

Is Medicaid Sustainable? Spending Projections For The Program's Second Forty Years

Government revenues are likely to be sufficient to support Medicaid spending growth and other priorities.

by **Richard Kronick and David Rousseau**

ABSTRACT: We constructed long-term projections of Medicaid spending and compared projected growth in spending with that of state and federal revenues. Notwithstanding the anticipated decline in employer-sponsored insurance and the long-term care needs of the baby boomers, we project that Medicaid spending as a share of national health spending will average 16.6 percent from 2006 to 2025—roughly unchanged from 16.5 percent in 2005—and then increase slowly to 19.0 percent by 2045. Growth in government revenues is projected to be large enough to sustain both Medicaid spending increases and substantial real growth in spending for other services. [*Health Affairs* 26, no. 2 (2007): w271–w287 (published online 23 February 2007; 10.1377/hlthaff.26.2.w271)]

THE RECENTLY ISSUED FINAL REPORT AND recommendations of health and human services (HHS) secretary Michael O. Leavitt's Medicaid Commission opens with the assertion that “fundamental reform is needed in order to ensure the long-term fiscal sustainability of the Medicaid program.”¹ The commission's concern about sustainability echoes a sentiment expressed by many state and federal policymakers. A search of the Nexis database for the words “Medicaid” and “unsustainable” found 785 instances in which they were used within twenty words of each other between January 2005 and December 2006.

However, these discussions concerning the sustainability of Medicaid occur without the benefit of carefully constructed long-term projections of Medicaid spending. The contrast to Medicare, another program often subject to questions regarding sustainability, is striking. The annual Medicare Trustees' report provides seventy-five-year projections of Medicare spending, and the projections are developed and refined each year through an extensive, sophisticated process engaging the efforts of a wide range of actuaries and social scientists.

There is no comparable effort within the federal government to create long-

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term projections of Medicaid spending or to compare projected spending with the ability of state and federal governments to support that spending. Both the Congressional Budget Office (CBO) and the Centers for Medicare and Medicaid Services (CMS) Office of the Actuary produce carefully constructed ten-year estimates of Medicaid spending as part of the annual budget process.² However, the CMS does not produce Medicaid spending projections beyond the ten-year budget window. The CBO does publish seventy-five-year projections of Medicaid spending as part of its long-term budget outlook, but these projections are based on a set of basic assumptions about overall health spending growth that do not consider the effects of the anticipated decline in employer-sponsored insurance on Medicaid enrollment, anticipated changes in the number of Medicaid enrollees with disabilities, or the extent to which long-term care costs might grow at a different rate than overall health care costs.³

This paper attempts to fill the gap, providing projections of Medicaid spending for the program's next forty years, 2005–2045. We present historical data from analysis of Medicaid enrollment and spending trends from 1975 to 2003, providing insights into the factors that influenced Medicaid spending growth over the past three decades.

Study Data And Methods

■ **Conceptual model.** Our approach is to project Medicaid spending as a share of gross domestic product (GDP), because it is this ratio that is crucial for determining the ability of our economy and polity to support Medicaid spending. Medicaid spending as a share of GDP can be expressed as a product of two quotients: Medicaid spending as a share of national health expenditures (NHE) and NHE as a share of GDP.

We focus on understanding the factors that have influenced Medicaid spending as a share of NHE over the past thirty years and on constructing estimates of this ratio for 2005–2045. Other analysts have spent considerable effort in understanding the factors accounting for the growth of NHE as a share of GDP, and the CMS produces long-term projections for that ratio, which we use here.⁴

Changes in Medicaid spending as a share of NHE are a function of two factors: changes in the number of Medicaid enrollees as a share of the population, and changes in per enrollee Medicaid spending relative to changes in per capita health spending.⁵ As is often noted, Medicaid serves many functions, and enrollment and spending dynamics differ across areas of the program. To understand 1975–2003 spending trends and to project spending for 2005–2045, we divided Medicaid enrollment into four groups: elderly, the under-sixty-five disabled, nondisabled adults, and nondisabled children; we considered enrollment and spending trends separately for these groups.

