillion would occur during the first 75 years. To put the estimates in perspective, they are also shown as percentages of the present value of future GDP. Expressed in this way, the corresponding figures are 1.1 percent and 0.9 percent of GDP, respectively. The table also indicates that, for each time period, beneficiary premiums would finance approximately 17 percent of expenditures and State transfers would finance 12 percent, with general revenues paying for the remaining 71 percent.

Table V.G5.—Unfunded Part D Obligations from Program Inception through the Infinite Horizon

[Present values as of January 1, 2018; dollar amounts in trillions]

	Present value	As a percentage of GDP
Unfunded obligations through the infinite horizon[1]	$0.0	0.0%
Expenditures	27.2	1.1
Income	27.2	1.1
Beneficiary premiums	4.7	0.2
State transfers	3.2	0.1
General revenue contributions	19.3	0.8
Unfunded obligations from program inception through 2092[1]	0.0	0.0
Expenditures	11.1	0.9
Income	11.1	0.9
Beneficiary premiums	1.9	0.1
State transfers	1.3	0.1
General revenue contributions	7.9	0.6

[1]Present value of future expenditures less income, reduced by the amount of trust fund assets at the beginning of the period.

Notes: 1. The present values of GDP for 2018-2092 and for 2018 through the infinite horizon are $1,297.9 trillion and $2,492.3 trillion, respectively. See note 2 of table V.G1.
2 Totals do not necessarily equal the sums of rounded components.

Table V.G6 shows corresponding projections separately for current versus future beneficiaries. As indicated, about 30 percent of the projected total, infinite-horizon cost is attributable to current beneficiaries, with the remaining 70 percent attributable to beneficiaries becoming eligible for Part D benefits after January 1, 2018.

Table V.G6.—Unfunded Part D Obligations for Current and Future Program Participants through the Infinite Horizon

[Present values as of January 1, 2018; dollar amounts in trillions]

	Present value	As a percentage of GDP
Future expenditures less income for current participants	$0.0	0.0%
Expenditures	8.2	0.3
Income	8.2	0.3
Beneficiary premiums	1.4	0.1
State transfers	1.0	0.0
General revenue contributions	5.8	0.2
Less current trust fund (Income minus expenditures to date for past and current participants)	0.0	0.0
Equals unfunded obligations for past and current participants[1]	0.0	0.0
Expenditures	8.2	0.3
Income	8.2	0.3
Beneficiary premiums	1.4	0.1
State transfers	1.0	0.0
General revenue contributions	5.8	0.2
Plus expenditures less income for future participants for the infinite horizon	0.0	0.0
Expenditures	19.0	0.8
Income	19.0	0.8
Beneficiary premiums	3.3	0.1
State transfers	2.3	0.1
General revenue contributions	13.5	0.5
Equals unfunded obligations for all participants for the infinite future	0.0	0.0
Expenditures	27.2	1.1
Income	27.2	1.1
Beneficiary premiums	4.6	0.2
State transfers	3.2	0.1
General revenue contributions	19.3	0.8

[1]This concept is also referred to as the closed-group unfunded obligation.

Notes: 1. The estimated present value of GDP for 2018 through the infinite horizon is $2,492.3 trillion. See note 2 of table V.G1.
2. Totals do not necessarily equal the sums of rounded components.

H. FISCAL YEAR HISTORICAL DATA AND PROJECTIONS THROUGH 2027

Tables V.H1, V.H2, and V.H3 present detailed operations of the HI trust fund, along with Part B and Part D of the SMI trust fund, for fiscal year 2017. These tables are similar to the calendar-year operation tables displayed in sections III.B, III.C, and III.D.

Table V.H1.—Statement of Operations of the HI Trust Fund during Fiscal Year 2017
[In thousands]

Total assets of the trust fund, beginning of period	$192,367,029
Revenue:	
Payroll taxes	$259,739,869
Income from taxation of OASDI benefits	24,206,000
Interest on investments	7,423,535
Premiums collected from voluntary participants	3,491,903
Premiums collected from Medicare Advantage participants	388,932
ACA Medicare shared savings program receipts	1,127
Transfer from Railroad Retirement account	606,400
Reimbursement, transitional uninsured coverage	147,000
Interfund interest payments to OASDI[1]	−552
Interest on reimbursements, Railroad Retirement	30,983
Other	1,182
Reimbursement, union activity	1,228
Fraud and abuse control receipts:	
Criminal fines	12,046
Civil monetary penalties	46,447
Civil penalties and damages, Department of Justice	432,814
Asset forfeitures, Department of Justice	25,455
3% administrative expense reimbursement, Department of Justice	13,469
General fund appropriation fraud and abuse, FBI	131,335
General fund transfer, discretionary	165,821
General fund transfer, program management	1,659,122
Total revenue	$298,524,115
Expenditures:	
Net benefit payments	$290,278,629
Administrative expenses:	
Treasury administrative expenses	97,164
Salaries and expenses, SSA[2]	980,805
Salaries and expenses, CMS[3]	177,420
Salaries and expenses, Office of the Secretary, HHS	55,758
Medicare Payment Advisory Commission	7,155
CMS program management–Affordable Care Act	8,043
Transfer to Patient-Centered Outcomes Research Trust Fund[4]	53,925
ACL State Health Insurance Assistance Program[5]	41,884
MACRA[6]	13,545
Transfer to Administration for Children and Families	4,215
Fraud and abuse control expenses:	
HHS Medicare integrity program	584,987
HHS Office of Inspector General	272,506
Department of Justice	29,704
FBI	116,103
HCFAC Discretionary, CMS	376,029
HCFAC Other HHS Discretionary, CMS	37,519
HCFAC Department of Justice Discretionary, CMS	93,461
HCFAC Office of Inspector General Discretionary, CMS	36,255
Total administrative expenses	2,986,478
Total expenditures	$293,265,106
Net addition to the trust fund	5,259,009
Total assets of the trust fund, end of period	$197,626,038

[1]Reflects interest adjustments on the reallocation of administrative expenses among the Medicare trust funds, the OASDI trust funds, and the general fund of the Treasury. Estimated payments are made from the trust funds and then are reconciled, with interest, the next year when the actual costs are known. A positive figure represents a transfer to the HI trust fund from the other trust funds. A negative figure represents a transfer from the HI trust fund to the other funds.
[2]For facilities, goods, and services provided by SSA.
[3]Includes expenses of the Medicare Administrative Contractors. Also reflects a larger-than-usual downward adjustment of $1.8 billion for prior-year allocations among Part A, Part B, and Part D.
[4]Reflects amount transferred from the HI trust fund to the Patient-Centered Outcomes Research trust fund, as authorized by the Patient Protection and Affordable Care Act of 2010.
[5]Reflects amount transferred from the HI trust fund to the Administration for Community Living (ACL) for administration of the State Health Insurance Assistance Program, as authorized by the Consolidated Appropriations Act of 2014.
[6]Represents amounts transferred from the HI trust fund for administration of provisions of the Medicare Access and CHIP Reauthorization Act of 2015 (MACRA).

Note: Totals do not necessarily equal the sums of rounded components.

Table V.H2.—Statement of Operations of the Part B Account in the SMI Trust Fund during Fiscal Year 2017

[In thousands]

Total assets of the Part B account in the trust fund, beginning of period		$65,598,978
Revenue:		
Premiums from enrollees:		
Enrollees aged 65 and over	$67,357,454	
Disabled enrollees under age 65	12,325,533	
Total premiums		79,682,987
Premiums collected from Medicare Advantage participants		456,577
Government contributions:		
Enrollees aged 65 and over	179,498,711	
Disabled enrollees under age 65	37,804,019	
Repayable transfer from Treasury[1]	3,720,324	
Federal match of repayable transfer from Treasury[1]	11,995,381	
Repayment amount[1]	−612,612	
Adjustment for exempted amounts[1]	−1,854,554	
Health information technology (HIT) receipts	435,423	
Union activity	1,714	
Total government contributions		230,988,406
Other		6,893
Interest on investments		2,262,796
Interfund interest payments to OASDI[2]		−1,085
Annual fees–branded Rx manufacturers and importers		4,146,734
ACA Medicare shared savings program receipts		1,158
Total revenue		$317,544,465
Expenditures:		
Net Part B benefit payments		$304,059,621
Administrative expenses:		
Transfer to Medicaid[3]	652,493	
Treasury administrative expenses	483	
Salaries and expenses, CMS[4]	2,850,706	
Salaries and expenses, Office of the Secretary, HHS	55,758	
Salaries and expenses, SSA	1,247,226	
Medicare Payment Advisory Commission	4,770	
Railroad Retirement administrative expenses	26,100	
Railroad Retirement administrative expenses, OIG	1,330	
CMS program management–Affordable Care Act	15,712	
Transfer to Patient-Centered Outcomes Research trust fund[5]	77,268	
ACL State Health Insurance Assistance Program[6]	41,884	
MACRA[7]	13,695	
Transfer to the Administration for Children and Families[8]	4,215	
Total administrative expenses		4,991,640
Total expenditures		$309,051,261
Net addition to the trust fund		8,493,204
Total assets of the Part B account in the trust fund, end of period		$74,092,183

[1]The Bipartisan Budget Act of 2015 (BBA 2015) required a transfer of funds from the general fund to cover the premium income that was lost in 2016 as a result of the hold-harmless provision. BBA 2015 further requires that, starting in 2016, the Part B premium otherwise determined be increased by $3.00, which is to be collected and repaid to the general fund of the Treasury. The additional repayment premium amounts will continue until the balance due (defined as transfer to the Part B account from the general fund plus forgone income-related premiums) has been repaid. The additional repayment premium is not to be matched by general revenue contributions; however, since CMS is not able to separate it from the standard premium, the additional repayment premium is matched. An adjustment is therefore necessary to transfer this erroneous Federal matching amount back to the general fund.

[2]Reflects interest adjustments on the reallocation of administrative expenses among the Medicare trust funds, the OASDI trust funds, and the general fund of the Treasury. Estimated payments are made from the trust funds and then are reconciled, with interest, the next year when the actual costs are known. A positive figure represents a transfer to the Part B account of the SMI trust fund from the other trust funds. A negative figure represents a transfer from the Part B account in the SMI trust fund to the other funds.

[3]Represents amount transferred from the Part B account in the SMI trust fund to Medicaid to pay the Part B premium for certain qualified individuals, as legislated by the Balanced Budget Act of 1997.

[4]Includes expenses of the Medicare Administrative Contractors. Also reflects a larger-than-usual upward adjustment of $1.7 billion for prior-year allocations among Part A, Part B, and Part D.

[5]Reflects amount transferred from the Part B account of the SMI trust fund to the Patient-Centered Outcomes Research trust fund, as authorized by the Patient Protection and Affordable Care Act of 2010.

[6]Reflects amount transferred from the Part B account of the SMI trust fund to the Administration for Community Living (ACL) for administration of the State Health Insurance Assistance program, as authorized by the Consolidated Appropriations Act of 2014.

[7]Represents amounts transferred from the Part B account of the SMI trust fund for administration of provisions of the Medicare Access and CHIP Reauthorization Act of 2015 (MACRA).

[8]Reflects amount transferred from the Part B account of the SMI trust fund to the Administration for Children and Families as authorized by the Patient Protection and Affordable Care Act of 2010.

Note: Totals do not necessarily equal the sums of rounded components.

Table V.H3—Statement of Operations of the Part D Account in the SMI Trust Fund during Fiscal Year 2017

[In thousands]

Total assets of the Part D account in the trust fund, beginning of period		$588,055
Revenue:		
Premiums from enrollees		
Premiums deducted from Social Security benefits	$4,935,780	
Premiums paid directly to plans[1]	10,172,538	
Total premiums		15,108,318
Government contributions:		
Prescription drug benefits	78,790,959	
Prescription drug administrative expenses[2]	−130,502	
Total government contributions		78,660,457
Payments from States		11,072,482
Interest on investments		52,871
Total revenue		$104,894,127
Expenditures:		
Part D benefit payments[1]		$105,198,600
Part D administrative expenses[2]		−130,502
Total expenditures		$105,068,098
Net addition to the trust fund		−173,971
Total assets of the Part D account in the trust fund, end of period[3]		$414,084

[1]Premiums paid directly to plans are not displayed on Treasury statements and are estimated. These premiums have been added to the benefit payments reported on the Treasury statement to obtain an estimate of total Part D benefits. Direct data on such benefit amounts are not yet available.

[2]Reflects a larger-than-usual downward adjustment of $0.3 billion for prior-year allocations among Part A, Part B, and Part D.

[3]As noted in section III.D2, a new policy was developed in 2015 under which amounts from the Treasury are transferred into the Part D account 5 business days before the benefit payments to the plans, rather than on the day the benefit payments are due—typically the first business day of a month—as had previously been the case. Accordingly, for any year in which October 1 does not occur on a weekend, the Part D account includes a balance at the end of the previous fiscal year that is more substantial than it would have been prior to implementation of the new policy.

Note: Totals do not necessarily equal the sums of rounded components.

Tables V.H4, V.H5, V.H6, V.H7, and V.H8 present estimates of the fiscal-year operations of total Medicare, the HI trust fund, the SMI trust fund, the Part B account in the SMI trust fund, and the Part D account in the SMI trust fund, respectively. These tables correspond to the calendar-year trust fund operation tables shown in section V.B and in section III.

Table V.H4.—Total Medicare Income, Expenditures, and Trust Fund Assets during Fiscal Years 1970-2027

[In billions]

Fiscal year	Total income	Total expenditures	Net change in assets	Assets at end of year
Historical data:				
1970	$7.5	$7.1	$0.3	$2.7
1975	16.9	14.8	2.1	11.3
1980	35.7	35.0	0.7	19.0
1985	75.5	71.4	4.1	31.9
1990	125.7	109.7	16.0	110.2
1995	173.0	180.1	−7.1	143.4
2000	248.9	219.3	29.6	214.0
2005	349.4	336.9	12.5	294.6
2010	500.7	521.2	−20.5	350.9
2011	528.0	560.3	−32.3	318.6
2012	532.6	550.1	−17.5	301.2
2013	556.7[1]	581.7	−25.0	276.2
2014	597.7[1]	600.3	−2.6	273.6
2015	629.9	638.1	−8.3	265.3
2016	687.7	694.5	−6.8	258.6
2017	721.0	707.4	13.6	272.1
Intermediate estimates:				
2018	741.1	717.7	23.5	295.6
2019	789.8	783.5	6.4	302.0
2020	845.4	842.6	2.8	304.8
2021	909.9	908.5	1.3	306.2
2022	976.5	1,017.5	−41.0	265.2
2023	1,046.4	1,064.0	−17.6	247.5
2024	1,123.0	1,106.5	16.5	264.0
2025	1,199.7	1,232.3	−32.6	231.4
2026	1,282.9	1,320.6	−37.7	193.7
2027	1,373.8	1,407.4	−33.5	160.2

[1]Reflects the adjustment made by Treasury in November of 2014 to account for $2.6 billion in Part B drug fee income in September of 2013, rather than in October of 2013 when it was actually received.

Note: Totals do not necessarily equal the sums of rounded components.

Table V.H5.—Operations of the HI Trust Fund during Fiscal Years 1970-2027

[In billions]

	Income								Expenditures			Trust fund	
Fiscal year[1]	Payroll taxes	Income from taxation of benefits	Railroad Retirement account transfers	Reimburse-ment for uninsured persons	Premiums from voluntary enrollees	Payments for military wage credits	Interest and other[2,3]	Total	Benefit payments[3,4]	Adminis-trative expenses[5]	Total	Net change	Balance at end of year
Historical data:													
1970	$4.8	—	$0.1	$0.6	—	$0.0	$0.1	$5.6	$4.8	$0.1	$5.0	$0.7	$2.7
1975	11.3	—	0.1	0.5	$0.0	0.0	0.6	12.6	10.4	0.3	10.6	2.0	9.9
1980	23.2	—	0.2	0.7	0.0	0.1	1.1	25.4	23.8	0.5	24.3	1.1	14.5
1985	46.5	—	0.4	0.8	0.0	0.1	3.2	50.9	47.8	0.8	48.7	4.1[6]	21.3
1990	70.7	—	0.4	0.4	0.1	0.1	7.9	79.6	65.9	0.8	66.7	12.9	95.6
1995	98.1	$3.9	0.4	0.5	1.0	0.1	11.0	114.8	113.6	1.3	114.9	0.0	129.5
2000	137.7	8.8	0.5	0.5	1.4	0.0	10.8	159.7	127.9[7]	2.4	130.3	29.4	168.1
2005	169.0	8.8	0.4	0.3	2.3	0.0	16.2	196.9	181.3	2.9	184.1	12.8	277.7
2010	183.6	13.8	0.5	−0.1	3.3	0.0	16.9	218.0	245.6	3.3	249.0	−31.0	278.9
2011	192.1	15.1	0.5	0.3	3.3	0.0	15.3	226.5	255.7	3.9	259.6	−33.1	245.8
2012	204.8	18.6	0.5	0.3	3.4	0.0	14.2	241.7	254.5	3.7	258.2	−16.4	229.4
2013	212.9	14.3	0.6	0.0	3.4	0.0	12.4	243.6	262.4	4.1	266.5	−23.0	206.4
2014	227.6	18.1	0.6	0.4	3.3	0.0	12.8	262.8	262.5	4.3	266.9	−4.1	202.3
2015	237.7	20.2	0.6	0.2	3.3	0.0	10.4	272.4	273.2	5.5	278.7	−6.4	195.9
2016	250.5	23.0	0.7	0.2	3.2	0.0	9.6	287.1	285.6	5.1	290.6	−3.5	192.4
2017	259.7	24.2	0.6	0.1	3.5	0.0	10.3	298.5	290.3	3.0[8]	293.3	5.3	197.6
Intermediate estimates:													
2018	263.6	23.8	0.6	0.1	3.7	0.0	9.3	301.1	294.6	5.2	299.7	1.3	199.0
2019	282.8	24.8	0.6	0.1	3.9	0.0	9.2	321.4	318.2	5.5	323.7	−2.3	196.7
2020	296.6	27.6	0.6	0.1	4.1	0.0	8.9	338.1	337.6	5.8	343.4	−5.4	191.3
2021	314.6	30.6	0.7	0.1	4.4	0.0	8.6	359.0	360.4	6.2	366.6	−7.6	183.7
2022	332.0	33.7	0.7	0.1	4.7	0.0	7.9	379.1	398.2	6.7	404.8	−25.7	158.0
2023	348.2	36.9	0.7	0.1	5.0	0.0	7.0	397.8	416.6	7.1	423.7	−25.9	132.0
2024	366.1	40.3	0.7	0.1	5.3	0.0	6.0	418.4	432.7	7.6	440.2	−21.8	110.3
2025	383.8	43.9	0.8	0.1	5.6	0.0	5.1	439.3	475.1	8.1	483.1	−43.8	66.4
2026	403.2	51.9	0.8	0.1	6.0	0.0	3.7	465.6	506.3	8.6	514.9	−49.3	17.1
2027[9]	421.1	60.6	0.8	0.0	6.3	0.0	2.0	490.9	535.5	9.2	544.7	−53.8	−36.6