■ **Data.** Data sources for our historical account of Medicaid enrollment and spending are described in an online technical appendix.⁶ We focused on projecting

Medicaid spending as fraction of NHE. To project Medicaid spending as a share of GDP, we multiplied our projections of Medicaid spending as a share of NHE by projections of NHE as a share of GDP.⁷ The CMS projections are consistent with the long-run Medicare spending assumption used in the 2006 Medicare Trustees report. Our projections assumed that basic federal and state eligibility standards will not change over the forty-year projection period.

■ **Methods.** Projections of Medicaid spending as a share of NHE require projections of eight factors: The first four are the number of child, adult, disabled, and aged beneficiaries as a share of the total population, and the second four are the per capita Medicaid spending for each of these four categories of assistance as a fraction of per capita NHE. Our methods of projecting each of these eight quantities are described in the technical appendix.⁸ We provide an overview of the methods here.

Child and adult enrollment. Using data from the Current Population Survey, we analyzed trends from 1977 to 2004 in the proportion of children and adults covered by employer-sponsored insurance and in the proportion with public coverage among children and adults without employer coverage. We used this analysis to project enrollment for the period 2005–2045.

Disabled enrollment. We projected the number of disabled Medicaid enrollees separately for the cash and noncash disabled. The Office of the Actuary at the Social Security Administration (SSA) produces twenty-five-year projections of growth in the under-age-sixty-five Supplemental Security Income (SSI) caseload, and we used these projections to project growth in cash disabled Medicaid enrollees.⁹ We analyzed the historical relationship between the growth in noncash and cash disabled people, and we used this analysis to project the number of noncash disabled Medicaid enrollees.

Per capita Medicaid spending for children, adults, and the disabled. We analyzed trends from 1975 to 2003 in the ratio of Medicaid spending per enrollee to NHE per capita. There has been relatively little change in this ratio for adults, children, and the disabled over the past fifteen years, and we assumed that this stability will largely continue from 2005 to 2045.

Aged enrollees. To project Medicaid long-term care (LTC) spending, we relied primarily on the Long Term Care Financing Model (LTCFM), a microsimulation model developed by Lewin/ICF.¹⁰ The model incorporates assumptions about the rate of change in age-specific rates of disability, income distribution of the elderly, penetration of LTC insurance, growth in alternative residential care facilities, and the prices paid to LTC providers. As described in the technical appendix, we made one modification in the output of the model, which led to a small upward adjustment in projected Medicaid LTC spending.¹¹

Study Results

■ **Medicaid spending as a fraction of GDP, 1975–2003.** During the fifteen years from 1975 to 1989, Medicaid spending as a share of NHE remained nearly con-

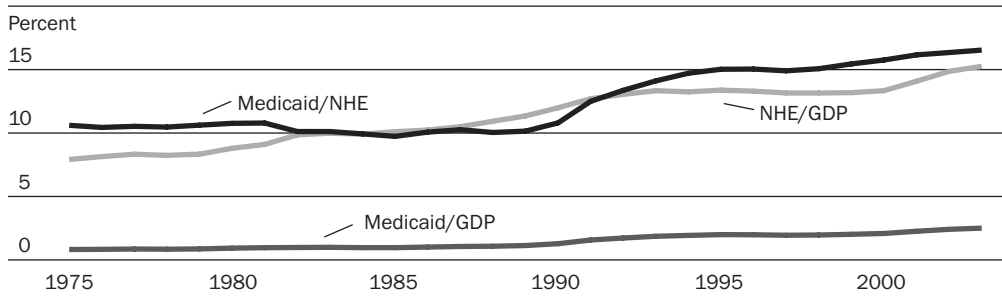
stant at approximately 10 percent and then grew rapidly between 1989 and 1996, reaching 15 percent in 1996 (Exhibit 1). In the five years between 1998 and 2003, it grew at a modest but steady rate of approximately 0.3 percent per year, reaching 16.5 percent of NHE in 2003. As a fraction of GDP, NHE grew from 8 percent in 1975 to 15.3 percent in 2003. Growth was relatively steady, although a sustained flat period during 1993–2000 was surrounded by short periods of more-rapid-than-average growth.