[1]Fiscal years 1970 and 1975 consist of the 12 months ending on June 30 of each year; fiscal years 1980 and later consist of the 12 months ending on September 30 of each year.
[2]Other income includes recoveries of amounts reimbursed from the trust fund that are not obligations of the trust fund, receipts from the fraud and abuse control program, and a small amount of miscellaneous income. In 2008, includes an adjustment of −$0.9 billion for interest inadvertently earned as a result of Part A hospice costs that were misallocated to the Part B trust fund account.
[3]See footnote 2 of table III.B4.
[4]Includes costs of Peer Review Organizations from 1983 through 2001 (beginning with the implementation of the prospective payment system on October 1, 1983) and costs of Quality Improvement Organizations beginning in 2002.
[5]Includes costs of experiments and demonstration projects. Beginning in 1997, includes fraud and abuse control expenses, as provided for by the Health Insurance Portability and Accountability Act of 1996 (Public Law 104-191).
[6]Includes repayment of loan principal, from the OASI trust fund, of $1.8 billion.
[7]For 1998 to 2003, includes monies transferred to the SMI trust fund for home health agency costs, as provided for by the Balanced Budget Act of 1997 (Public Law 105-33).
[8]Reflects a larger-than-usual downward adjustment of $1.8 billion for prior-year allocations among Part A, Part B, and Part D.
[9]Estimates for 2027 are hypothetical since the HI trust fund would be depleted in that year.

Note: Totals do not necessarily equal the sums of rounded components.

Table V.H6.—Operations of the SMI Trust Fund (Cash Basis) during Fiscal Years 1970-2027

[In billions]

	Income					Expenditures			Trust fund	
Fiscal year[1]	Premium income	General revenue[2]	Transfers from States	Interest and other[3,4]	Total	Benefit payments[4,5]	Adminis-trative expense	Total	Net change	Balance at end of year[6]
Historical data:										
1970	$0.9	$0.9	—	$0.0	$1.9	$2.0	$0.2	$2.2	−$0.3	$0.1
1975	1.9	2.3	—	0.1	4.3	3.8	0.4	4.2	0.2	1.4
1980	2.9	6.9	—	0.4	10.3	10.1	0.6	10.7	−0.5	4.5
1985	5.5	17.9	—	1.2	24.6	21.8	0.9	22.7	1.8	10.6
1990	11.5[7]	33.2	—	1.4[7]	46.1[7]	41.5	1.5[7]	43.0[7]	3.1[7]	14.5[7]
1995	19.2	37.0	—	1.9	58.2	63.5	1.7	65.2	−7.0	13.9
2000	20.5	65.6	—	3.2	89.2	87.2[8]	1.8	89.0	0.2	45.9
2005	35.9	115.2	—	1.4	152.5	149.8	2.9	152.7	−0.2	16.9
2010	61.4	213.7	$4.5	3.2	282.7	268.7	3.5	272.2	10.5	72.0
2011	64.5	225.2	6.5	5.3	301.5	296.8	3.8	300.7	0.9	72.8
2012	66.1	210.5	8.3	6.0	290.9	287.8	4.1	291.9	−1.0	71.8
2013	71.3	227.2	8.7	6.0[9]	313.2	311.4	3.8	315.1	−2.0	69.8
2014	75.9	244.4	8.7	6.0[9]	334.9	329.1	4.3	333.4	1.5	71.3
2015	79.4	263.5	8.8	5.9	357.5	355.8	3.6	359.4	−1.9	69.4
2016	86.1	299.5	9.8	5.3	400.6	399.5	4.4	403.9	−3.3	66.2
2017	94.8	309.6	11.1	6.9	422.4	409.3	4.9[10]	414.1	8.3	74.5
Intermediate estimates:										
2018	106.0	315.2	11.8	7.2	440.1	414.5	3.5	418.0	22.1	96.6
2019	113.7	336.0	12.2	6.5	468.4	456.1	3.7	459.8	8.6	105.2
2020	122.4	364.9	13.0	7.0	507.4	495.3	3.9	499.2	8.2	113.5
2021	133.2	396.2	14.1	7.4	550.9	537.8	4.1	541.9	9.0	122.5
2022	143.7	430.4	15.4	8.0	597.4	608.3	4.4	612.7	−15.3	107.2
2023	155.9	467.2	16.7	8.7	648.6	635.6	4.7	640.3	8.3	115.5
2024	170.0	506.9	18.2	9.5	704.6	661.4	5.0	666.3	38.3	153.7
2025	184.1	546.3	19.7	10.4	760.5	743.9	5.3	749.2	11.3	165.0
2026	198.3	586.4	21.3	11.3	817.3	800.1	5.6	805.7	11.6	176.6
2027	215.1	632.6	22.9	12.4	882.9	856.8	5.9	862.7	20.2	196.8

[1]Fiscal years 1970 and 1975 consist of the 12 months ending on June 30 of each year; fiscal years 1980 and later consist of the 12 months ending on September 30 of each year.

[2]Includes Part B general fund matching payments, Part D subsidy costs, and certain interest-adjustment items.

[3]Other income includes recoveries of amounts reimbursed from the trust fund that are not obligations of the trust fund and other miscellaneous income. In 2008, includes an adjustment of $0.8 billion for interest inadvertently earned as a result of Part A hospice costs that were misallocated to the Part B trust fund account.

[4]See footnote 2 of table III.B4.

[5]See footnote 3 of table III.B4.

[6]The financial status of SMI depends on both the assets and the liabilities of the trust fund (see table III.C8).

[7]Includes the impact of the Medicare Catastrophic Coverage Act of 1988 (Public Law 100-360).

[8]Benefit payments less monies transferred from the HI trust fund for home health agency costs, as provided for by the Balanced Budget Act of 1997.

[9]See footnote 1 of table V.H4.

[10]Reflects a larger-than-usual upward adjustment of $1.4 billion for prior-year allocations among Part A, Part B, and Part D.

Note: Totals do not necessarily equal the sums of rounded components.

Table V.H7.—Operations of the Part B Account in the SMI Trust Fund (Cash Basis) during Fiscal Years 1970-2027

[In billions]

	Income				Expenditures			Account	
Fiscal year[1]	Premium income	General revenue[2]	Interest and other[3,4]	Total	Benefit payments[4,5]	Administrative expense	Total	Net change	Balance at end of year[6]
Historical data:									
1970	$0.9	$0.9	$0.0	$1.9	$2.0	$0.2	$2.2	−$0.3	$0.1
1975	1.9	2.3	0.1	4.3	3.8	0.4	4.2	0.2	1.4
1980	2.9	6.9	0.4	10.3	10.1	0.6	10.7	−0.5	4.5
1985	5.5	17.9	1.2	24.6	21.8	0.9	22.7	1.8	10.6
1990	11.5[7]	33.2	1.4[7]	46.1[7]	41.5	1.5[7]	43.0[7]	3.1[7]	14.5[7]
1995	19.2	37.0	1.9	58.2	63.5	1.7	65.2	−7.0	13.9
2000	20.5	65.6	3.2	89.2	87.2[8]	1.8	89.0	0.2	45.9
2005	35.9	114.0	1.4	151.3	148.6	2.9	151.5	−0.2	16.9
2010	54.8	161.1	3.2	219.0	205.1	3.3	208.4	10.7	71.3
2011	57.0	168.8	5.3	231.2	226.2	3.4	229.6	1.5	72.8
2012	57.9	165.3	6.0	229.1	227.2	3.8	230.9	−1.8	70.9
2013	61.8	176.9	6.0[9]	244.7	243.4	3.4	246.8	−2.1	68.8
2014	64.9	191.4	6.0[9]	262.3	257.0	3.9	260.9	1.4	70.2
2015	67.1	195.8	5.8	268.8	272.0	3.2	275.2	−6.4	63.9
2016	72.5	223.1	5.3	300.8	295.1	4.0	299.1	1.7	65.6
2017	79.7	231.0	6.9	317.5	304.1	5.0[10]	309.1	8.5	74.1
Intermediate estimates:									
2018	90.3	243.3	7.2	340.7	322.2	3.1	325.3	15.4	89.5
2019	97.3	264.4	6.5	368.2	356.8	3.3	360.0	8.2	97.7
2020	104.3	284.0	7.0	395.3	384.3	3.5	387.7	7.5	105.2
2021	113.1	308.6	7.4	429.1	417.1	3.7	420.8	8.2	113.4
2022	121.6	336.1	8.0	465.7	468.0	3.9	471.9	−6.2	107.2
2023	131.8	364.7	8.7	505.2	492.7	4.2	496.9	8.3	115.5
2024	143.7	395.6	9.5	548.8	517.7	4.5	522.2	26.7	142.2
2025	155.8	428.1	10.3	594.3	579.1	4.8	583.9	10.5	152.6
2026	167.7	459.1	11.2	638.0	622.4	5.0	627.5	10.6	163.2
2027	181.9	495.7	12.3	690.0	665.5	5.4	670.8	19.2	182.3

[1]Fiscal years 1970 and 1975 consist of the 12 months ending on June 30 of each year; fiscal years 1980 and later consist of the 12 months ending on September 30 of each year.