Combining the analysis of Medicaid as a fraction of NHE and NHE as a fraction of GDP, Medicaid spending as a fraction of GDP grew from 0.8 percent in 1975 to 2.5 percent in 2003. This growth was concentrated during the economic downturns of 1989–1993 and 2000–2003: Two-thirds of the growth for the entire period occurred during these seven years.

During the twenty-eight years 1975–2003, approximately 60 percent of the growth in Medicaid spending as a fraction of GDP can be accounted for by growth in NHE as a fraction of GDP; the remainder, by growth in Medicaid spending as a fraction of NHE (Exhibit 2). The primary reason that Medicaid spending grew as a share of GDP is simply that NHE grew as a share of GDP. However, 40 percent of the growth in Medicaid as a share of GDP was due to growth in Medicaid as a share of NHE, and we focus on understanding growth in this ratio below.

Understanding growth in Medicaid spending as a fraction of NHE, 1975–2003. Most of the increase in Medicaid spending as a share of NHE from 1975 to 2003 is accounted for by increased spending on people with disabilities (Exhibit 3). This increase accounts for close to three-quarters of the 5.9-percentage-point increase in Medicaid spending as a share of NHE over the time period. The remainder is accounted for by small increases in spending on children, in disproportionate-share hospital (DSH) spending, and in Medicaid administrative spending. Medicaid spending on adults and on the aged was virtually constant as a share of NHE over the period.

EXHIBIT 1
Medicaid Spending As A Share Of National Health Expenditures (Medicaid/NHE), NHE As A Share Of Gross Domestic Product (NHE/GDP), And Medicaid Spending As A Share Of GDP (Medicaid/GDP), 1975–2003



SOURCE: Authors' analysis of data from HCFA/CMS-64; HCFA-2082; Medicaid Statistical Information System (MSIS); Centers for Medicare and Medicaid Services (CMS) Office of the Actuary, National Health Accounts; and *Medicare and Medicaid Statistical Supplement*.

EXHIBIT 2
Portion Of Increase In Medicaid Spending As A Share Of Gross Domestic Product (GDP) That Is Attributable To Increase In Medicaid Spending As A Share Of National Health Expenditures (NHE) And Portion That Is Attributable To Increase In NHE As A Share Of GDP, 1975–2003

	Time period				
	1975–89	1989–93	1993–2000	2000–03	1975–2003
Portion of growth in Medicaid/GDP attributable to increase in Medicaid/NHE	-14.2%	67.0%	99.8%	26.5%	40.8%
Portion of growth in Medicaid/GDP attributable to increase in NHE/GDP	114.2%	33.0%	0.2%	73.5%	59.2%
Total	100.0%	100.0%	100.0%	100.0%	100.0%
Total percentage-point increase in Medicaid/GDP	0.3	0.7	0.2	0.4	1.7

SOURCE: Authors' analysis of data from HCFA/CMS-64; HCFA-2082; Medicaid Statistical Information System (MSIS); Centers for Medicare and Medicaid Services (CMS) Office of the Actuary, National Health Accounts; and *Medicare and Medicaid Statistical Supplement*.

We decomposed changes in spending in each of the four categories of assistance as a share of NHE into changes in two components: changes in the ratio of enrollees to the U.S. population, and changes in the ratio of per enrollee Medicaid spending to per capita NHE.

Medicaid beneficiaries as a fraction of the U.S. population increased among children, adults, and the disabled from 1975 to 2003, while remaining almost flat among the aged (Exhibit 4). Increases in children's enrollment occurred in two spurts—first from 1990 to 1994, and second from 1999 to 2003. The pattern for adults is similar, although the magnitude of increase is smaller. In contrast,

EXHIBIT 3
Medicaid Spending As A Share Of National Health Expenditures (NHE), By Category, 1975 And 2003

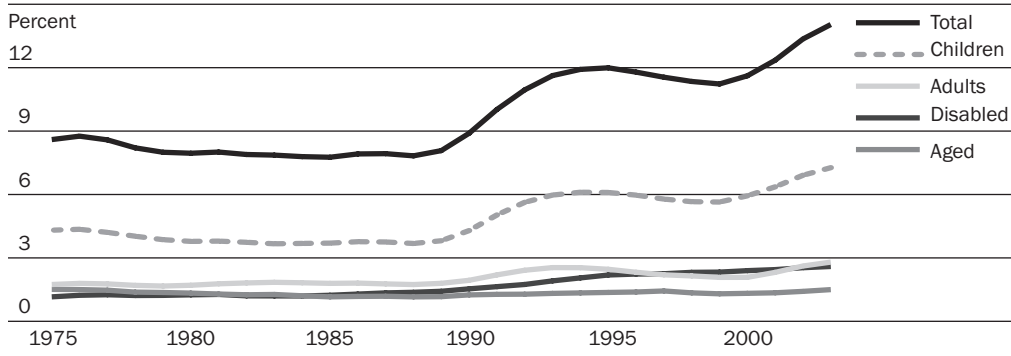
Category	1975	2003	Difference ^a	Share of increase in Medicaid/NHE
Children	2.0%	2.7%	0.7	11.5%
Adults	1.8	1.8	0.0	-0.3
Aged	3.7	3.9	0.2	3.0
Disabled	2.6	6.9	4.3	72.8
DSH	0.0	0.4	0.4	7.0
Administration	0.5	0.8	0.4	6.0
Total	10.6	16.5	5.9	100.0

SOURCE: Authors' analysis of data from HCFA/CMS-64; HCFA-2082; Medicaid Statistical Information System (MSIS); Centers for Medicare and Medicaid Services (CMS) Office of the Actuary, National Health Accounts; and *Medicare and Medicaid Statistical Supplement*.

NOTE: DSH is disproportionate-share hospital.

^a Percentage points.

EXHIBIT 4
Medicaid Enrollment As A Share Of The U.S. Population, By Category Of Assistance, 1975–2003



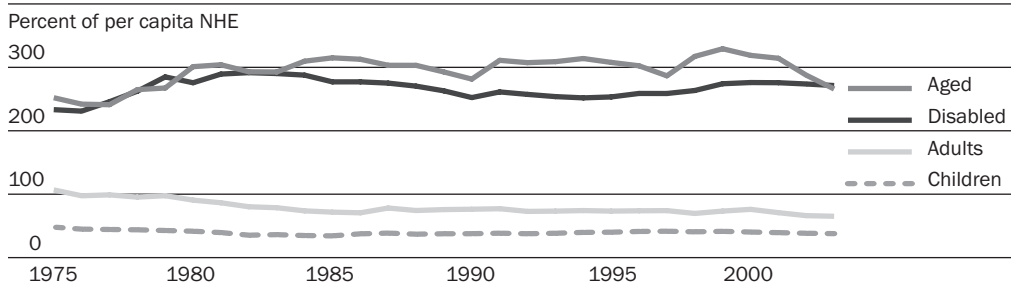
SOURCE: Authors' analysis of data from HCFA/CMS-64; HCFA-2082; Medicaid Statistical Information System (MSIS); Centers for Medicare and Medicaid Services (CMS) Office of the Actuary, National Health Accounts; and *Medicare and Medicaid Statistical Supplement*.

growth in enrollment among the disabled was steady over the twenty-eight-year period.

Partially counterbalancing the effects of increases in adult and child enrollment, the ratio of per enrollee spending in Medicaid to NHE per capita declined for adults and to a lesser extent for children (Exhibit 5). In 1975, average Medicaid spending per adult was virtually identical to NHE per capita. By 1987, Medicaid spending per adult was only 65 percent of per capita health spending. To a large extent, this was a result of more successful cost (or, more aptly, payment rate) containment efforts by Medicaid than by other payers.¹² Similarly, the spending ratio for children declined during 1975–1986 and has been close to constant since then.

Per capita spending for the disabled relative to per capita NHE fluctuated somewhat from 1975 to 2003 but was virtually the same in 2003 as it was in 1979.

EXHIBIT 5
Medicaid Spending Per Enrollee As A Percentage Of National Health Expenditures (NHE) Per Capita, By Category Of Assistance, 1975–2003



SOURCE: Authors' analysis of data from HCFA/CMS-64; HCFA-2082; Medicaid Statistical Information System (MSIS); Centers for Medicare and Medicaid Services (CMS) Office of the Actuary, National Health Accounts; and *Medicare and Medicaid Statistical Supplement*.