[2]General fund matching payments, plus certain interest-adjustment items.

[3]Other income includes recoveries of amounts reimbursed from the trust fund that are not obligations of the trust fund and other miscellaneous income. In 2008, includes an adjustment of $0.8 billion for interest earned as a result of Part A hospice costs that were misallocated to the Part B trust fund account.

[4]See footnote 2 of table III.B4.

[5]See footnote 3 of table III.B4.

[6]The financial status of Part B depends on both the assets and the liabilities of the trust fund (see table III.C8).

[7]Includes the impact of the Medicare Catastrophic Coverage Act of 1988 (Public Law 100-360).

[8]Benefit payments less monies transferred from the HI trust fund for home health agency costs, as provided for by the Balanced Budget Act of 1997.

[9]See footnote 1 of table V.H4.

[10]Reflects a larger-than-usual upward adjustment of $1.7 billion for prior-year allocations among Part A, Part B, and Part D.

Note: Totals do not necessarily equal the sums of rounded components.

Table V.H8.—Operations of the Part D Account in the SMI Trust Fund (Cash Basis) during Fiscal Years 2004-2027

[In billions]

	Income					Expenditures			Account	
Fiscal year	Premium income	General revenue[1]	Transfers from States[2]	Interest and other	Total	Benefit payments[3]	Adminis-trative expense	Total	Net change	Balance at end of year[4]
Historical data:										
2004	—	$0.2	—	—	$0.2	$0.2	—	$0.2	—	—
2005	—	1.2	—	—	1.2	1.2	—	1.2	—	—
2006	$2.6	28.3	$3.6	$0.0	34.6	33.7	$0.2	33.9	$0.7	$0.7
2007	3.9	41.4	7.0	0.0	52.3	51.4	1.0	52.4	−0.1	0.6
2008	4.8	35.5	7.0	0.0	47.4	46.8	0.4	47.2	0.2	0.8
2009	5.8	43.5	7.5	0.0	56.9	56.6	0.2	56.8	0.0	0.9
2010	6.6	52.6	4.5	0.0	63.7	63.6	0.3	63.8	−0.2	0.7
2011	7.5	56.3	6.5	0.0	70.4	70.6	0.4	71.0	−0.7	0.0
2012	8.2	45.3	8.3	0.0	61.8	60.6	0.4	61.0	0.8	0.8
2013	9.5	50.3	8.7	0.0	68.5	68.0	0.4	68.3	0.1	1.0
2014	11.0	52.9	8.7	0.0	72.7	72.2	0.4	72.6	0.1	1.1
2015	12.3	67.6	8.8	0.0	88.7	83.8	0.4	84.2	4.5	5.6
2016	13.6	76.4	9.8	0.0	99.8	104.4	0.4	104.8	−5.0	0.6
2017	15.1	78.7	11.1	0.1	104.9	105.2	−0.1[5]	105.1	−0.2	0.4
Intermediate estimates:										
2018	15.7	71.9	11.8	0.0	99.4	92.3	0.4	92.7	6.7	7.1
2019	16.4	71.7	12.2	0.0	100.2	99.3	0.4	99.8	0.5	7.6
2020	18.1	81.0	13.0	0.0	112.1	111.0	0.4	111.4	0.7	8.3
2021	20.1	87.6	14.1	0.0	121.8	120.6	0.4	121.1	0.7	9.1
2022	22.1	94.2	15.4	0.0	131.7	140.3	0.5	140.7	−9.1	0.0
2023	24.1	102.5	16.7	0.0	143.4	142.9	0.5	143.4	0.0	0.0
2024	26.2	111.3	18.2	0.0	155.8	143.7	0.5	144.2	11.6	11.6
2025	28.3	118.2	19.7	0.0	166.2	164.8	0.5	165.4	0.8	12.4
2026	30.6	127.3	21.3	0.0	179.2	177.7	0.6	178.2	1.0	13.4
2027	33.1	136.9	22.9	0.0	193.0	191.3	0.6	191.9	1.1	14.5

[1]Includes, net of transfers from States, all government transfers required to fund benefit payments, administrative expenses, and State expenses for making low-income eligibility determinations.
[2]See footnote 3 of table III.D3.
[3]Includes payments to Part D plans, payments to retiree drug subsidy plans, payments to States for making low-income eligibility determinations, Part D drug premiums collected from beneficiaries, and transfers to Medicare Advantage plans and private drug plans. Includes amounts for the Transitional Assistance program of $0.2, $1.1, and $0.2 billion in 2004-2006, respectively.
[4]See footnote 3 of table V.H3.
[5]Reflects a larger-than-usual downward adjustment of $0.3 billion for prior-year allocations among Part A, Part B, and Part D.

Note: Totals do not necessarily equal the sums of rounded components.

Table V.H9 shows the total assets of the HI trust fund and their distribution by interest rate and maturity date at the end of fiscal years 2016 and 2017. The assets at the end of fiscal year 2017 totaled $197.6 billion: $197.8 billion in the form of U.S. Government obligations and an undisbursed balance of −$0.2 billion.

Table V.H9.—Assets of the HI Trust Fund, by Type, at the End of Fiscal Years 2016 and 2017[1]

	September 30, 2016	September 30, 2017
Investments in public-debt obligations sold only to the trust funds (special issues):		
Certificates of indebtedness:		
1.625-percent, 2017	$3,702,852,000.00	——
2.125-percent, 2018	——	$4,706,346,000.00
Bonds:		
1.875-percent, 2025-2026	25,500,234,000.00	25,500,234,000.00
2.000-percent, 2024-2025	11,864,939,000.00	11,864,939,000.00
2.250-percent, 2026-2027	——	17,418,352,000.00
3.250-percent, 2023-2024	18,380,800,000.00	18,380,800,000.00
3.500-percent, 2018	16,840,497,000.00	5,472,224,000.00
4.000-percent, 2018-2023	27,894,894,000.00	27,894,894,000.00
4.125-percent, 2018-2020	20,776,670,000.00	20,776,670,000.00
4.625-percent, 2018-2019	18,795,433,000.00	18,795,433,000.00
5.000-percent, 2018-2022	24,606,377,000.00	24,606,377,000.00
5.125-percent, 2018-2021	22,418,448,000.00	22,418,448,000.00
5.250-percent, 2017	1,427,999,000.00	——
Total investments	$192,209,143,000.00	$197,834,717,000.00
Undisbursed balance[2]	157,886,120.64	−208,679,082.25
Total assets	$192,367,029,120.64	$197,626,037,917.75

[1]Certificates of indebtedness and bonds are carried at par value, which is the same as book value.
[2]Negative figures represent an extension of credit against securities to be redeemed within the following few days.

The effective annual rate of interest earned by the assets of the HI trust fund during the 12 months ending on December 31, 2017 was 3.7 percent. Interest on special issues is paid semiannually on June 30 and December 31. The interest rate on public-debt obligations issued for purchase by the trust fund in June 2017 was 2.25 percent, payable semiannually.

Table V.H10 shows a comparison of the total assets of the SMI trust fund, Parts B and D combined, and their distribution at the end of fiscal years 2016 and 2017. At the end of 2017, assets totaled $74.5 billion: $70.6 billion in the form of U.S. Government obligations and an undisbursed balance of $3.9 billion.