Per capita spending for the aged, as a ratio to per capita NHE, changed very little over the time period, although it declined substantially from 2000 to 2003.

Enrollment increases account for the entire increase in Medicaid as a share of NHE from 1975 to 2003 (Exhibit 6). Restraint in the growth of per enrollee spending resulted in restraint in the growth of Medicaid spending as a share of NHE.

A closer look at enrollment and spending for people with disabilities. Because growth in spending on the disabled accounts for such a large share of the growth in Medicaid as a share of NHE, we examined more closely the sources of enrollment and spending growth for this population. Growth in disabled enrollment was fueled first by growth in the number of SSI recipients from 1975 to 1996 and then later by growth in the number of enrollees not receiving cash assistance from 1996 through 2003. From 1982 through 1996, the number of under-age-sixty-five SSI recipients

EXHIBIT 6
Effects Of Changes In Number Of Enrollees And Spending Per Enrollee On Medicaid Spending As A Share Of National Health Expenditures (NHE), By Type Of Enrollee, 1975–2003

	1975	2003	Contribution to change in Medicaid/NHE
Children			
Enrollment/U.S. population	0.043	0.073	0.013
(\$ per enrollee)/(NHE per capita)	0.478	0.376	-0.006
Subtotal	0.020	0.027	0.007
Adults			
Enrollment/U.S. population	0.017	0.028	0.009
(\$ per enrollee)/(NHE per capita)	1.061	0.648	-0.009
Subtotal	0.018	0.018	0.000
Aged			
Enrollment/U.S. population	0.015	0.015	0.000
(\$ per enrollee)/(NHE per capita)	2.506	2.643	0.002
Subtotal	0.037	0.039	0.002
Disabled			
Enrollment/U.S. population	0.011	0.026	0.036
(\$ per enrollee)/(NHE per capita)	2.319	2.697	0.007
Subtotal	0.026	0.069	0.043
Total services			
Enrollment/U.S. population	0.086	0.140	0.058
(\$ per enrollee)/(NHE per capita)	1.183	1.090	-0.006
Total	0.102	0.153	0.051
DSH/NHE	0.000	0.004	0.004
Administration/NHE	0.005	0.008	0.004
Medicaid total/NHE	0.106	0.165	0.059

SOURCE: Authors' analysis of data from HCFA/CMS-64; HCFA-2082; Medicaid Statistical Information System (MSIS); Centers for Medicare and Medicaid Services (CMS) Office of the Actuary, National Health Accounts; and *Medicare and Medicaid Statistical Supplement*.

NOTE: DSH is disproportionate-share hospital.

grew 6.8 percent annually, accounting for most of the growth in disabled enrollment in Medicaid. Growth in SSI recipients slowed from 1996 through 2003, averaging just 1.1 percent annually, but during that time period the number of noncash disabled enrollees grew rapidly. We discuss factors influencing growth rates in cash and noncash disabled beneficiaries in the technical appendix.¹³

Although the number of noncash disabled Medicaid enrollees increased rapidly during the past decade, spending per noncash disabled enrollee increased much more slowly than spending per cash disabled enrollee. As a result, although noncash enrollees as a fraction of all disabled enrollees increased from 20 percent in 1990 to 29 percent in 2003, Medicaid spending on noncash disabled enrollees as a fraction of Medicaid spending on all disabled enrollees decreased during the same time period: from 37 percent in 1990 to 34 percent in 2003.

■ **Projections of Medicaid spending as a share of NHE, 2005–2045.** *Adults and children.* The proportion of children with private insurance has been declining steadily from 1987 through 2004, particularly among children in families with incomes of 100–200 percent and 200–300 percent of the federal poverty level. In these two income groups, the decline in private coverage averaged approximately 0.85 percent per year over the seventeen-year time period. Private coverage among adults declined similarly. We assumed that these rates of decline will continue at their historical rates.