Table V.H10.—Assets of the SMI Trust Fund, by Type, at the End of Fiscal Years 2016 and 2017[1]

	September 30, 2016	September 30, 2017
Investments in public-debt obligations sold only to the trust funds (special issues):		
Certificates of indebtedness:		
1.625-percent, 2017	$341,326,000.00	——
1.875-percent, 2017	206,418,000.00	——
2.250-percent, 2018	——	$297,898,000.00
Bonds:		
1.875-percent, 2029-2031	13,543,136,000.00	13,543,136,000.00
2.250-percent, 2019-2020	——	3,593,918,000.00
2.250-percent, 2024-2029	12,926,435,000.00	12,926,435,000.00
2.250-percent, 2031-2032	——	4,127,053,000.00
2.500-percent, 2021-2026	8,124,685,000.00	8,124,685,000.00
2.875-percent, 2020-2025	6,928,389,000.00	6,710,494,000.00
3.250-percent, 2020-2024	5,602,720,000.00	5,602,720,000.00
4.000-percent, 2020-2023	9,110,723,000.00	9,110,723,000.00
5.000-percent, 2020-2022	6,551,711,000.00	6,551,711,000.00
Total investments	$63,335,543,000.00	$70,588,773,000.00
Undisbursed balance	2,851,489,893.68	3,917,493,437.92
Total assets	$66,187,032,893.68	$74,506,266,437.92

[1]Certificates of indebtedness and bonds are carried at par value, which is the same as book value.

The effective annual rate of interest earned by the assets of the SMI trust fund for the 12 months ending on December 31, 2017 was 2.5 percent. Interest on special issues is paid semiannually on June 30 and December 31. The interest rate on special issues purchased by the account in June 2017 was 2.25 percent, payable semiannually.

I. GLOSSARY

Accountable care organizations (ACOs). Groups of clinicians, hospitals, and other health care providers that choose to come together to deliver coordinated, high-quality care to the Medicare patients they serve.

Actuarial balance. The difference between the summarized income rate and the summarized cost rate over a given valuation period.

Actuarial deficit. A negative actuarial balance.

Actuarial rates. One-half of the Part B expected monthly benefit and administrative costs for each aged enrollee adjusted for interest earned on the Part B account assets attributable to aged enrollees and a contingency margin (for the aged actuarial rate), and one-half of the expected monthly benefit and administrative costs for each disabled enrollee adjusted for interest earned on the Part B account assets attributable to disabled enrollees and a contingency margin (for the disabled actuarial rate), for the duration the rate is in effect.

Actuarial status. A measure of the adequacy of the financing as determined by the difference between assets and liabilities at the end of the periods for which financing was established.

Administrative expenses. Expenses incurred by the Department of Health and Human Services and the Department of the Treasury in administering HI and SMI and the provisions of the Internal Revenue Code relating to the collection of contributions. Such administrative expenses, which are paid from the HI and SMI trust funds, include expenditures for contractors to determine costs of, and make payments to, providers, as well as salaries and expenses of the Centers for Medicare & Medicaid Services (CMS).

Advanced alternative payment model (advanced APM). An APM that meets certain standards for risk-bearing, use of health information technology, and quality.

Aged enrollee. An individual, aged 65 or over, who is enrolled in HI or SMI.

Allowed charge. Individual charge determined by a Medicare Administrative Contractor for a covered Part B medical service or supply.

Alternative payment model (APM). A program or model (except for a health care innovation award model) implemented by the Center for Medicare and Medicaid Innovation at CMS; a demonstration under the Health Care Quality Demonstration Program; an ACO model participating in the Medicare shared savings program; or a Medicare demonstration required by law.

Annual out-of-pocket threshold. The amount of out-of-pocket expenses that must be paid for prescription drugs before significantly reduced Part D beneficiary cost sharing is effective. Amounts paid by a third-party insurer are not included in testing this threshold, but amounts paid by State or Federal assistance programs are included.

Assets. Treasury notes and bonds guaranteed by the Federal Government, and cash held by the trust funds for investment purposes.

Assumptions. Values relating to future trends in certain key factors that affect the balance in the trust funds. Demographic assumptions include fertility, mortality, net immigration, marriage, divorce, retirement patterns, disability incidence and termination rates, and changes in the labor force. Economic assumptions include unemployment, average earnings, inflation, interest rates, and productivity. Three sets of economic assumptions are presented in the Trustees Report:

(1) The low-cost alternative, with relatively rapid economic growth, low inflation, and favorable (from the standpoint of program financing) demographic conditions;
(2) The intermediate assumptions, which represent the Trustees' best estimates of likely future economic and demographic conditions; and
(3) The high-cost alternative, with slow economic growth, more rapid inflation, and financially disadvantageous demographic conditions.

See also *Hospital assumptions*.

Average market yield. A computation that is made on all marketable interest-bearing obligations of the United States. It is computed on the basis of market quotations as of the end of the calendar month immediately preceding the date of such issue.

Baby boom. The period from the end of World War II through the mid-1960s marked by unusually high birth rates.

Base estimate. The updated estimate of the most recent historical year.

Beneficiary. A person enrolled in HI or SMI. See also *Aged enrollee* and *Disabled enrollee*.

Benefit payments. The amounts disbursed for covered services after the deductible and coinsurance amounts have been deducted.

Benefit period. An alternate name for spell of illness.

Board of Trustees. A Board established by the Social Security Act to oversee the financial operations of the Federal Hospital Insurance Trust Fund and the Federal Supplementary Medical Insurance Trust Fund. The Board comprises six members, four of whom serve automatically by virtue of their positions in the Federal Government: the Secretary of the Treasury, who is the Managing Trustee; the Secretary of Labor; the Secretary of Health and Human Services; and the Commissioner of Social Security. Two other members are public representatives whom the President appoints and the Senate confirms. These positions are currently vacant. The Administrator of CMS serves as Secretary of the Board of Trustees.

Bond. A certificate of ownership of a specified portion of a debt due by the Federal Government to holders, bearing a fixed rate of interest.

Callable. Subject to redemption upon notice, as is a bond.

Case mix index. A relative weight that captures the average complexity of certain Medicare services.

Cash basis. The costs of the service when payment was made rather than when the service was performed.

Certificate of indebtedness. A short-term certificate of ownership (12 months or less) of a specified portion of a debt due by the Federal Government to individual holders, bearing a fixed rate of interest.

Closed-group population. Includes all persons currently participating in the program as either taxpayers or beneficiaries, or both. See also *Open-group population*.

Coinsurance. Portion of the costs for covered services paid by the beneficiary after meeting the annual deductible. See also *Hospital coinsurance* and *SNF coinsurance*.

Consumer Price Index (CPI). A measure of the average change in prices over time in a fixed group of goods and services. In this report, references to the CPI relate to the CPI for Urban Wage Earners and

Clerical Workers (CPI-W), except for those cases in which the CPI for All Urban Consumers—all items (CPI-U) is indicated.

Contingency. Funds included in the SMI Part B trust fund account to serve as a cushion in case actual expenditures are higher than those projected at the time financing was established. Since the financing is set prospectively, actual experience may be different from the estimates used in setting the financing.

Contingency margin. An amount included in the actuarial rates to provide for changes in the contingency level in the SMI Part B trust fund account. Positive margins increase the contingency level, and negative margins decrease it.

Contribution base. See *Maximum tax base*.

Contributions. See *Payroll taxes*.

Cost rate. The ratio of HI cost (or outgo or expenditures) on an incurred basis during a given year to the taxable payroll for the year.

Covered earnings. Earnings in employment covered by HI.

Covered employment. All employment and self-employment creditable for Social Security purposes. Almost every kind of employment and self-employment is covered under HI. In a few employment situations—for example, religious orders under a vow of poverty, foreign affiliates of American employers, or State and local governments—coverage must be elected by the employer. However, effective July 1991, coverage is mandatory for State and local employees who are not participating in a public employee retirement system. All new State and local employees have been covered since April 1986. In a few situations—for instance, ministers or self-employed members of certain religious groups—workers can opt out of coverage. Covered employment for HI includes all Federal employees (whereas covered employment for OASDI includes some, but not all, Federal employees).

Covered Part D drugs. Prescription drugs covered under the Medicaid program plus insulin-related supplies and smoking cessation agents. Drugs covered in Parts A and B of Medicare will continue to be covered there, rather than in Part D.

Covered services. Services for which HI or SMI pays, as defined and limited by statute. Covered HI services are provided by hospitals (inpatient care), skilled nursing facilities, home health agencies, and

hospices. Covered SMI Part B services include most physician services, care in outpatient departments of hospitals, diagnostic tests, durable medical equipment, ambulance services, and other health services that are not covered by HI. See *Covered Part D drugs* for SMI Part D.

Covered worker. A person who has earnings creditable for Social Security purposes on the basis of services for wages in covered employment and/or on the basis of income from covered self-employment. The number of HI covered workers is slightly larger than the number of OASDI covered workers because of different coverage status for Federal employment. See *Covered employment*.

Creditable prescription drug coverage. Prescription drug coverage that meets or exceeds the actuarial value of Part D coverage provided through a group health plan or otherwise.

Dedicated financing sources. The sum of HI payroll taxes, HI share of income taxes on Social Security benefits, Part D State transfers, Part B drug fees, and beneficiary premiums. This amount is used in the test of excess general revenue Medicare funding.

Deductible. The annual amount payable by the beneficiary for covered services before Medicare makes reimbursement. See also *Inpatient hospital deductible*.

Deemed wage credit. See *Non-contributory or deemed wage credits*.

Demographic assumptions. See *Assumptions*.

Diagnosis-related groups (DRGs). A classification system that groups patients according to diagnosis, type of treatment, age, and other relevant criteria. Under the inpatient hospital prospective payment system, hospitals are paid a set fee for treating patients in a single DRG category, regardless of the actual cost of care for the individual.

Direct subsidy. The amount paid to the prescription drug plans representing the difference between the plan's risk-adjusted bid and the beneficiary premium for basic coverage.

Disability. For Social Security purposes, the inability to engage in substantial gainful activity by reason of any medically determinable physical or mental impairment that can be expected to result in death or to last for a continuous period of not less than 12 months. Special rules apply for workers aged 55 or older whose disability is based on blindness. The law generally requires that a person be disabled

continuously for 5 months before he or she can qualify for a disabled-worker cash benefit. An additional 24 months is necessary to qualify for benefits under Medicare.

Disability Insurance (DI). See *Old-Age, Survivors, and Disability Insurance (OASDI)*.

Disabled enrollee. An individual under age 65 who has been entitled to disability benefits under Title II of the Social Security Act or the Railroad Retirement system for at least 2 years and who is enrolled in HI or SMI.

Disproportionate share hospital (DSH). A hospital that serves a significantly disproportionate number of low-income patients and receives payments from Medicare to cover the costs of providing care to uninsured patients.

DRG Coding. The DRG categories used by hospitals on discharge billing. See also *Diagnosis-related groups (DRGs)*.

Dual beneficiary. An individual who is eligible for both Medicare and Medicaid.

Durable medical equipment (DME). Items such as iron lungs, oxygen tents, hospital beds, wheelchairs, and seat lift mechanisms that are used in the patient's home and are either purchased or rented.

Earnings. Unless otherwise qualified, all wages from employment and net earnings from self-employment, whether or not taxable or covered.

Economic assumptions. See *Assumptions*.

Economy-wide private nonfarm business multifactor productivity. A measure of real output per combined unit of labor and capital, reflecting the contributions of all factors of production for the private nonfarm business sector of the economy.

End-stage renal disease (ESRD). Permanent kidney failure.

Excess general revenue Medicare funding. A determination that occurs when the difference between outlays and dedicated funding sources exceeds or is projected to exceed 45 percent of outlays.

Extended care services. In the context of this report, an alternate name for skilled nursing facility services.

Federal Insurance Contributions Act (FICA). Provision authorizing taxes on the wages of employed persons to provide for OASDI and HI. The tax is paid in equal amounts by covered workers and their employers.

Financial interchange. Provisions of the Railroad Retirement Act providing for transfers between the trust funds and the Social Security Equivalent Benefit Account of the Railroad Retirement program in order to place each trust fund in the same position as if railroad employment had always been covered under Social Security.

Fiscal year. The accounting year of the U.S. Government. Since 1976, each fiscal year has begun October 1 of the prior calendar year and ended the following September 30. For example, fiscal year 2018 began October 1, 2017 and will end September 30, 2018.

Fixed capital assets. The net worth of facilities and other resources.

Frequency distribution. An exhaustive list of possible outcomes for a variable, and the associated probability of each outcome. The sum of the probabilities of all possible outcomes from a frequency distribution is 100 percent.

General fund of the Treasury. Funds held by the U.S. Treasury, other than revenue collected for a specific trust fund (such as HI or SMI) and maintained in a separate account for that purpose. The majority of this fund is derived from individual and business income taxes.

General revenue. Income to the HI and SMI trust funds from the general fund of the Treasury. Only a very small percentage of total HI trust fund income each year is attributable to general revenue.

Gross Domestic Product (GDP). The total dollar value of all goods and services produced in a year in the United States, regardless of who supplies the labor or property.

High-cost alternative. See *Assumptions*.

Hold-harmless provision. A provision limiting the dollar increase in the Part B premium to the dollar increase in an individual's Social Security benefit. As a result, the person affected pays a lower Part B premium, and the net amount of the individual's Social Security benefit does not decrease despite the greater increase in the premium.

Home health agency (HHA). A public agency or private organization that is primarily engaged in providing the following services in the home: skilled nursing services, other therapeutic services (such as physical, occupational, or speech therapy), and home health aide services.

Hospice. A provider of care for the terminally ill; delivered services generally include home health care, nursing care, physician services, medical supplies, and short-term inpatient hospital care.

Hospital assumptions. These include differentials between hospital labor and non-labor indices compared with general economy labor and non-labor indices; rates of admission incidence; the trend toward treating less complicated cases in outpatient settings; and continued improvement in DRG coding.

Hospital coinsurance. For the 61st through 90th day of hospitalization in a benefit period, a daily amount for which the beneficiary is responsible, equal to one-fourth of the inpatient hospital deductible; for lifetime reserve days, a daily amount for which the beneficiary is responsible, equal to one-half of the inpatient hospital deductible (see *Lifetime reserve days*).

Hospital input price index. An alternate name for hospital market basket.

Hospital Insurance (HI). The Medicare trust fund that covers specified inpatient hospital services, posthospital skilled nursing care, home health services, and hospice care for aged and disabled individuals who meet the eligibility requirements. Also known as Medicare Part A.

Hospital market basket. The cost of the mix of goods and services (including personnel costs but excluding nonoperating costs) comprising routine, ancillary, and special care unit inpatient hospital services.

Income rate. The ratio of HI income (including payroll taxes, income from taxation of Social Security benefits, premiums, general revenue transfers for uninsured beneficiaries, and monies from fraud and abuse control activities, but excluding interest income) to taxable payroll for the year.

Incurred basis. The costs based on when the service was performed rather than when the payment was made.

Infinite horizon. The period extending into the indefinite future.

Independent laboratory. A free-standing clinical laboratory meeting conditions for participation in the Medicare program.

Initial coverage limit. The amount up to which the coinsurance applies under the standard prescription drug benefit.

Inpatient hospital deductible. An amount of money that is deducted from the amount payable by Medicare Part A for inpatient hospital services furnished to a beneficiary during a spell of illness.

Inpatient hospital services. These services include bed and board, nursing services, diagnostic or therapeutic services, and medical or surgical services.

Interest. A payment for the use of money during a specified period.

Intermediate assumptions. See *Assumptions*.

Late enrollment penalty. Additional beneficiary premium amounts for those who either do not enroll in Part D at the first opportunity or fail to maintain other creditable coverage for more than 63 days.

Lifetime reserve days. Under HI, each beneficiary has 60 lifetime reserve days that he or she may opt to use when regular inpatient hospital benefits are exhausted. The beneficiary pays one-half of the inpatient hospital deductible for each lifetime reserve day used.

Long range. The next 75 years.

Low-cost alternative. See *Assumptions*.

Low-income beneficiaries. Individuals meeting income and assets tests who are eligible for prescription drug coverage subsidies to help finance premiums and out-of-pocket payments.

Managed care. See *Private Health Plans*.

Market basket. See *Hospital market basket*.

Maximum tax base. Annual dollar amount above which earnings in employment covered under HI are not taxable. In 1994, the maximum tax base was eliminated under HI.

Maximum taxable amount of annual earnings. See *Maximum tax base*.

Medicare. A nationwide, federally administered health insurance program authorized in 1965 under Title XVIII of the Social Security Act to cover the cost of hospitalization, medical care, and some related services for most people age 65 and over. In 1972, lawmakers extended coverage to people receiving Social Security Disability Insurance payments for 2 years and people with end-stage renal disease. (For beneficiaries whose primary or secondary diagnosis is Amyotrophic Lateral Sclerosis, the 2-year waiting period is waived.) In 2010, people exposed to environmental health hazards within areas under a corresponding emergency declaration became Medicare-eligible. In 2006, prescription drug coverage was added as well. Medicare consists of two separate but coordinated trust funds: Hospital Insurance (HI, or Part A) and Supplementary Medical Insurance (SMI). The SMI trust fund comprises two separate accounts: the Part B account and the Part D account. Almost all persons who are aged 65 and over or disabled and who are entitled to HI are eligible to enroll in Part B and Part D on a voluntary basis by paying monthly premiums.

Medicare Administrative Contractor (MAC). A private health care insurer that processes Part A and Part B medical claims or DME claims for fee-for-service beneficiaries.

Medicare Advantage (formerly called Medicare+Choice). An expanded set of options, established by the Medicare Modernization Act, for the delivery of health care under Medicare. Most Medicare beneficiaries can choose to receive benefits through the original fee-for-service program or through one of the following Medicare Advantage plans: (i) coordinated care plans (such as health maintenance organizations, provider-sponsored organizations, and preferred provider organizations); (ii) medical savings account (MSA)/high-deductible plans; (iii) private fee-for-service plans; or (iv) special needs plans.

Medicare Advantage Prescription Drug Plan (MA-PD). Prescription drug coverage provided by Medicare Advantage plans.

Medicare Advantage ratebook. A set of statutory capitation payment rates, by county, originally used directly to establish payments to private health insurance plans contracting with Medicare. Under current law, the ratebook amounts are used as benchmarks, against which plan costs are compared in the calculation of plan payments.

Medicare Economic Index (MEI). An index often used in the calculation of the increases in the prevailing charge levels that help to

determine allowed charges for physician services. In 1992 and later, this index is considered in connection with the update factor for the physician fee schedule.