Approximately 64 percent of children not covered by private insurance were covered by public programs in 2004, with the fraction varying from 74 percent of children in families below 100 percent of poverty to 40 percent of children in families above 300 percent of poverty. Public coverage among adults without private insurance is much lower: an average of 23 percent, with variation from 40 percent of adults with incomes below 100 percent of poverty to 10 percent of adults with incomes above 300 percent of poverty. We assumed that these rates will stay constant at the average of the 2002–2004 levels.

As a result of the anticipated decline in employer-sponsored insurance, we projected that person-years of eligibility for Medicaid children as a proportion of all U.S. children will increase from 27.3 percent in 2003 to 34.7 percent in 2045. However, the SSA projects that children as a proportion of the U.S. population will decline from 26.7 percent to 22.6 percent over the same time period. This projected decrease largely counterbalances the projected increase in the proportion of children covered by Medicaid, and Medicaid children as a proportion of the population are projected to increase from 7.3 percent in 2003 to 7.8 percent in 2045.

Similarly, we projected a small increase in the proportion of adults covered by Medicaid (from 4.5 percent in 2003 to 5.4 percent in 2045), the SSA projected a small decline in adults as a share of the population, and we projected that Medicaid adults as a share of the population will increase from 2.8 percent in 2003 to 3.1 percent in 2045. We assumed that Medicaid spending per adult enrollee will remain at 65 percent of the level of NHE per capita and that Medicaid spending per

child enrollee will remain at 37 percent of NHE per capita. Under these assumptions, Medicaid spending on both children and adults is projected to change very little as a share of NHE from 2005 to 2045, increasing slightly from 2.7 percent to 3.0 percent of NHE for children and from 1.8 percent to 2.0 percent of NHE for adults.

Disabled. The SSA projected that SSI beneficiaries as a fraction of each under-age-sixty-five age group will remain approximately constant from 2006 to 2030.¹⁴ Combined with the SSA projection that the nonelderly will decline slightly as a share of the total population, the SSA projected that nonelderly SSI beneficiaries in this age group will decline slightly as a share of the population. We assumed that the cash portion of Medicaid disabled enrollment will grow at the rate of growth of nonelderly SSI beneficiaries, an assumption supported by the close relationship between growth in these two series during 1990–2003. The projected decline in nonelderly SSI beneficiaries as a share of the population greatly moderates the projected rate of growth in Medicaid spending as a share of NHE.

As described in the technical appendix, we assumed that the number of non-cash disabled Medicaid enrollees will continue to grow more quickly than the number of cash disabled enrollees but that the difference in growth rates in the future will not be as wide as in the past.¹⁵ Partially counterbalancing our assumption of slower-than-historical growth rates in the number of noncash enrollees, we assumed that spending per noncash enrollee will increase much more rapidly than the recent historical experience.

Combining the enrollment and per capita spending projections, we projected that Medicaid spending on the disabled will decline from 7.3 percent in 2005 to 7.0 percent in 2006 with the implementation of Medicare Part D and then grow gradually to 9.5 percent by 2045.¹⁶

Aged. The specter of increased Medicaid LTC costs as the baby boomers age looms over all discussions of Medicaid's future. As the share of the population over age eight-five increases from 1.6 percent today to a projected 3.6 percent in 2045, LTC costs will inevitably increase.

Three factors are expected to moderate Medicaid LTC costs as a share of NHE. First, the age-specific rate of disability is expected to continue to decline, resulting in fewer LTC needs for a person of a given age in 2045 than in 2005.¹⁷ Second, baby boomers have more income and assets than their parents had, and the fraction of the elderly relying on Medicaid for LTC is expected to decline. Third, and most importantly, projected growth in the price of nursing home and home health services is much slower than the projected growth rate in NHE per capita. Health care is a technology-intensive industry, and projected growth in per capita NHE is 1–2 percent per year above the rate of growth of GDP per capita. In contrast, LTC is a labor-intensive industry, and projected growth in LTC prices is approximately 1 percent per year below the rate of growth in NHE per capita. As a result, even though the number of elderly people using Medicaid LTC services is projected to