Medicare funding warning. A warning triggered when a determination of excess general revenue Medicare funding has occurred in 2 consecutive years. Such a warning requires the President to submit to Congress, within 15 days after the date of the Budget submission for the succeeding year, proposed legislation to respond to the warning. The law also requires Congress to consider the legislation proposed in response to Medicare funding warnings on an expedited basis. See also *Excess general revenue Medicare funding*.

Medicare Payment Advisory Commission (MedPAC). A commission established by Congress in the Balanced Budget Act of 1997 to replace the Prospective Payment Assessment Commission and the Physician Payment Review Commission. MedPAC is directed to provide the Congress with advice and recommendations on policies affecting the Medicare program.

Medicare Prescription Drug Account. The separate account within the SMI trust fund to manage revenues and expenditures of the Part D drug benefit.

Medicare severity diagnosis-related groups (MS-DRGs). A refinement of the diagnosis-related group classification system that groups patients according to diagnosis, type of treatment, age, and other relevant criteria. Under the inpatient hospital prospective payment system, hospitals are paid a set fee for treating patients in a single MS-DRG category, regardless of the actual cost of care for the individual.

Merit-based incentive payment system (MIPS). A system for adjusting payments under the Medicare physician fee schedule to non-advanced APM providers based on metrics assessing provider quality, resource use, meaningful use of electronic health records, and clinical practice improvement activities.

Military service wage credits. Credits recognizing that military personnel receive other cash payments and wages in kind (such as food and shelter) in addition to their basic pay. Noncontributory wage credits of $160 were provided for each month of active military service from September 16, 1940 through December 31, 1956. For years after 1956, the basic pay of military personnel is covered under the Social Security program on a contributory basis. In addition to contributory

credits for basic pay, noncontributory wage credits of $300 were granted for each calendar quarter in which a person received pay for military service from January 1957 through December 1977. Deemed wage credits of $100 were granted for each $300 of military wages, up to a maximum of $1,200 per calendar year, from January 1978 through December 2001. See also *Quinquennial military service determinations and adjustments*.

National average monthly bid. The weighted average of all Part D drug bids including all of the bids from PDPs and the drug portion of bids from MA-PDs.

Noncontributory or deemed wage credits. Wages and wages in kind that were not subject to the HI tax but are deemed as having been. Deemed wage credits exist for the purposes of (i) determining HI eligibility for individuals who might not be eligible for HI coverage without payment of a premium were it not for the deemed wage credits and (ii) calculating reimbursement due the HI trust fund from the general fund of the Treasury. The first purpose applies in the case of providing coverage to persons during the transitional periods when HI began and when it was expanded to cover Federal employees; both purposes apply in the cases of military service wage credits and deemed wage credits granted for the internment of persons of Japanese ancestry during World War II.

Old-Age, Survivors, and Disability Insurance (OASDI). The Social Security programs that pay for (i) monthly cash benefits to retired-worker (old-age) beneficiaries, their spouses and children, and survivors of deceased insured workers (OASI); and (ii) monthly cash benefits to disabled-worker beneficiaries and their spouses and children, and for providing rehabilitation services to the disabled (DI).

Open-group population. Includes all persons who will ever participate in the program as either taxpayers or beneficiaries, or both. See also *Closed-group population*.

Outpatient hospital. Part of the hospital providing services covered by SMI Part B, including, for example, services in an emergency room or outpatient clinic, ambulatory surgical procedures, medical supplies such as splints, and laboratory tests billed by the hospital.

Part A. The Medicare Hospital Insurance trust fund.

Part A premium. A monthly premium paid by or on behalf of individuals who wish for and are entitled to voluntary enrollment in

Medicare HI. These individuals are those who are aged 65 and older, are uninsured for Social Security or Railroad Retirement, and do not otherwise meet the requirements for entitlement to Part A. Disabled individuals who have exhausted other entitlement are also qualified. These individuals are those not now entitled but who have been entitled under section 226(b) of the Social Security Act, who continue to have the disabling impairment upon which their entitlement was based, and whose entitlement ended solely because the individuals had earnings that exceeded the substantial gainful activity amount (as defined in section 223(d)(4) of the Social Security Act).

Part B. The account within the Medicare Supplementary Medical Insurance trust fund that pays for a portion of the costs of physician services, outpatient hospital services, and other related medical and health services for voluntarily enrolled aged and disabled individuals.

Part B premium. The monthly amount paid by those individuals who have voluntarily enrolled in Part B. Most enrollees pay the standard premium amount, which currently represents approximately 25 percent of the average program costs for an aged beneficiary. Beneficiaries with high income are also required to pay an income-related monthly adjustment amount starting in 2007, and those who enroll late are required to pay a penalty. In addition, beneficiaries who are affected by the hold-harmless provision pay a lower premium. See section V.E for more details about the Part B premium.

Part C. See *Private health plans.*

Part D. The account within the Medicare Supplementary Medical Insurance trust fund that pays private plans to provide prescription drug coverage.

Pay-as-you-go financing. A financing scheme in which taxes are scheduled to produce just as much income as required to pay current benefits, with trust fund assets built up only to the extent needed to prevent depletion of the fund by random fluctuations.

Payroll taxes. Taxes levied on the gross wages of employees and net earnings of self-employed workers.

PDP regions. Regional areas that are fully serviced by prescription drug plans.

Peer Review Organization (PRO). A group of practicing physicians and other health care professionals paid by the Federal Government to

review the care given to Medicare patients. Starting in 2002, these organizations are called Quality Improvement Organizations.

Percentile. A number that corresponds to one of the equal divisions of the range of a variable in a given sample and that characterizes a value of the variable as not exceeded by a specified percentage of all the values in the sample. For example, a score higher than 97 percent of those attained is said to be in the 97th percentile.

Prescription Drug Plans (PDPs). Stand-alone prescription drug plans offered to beneficiaries in traditional fee-for-service Medicare and to beneficiaries in Medicare Advantage plans that do not offer a prescription drug benefit.

Present value. The present value of a future stream of payments is the lump-sum amount that, if invested today, together with interest earnings would be just enough to meet each of the payments as it fell due. At the time of the last payment, the invested fund would be exactly zero.

Private health plans. Plans offered by private companies that contract with Medicare to provide coverage for Part A and Part B services. Medicare Advantage plans, cost plans, and Program of All-Inclusive Care for the Elderly (PACE) plans are all private health plans.

Projection error. Degree of variation between estimated and actual amounts.

Prospective payment system (PPS). A method of reimbursement in which Medicare payment is made based on a predetermined, fixed amount. The payment amount for a particular service is derived based on the classification system of that service (for example, DRGs for inpatient hospital services).

Provider. Any organization, institution, or individual who provides health care services to Medicare beneficiaries. Hospitals (inpatient services), skilled nursing facilities, home health agencies, and hospices are the providers of services covered under Medicare Part A. Physicians, ambulatory surgical centers, and outpatient clinics are some of the providers of services covered under Medicare Part B.

Quality Improvement Organization (QIO). See *Peer Review Organization*.

Quinquennial military service determination and adjustments. Prior to the Social Security Amendments of 1983, quinquennial determinations (that is, estimates made once every 5 years) were made of the costs arising from the granting of deemed wage credits for military service prior to 1957; annual reimbursements were made from the general fund of the Treasury to the HI trust fund for these costs. The Social Security Amendments of 1983 provided for (i) a lump-sum transfer in 1983 for (a) the costs arising from the pre-1957 wage credits and (b) amounts equivalent to the HI taxes that would have been paid on the deemed wage credits for military service for 1966 through 1983, inclusive, if such credits had been counted as covered earnings; (ii) quinquennial adjustments to the pre-1957 portion of the 1983 lump-sum transfer; (iii) general fund transfers equivalent to HI taxes on military deemed wage credits for 1984 and later, to be credited to the fund on July 1 of each year; and (iv) adjustments as deemed necessary to any previously transferred amounts representing HI taxes on military deemed wage credits.

Railroad Retirement. A Federal insurance program similar to Social Security designed for workers in the railroad industry. The provisions of the Railroad Retirement Act provide for a system of coordination and financial interchange between the Railroad Retirement program and the Social Security program.

Ratebook. See *Medicare Advantage ratebook*.

Real-wage differential. The difference between the percentage increases, before rounding, in (i) the average annual wage in covered employment and (ii) the average annual CPI.

Reasonable-cost basis. The calculation to determine the reasonable cost incurred by individual providers when furnishing covered services to beneficiaries. The reasonable cost is based on the actual cost of providing such services, including direct and indirect costs of providers, and excluding any costs that are unnecessary in the efficient delivery of services covered by a health insurance program.

Reinsurance subsidy. Payments to the prescription drug plans in the amount of 80 percent of drug expenses that exceed the annual out-of-pocket threshold.

Residual factors. Factors other than price, including volume of services, intensity of services, and age/sex changes.

Risk corridor. Triggers that are set to protect Part D prescription drug plans from unexpected losses and that allow the government to share in unexpected gains.

Self-employment. Operation of a trade or business by an individual or by a partnership in which an individual is a member.

Self-Employment Contributions Act (SECA). Provision authorizing taxes on the net income of most self-employed persons to provide for OASDI and HI.