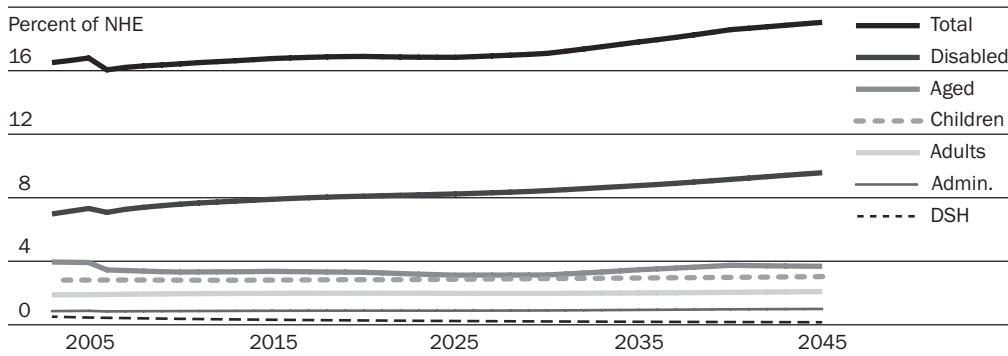
increase, projected Medicaid spending on the aged is expected to increase only marginally as a share of NHE.

Over the forty-year projection period, aged Medicaid enrollees as a share of the population are projected to increase by approximately 50 percent: from 1.5 percent to 2.3 percent of the population. However, as a result of projected modest rates of growth in nursing facility per diem and home health per visit costs, Medicaid spending on the aged is projected to change very little: declining from 3.9 percent of NHE in 2003 to 3.4 percent in 2006 following the implementation of Medicare Part D, declining further to 3.0 percent in 2025 before the bulge of the baby-boom generation turns eighty, and then increasing slightly to 3.6 percent in 2045 as the baby boomers' use of LTC increases. Even with the anticipated increase from 2020 to 2045, Medicaid spending on the aged as a share of NHE is projected to be virtually the same in 2045 as they were in 2003.

DSH and administrative costs. In 2003, Medicaid administrative spending accounted for approximately 5 percent of total spending. We assumed that this ratio will remain constant over the 2005–2045 time period. In the March 2006 baseline, the CBO assumed that DSH spending will increase 2 percent per year from 2006 through 2016. We assumed the same rate of DSH spending growth from 2016 through 2045.

■ **Summary of projected Medicaid spending as a share of NHE, 2005–2045.** Combining our projections of Medicaid spending on children, adults, the disabled, and the aged, along with projections of DSH and Medicaid administrative spending, we projected that Medicaid spending as a share of NHE will average 16.6 percent from 2006 through 2025 and then increase gradually to 19 percent by 2045 (Exhibit 7). We projected that spending on the disabled will increase throughout

EXHIBIT 7
Projected Medicaid Spending As A Share Of National Health Expenditures (NHE), Total And By Group, 2003–2045



SOURCE: Authors' analysis of data from HCFA/CMS-64; HCFA-2082; Medicaid Statistical Information System (MSIS); Centers for Medicare and Medicaid Services (CMS) Office of the Actuary, National Health Accounts; *Medicare and Medicaid Statistical Supplement*; Social Security Administration; Lewin/ICF Long Term Care Financing Model (LTCFM); and U.S. Bureau of the Census, Current Population Survey.

NOTE: DSH is disproportionate-share hospital.

the period, but during 2006–2030, these increases should be largely offset by the sharp decline in Medicaid spending resulting from Part D in 2006 and by small declines in spending on the aged and in DSH spending as a share of NHE during 2006–2030. We projected little change in spending on adults and children as a share of NHE.