Sequester. The reduction of funds to be used for benefits or administrative costs from a Federal account, based on the legislated requirements.

Short range. The next 10 years.

Skilled nursing facility (SNF). An institution that is primarily engaged in providing skilled nursing care and related services for residents who require medical or nursing care or that is engaged in the rehabilitation of injured, disabled, or sick persons.

SNF coinsurance. For the 21st through 100th day of extended care services in a benefit period, a daily amount for which the beneficiary is responsible, equal to one-eighth of the inpatient hospital deductible.

Social Security Act. Public Law 74-271, enacted on August 14, 1935, with subsequent amendments. The Social Security Act consists of 20 titles, four of which have been repealed. The HI and SMI trust funds are authorized by Title XVIII of the Social Security Act.

Special public-debt obligation. Securities of the U.S. Government issued exclusively to the OASI, DI, HI, and SMI trust funds and other Federal trust funds. Sections 1817(c) and 1841(a) of the Social Security Act provide that the public-debt obligations issued for purchase by the HI and SMI trust funds, respectively, shall have maturities fixed with due regard for the needs of the funds. The usual practice in the past has been to spread the holdings of special issues, as of every June 30, so that the amounts maturing in each of the next 15 years are approximately equal. Special public-debt obligations are redeemable at par at any time.

Spell of illness. A period of consecutive days, beginning with the first day on which a beneficiary is furnished inpatient hospital or extended care services, and ending with the close of the first period of

60 consecutive days thereafter in which the beneficiary is in neither a hospital nor a skilled nursing facility.

Standard prescription drug coverage. Part D prescription drug coverage that includes a deductible, coinsurance up to an initial coverage limit, and protection against high out-of-pocket expenditures by having reduced coinsurance provisions for individuals exceeding the out-of-pocket threshold.

Stochastic model. An analysis involving a random variable. For example, a stochastic model may include a frequency distribution for one assumption. From the frequency distribution, possible outcomes for the assumption are selected randomly for use in an illustration.

Summarized cost rate. The ratio of the present value of expenditures to the present value of the taxable payroll for the years in a given period. The summarized cost rate includes the cost of reaching and maintaining a target trust fund level, known as a contingency fund ratio. Because a trust fund level of about 1 year's expenditures is considered to be an adequate reserve for unforeseen contingencies, the targeted contingency fund ratio used in determining summarized cost rates is 100 percent of annual expenditures. Accordingly, the summarized cost rate is equal to the ratio of (i) the sum of the present value of the outgo during the period, plus the present value of the targeted ending trust fund level, plus the beginning trust fund amount, to (ii) the present value of the taxable payroll during the period.

Summarized income rate. The ratio of the present value of HI income (including payroll taxes, income from taxation of Social Security benefits, premiums, general revenue transfers for uninsured beneficiaries, and monies from fraud and abuse control activities, but excluding interest income) incurred during a given period to the present value of the taxable payroll for the years in the period.

Supplemental prescription drug coverage. Coverage in excess of the standard prescription drug coverage.

Supplementary Medical Insurance (SMI). The Medicare trust fund comprising the Part B account, the Part D account, and the Transitional Assistance Account. The Part B account pays for a portion of the costs of physician services, outpatient hospital services, and other related medical and health services for voluntarily enrolled aged and disabled individuals. The Part D account pays private plans to provide prescription drug coverage, beginning in 2006. The

Transitional Assistance Account paid for transitional assistance under the prescription drug card program in 2004 and 2005.

Sustainable growth rate. A system for establishing goals for the rate of growth in Medicare Part B expenditures for physician services. The Medicare Access and CHIP Reauthorization Act of 2015 permanently repealed the sustainable growth rate formula.

Tax rate. The percentage of taxable earnings, up to the maximum tax base, that is paid for the HI tax. Currently, the percentages are 1.45 for employees and employers, each. The self-employed pay 2.9 percent. There is an additional 0.9-percent tax on earnings above $200,000 (for those who file an individual tax return) or $250,000 (for those who file a joint income tax return).

Taxable earnings. Taxable wages and/or self-employment income under the prevailing annual maximum taxable limit.

Taxable payroll. A weighted average of taxable wages and taxable self-employment income. When multiplied by the combined employee-employer tax rate, it yields the total amount of taxes incurred by employees, employers, and the self-employed for work during the period.

Taxable self-employment income. Net earnings from self-employment—generally above $400 and below the annual maximum taxable amount for a calendar or other taxable year—less any taxable wages in the same taxable year.

Taxable wages. Wages paid for services rendered in covered employment up to the annual maximum taxable amount.

Taxation of benefits. Beginning in 1994, up to 85 percent of an individual's or a couple's OASDI benefits are potentially subject to Federal income taxation under certain circumstances. The revenue derived from taxation of benefits in excess of 50 percent, up to 85 percent, is allocated to the HI trust fund.

Taxes. See *Payroll taxes*.

Term insurance. A type of insurance that is in force for a specified period of time.

Test of Long-Range Close Actuarial Balance. The conditions required to meet this test are as follows: (i) The trust fund satisfies the short-range test of financial adequacy; and (ii) the trust fund ratios

stay above zero throughout the 75-year projection period, such that benefits would be payable in a timely manner throughout the period. This test is applied to HI trust fund projections made under the intermediate assumptions.

Test of Short-Range Financial Adequacy. The conditions required to meet this test are as follows: (i) If the trust fund ratio for a fund exceeds 100 percent at the beginning of the projection period, then it must be projected to remain at or above 100 percent throughout the 10-year projection period; (ii) alternatively, if the fund ratio is initially less than 100 percent, it must be projected to reach a level of at least 100 percent within 5 years (and not be depleted at any time during this period), and then remain at or above 100 percent throughout the rest of the 10-year period. This test is applied to HI trust fund projections made under the intermediate assumptions.

Transitional assistance. An interim benefit for 2004 and 2005 that provided up to $600 per year to assist low-income beneficiaries who had no drug insurance coverage with prescription drug purchases. This benefit also paid the enrollment fee in the Medicare Prescription Drug Discount Card program.

Transitional Assistance Account. The separate account within the SMI trust fund that managed revenues and expenditures for the transitional assistance drug benefit in 2004 and 2005.

Trust fund. Separate accounts in the U.S. Treasury, mandated by Congress, whose assets may be used only for a specified purpose. For the HI and SMI trust funds, monies not withdrawn for current benefit payments and administrative expenses are invested in interest-bearing Federal securities, as required by law; the interest earned is also deposited in the trust funds.

Trust fund ratio. A short-range measure of the adequacy of the HI and SMI trust fund level; defined as the assets at the beginning of the year expressed as a percentage of the outgo during the year.

Uninsured beneficiaries. HI beneficiaries who do not have 40 quarters of covered earnings but are entitled to HI coverage either because (i) they were deemed additional wage credits during the transitional periods when the HI program began or when it was expanded to cover Federal employees, or because (ii) they pay a monthly premium that is intended to cover their full cost. See *Part A premium*.

Unit input intensity allowance. The amount added to, or subtracted from, the hospital input price index to yield the prospective payment system update factor.

Valuation period. A period of years that is considered as a unit for purposes of calculating the status of a trust fund.

Voluntary enrollees. Certain individuals, aged 65 or older or disabled, who are not otherwise entitled to Medicare and who opt to obtain coverage under Part A by paying a monthly premium.

Year of depletion. The first year in which a trust fund is unable to pay full benefits when due because the assets of the fund are depleted.

TABLES

FIGURES

J. STATEMENT OF ACTUARIAL OPINION

It is my opinion that (1) the techniques and methodology used herein to evaluate the financial status of the Federal Hospital Insurance Trust Fund and the Federal Supplementary Medical Insurance Trust Fund are based upon sound principles of actuarial practice and are generally accepted within the actuarial profession; and (2) with the important caveats noted below, the principal assumptions used and the resulting actuarial estimates are, individually and in the aggregate, reasonable for the purpose of evaluating the financial status of the trust funds under current law, taking into consideration the past experience and future expectations for the population, the economy, and the program. I am a member of the American Academy of Actuaries and I meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

The annual reports of the Board of Trustees and the accompanying Actuarial Opinions have cautioned for a number of years about the challenges of adhering to current-law Medicare payment updates. For physician services, current law specifies payment rate updates that are expected to be lower than overall inflation and not keep up with underlying physician costs. For most categories of non-physician health services, current law specifies that annual price updates be adjusted downward each year by the growth in economy-wide productivity. Sustaining these price reductions will be challenging for health care providers, as the best available evidence indicates that most providers cannot improve their productivity to this degree for a prolonged period given the labor-intensive nature of these services. Should these price updates prove to be inadequate, beneficiaries' access to and the quality of Medicare benefits would deteriorate over time, or future legislation would need to be enacted that would likely increase program costs beyond those projected under current law in this report.

For more information, I encourage readers to review the illustrative alternative projection, which provides the potential magnitude of the understatement of Medicare costs relative to the current-law projections.[108]

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[108]See http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/ReportsTrustFunds/Downloads/2018TRAlternativeScenario.pdf.