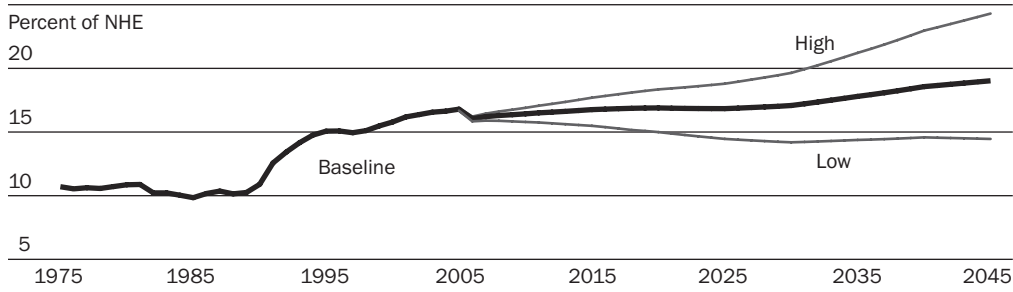
■ **Comparison with CBO and OMB projections.** Although our work is the only detailed effort of which we are aware that creates forty-year projections of Medicaid spending, both the CBO and the Office of Management and Budget (OMB) create ten-year projections of Medicaid spending as part of the budget process. Over the ten-year period 2006–2016, both the CBO March baseline and the OMB baseline projected average annual federal Medicaid spending growth of 7.5 percent per year.¹⁸ Over the same time period, we projected growth of 7.6 percent per year.

■ **Projected Medicaid spending as a share of GDP, 2005–2045.** The CMS projected that NHE will increase substantially as a share of GDP from 2005 to 2045; as a result, Medicaid spending is expected to increase as a share of GDP. This spending will increase by approximately 0.8 percent per decade over the next twenty years: from 2.6 percent of GDP in 2006 to 4.1 percent in 2025. Assuming that the state government share stays constant at 43 percent, state spending on Medicaid is projected to increase from 1.1 percent of GDP in 2006 to 1.8 percent in 2025. From 2026 to 2045, Medicaid spending as a share of GDP is projected to increase from 4.1 percent to 6.5 percent, with the state share projected to increase from 1.8 percent to 2.8 percent. Given the projected rapid growth in NHE as a share of GDP and projections of virtually no change in Medicaid spending as a share of NHE, almost all of the projected growth in Medicaid spending as a share of GDP is due to projected growth in NHE as a share of GDP.

■ **Sensitivity analyses.** We explored the sensitivity of our results to alternative assumptions for some of the key factors in our projections.¹⁹ In the sensitivity analyses, we assumed that LTC prices grow more quickly than in the baseline model, that noncash disabled enrollment grows more quickly than in the baseline model, and that employer-sponsored coverage declines more quickly than in the baseline model.

If all of the “high” spending scenarios occur, we projected that Medicaid spending as a share of NHE in 2045 would be 24.4 percent, much higher than the 19.0 percent in the baseline, intermediate projection (Exhibit 8). We think it highly unlikely that Medicaid spending as a share of NHE will be as high as in the “high” assumption, but we present it as a reasonable upper bound. In the low assumption, Medicaid spending is projected to be 14.4 percent of NHE in 2045. There is also uncertainty concerning NHE as a share of GDP, and uncertainty about the growth rate of NHE introduces additional uncertainty into projections of Medicaid spending as a share of GDP.

■ **Ability of state and federal governments to support Medicaid spending increases.** Medicaid has been described—incorrectly, we believe—as the “Pac-Man” that ate state budgets, insatiable in its appetite for more money, crowding out

EXHIBIT 8**Sensitivity Analysis: Effects Of Alternative Assumptions On Medicaid Spending As A Share Of National Health Expenditures, 1975–2045**

SOURCE: Authors' analysis of data from HCFA/CMS-64; HCFA-2082; Medicaid Statistical Information System (MSIS); Centers for Medicare and Medicaid Services (CMS) Office of the Actuary, National Health Accounts; *Medicare and Medicaid Statistical Supplement*; Social Security Administration; Lewin/ICF Long Term Care Financing Model (LTCFM); and U.S. Bureau of the Census, Current Population Survey.

state governments' ability to invest in other priorities such as education, transportation, and corrections. Medicaid accounted for 16.9 percent of state general fund spending in 2004. If Medicaid spending growth greatly exceeds states' general revenue growth, other state spending priorities will suffer.²⁰

States' "own-source" revenue—that is, revenue raised from sources within the state, excluding intergovernmental transfers (IGTs)—increased steadily, from 6.4 percent of GDP in 1977 to 7.4 percent in 2000. The recession and dot-com bust of 2000 resulted in a sharp break from the 1977–2000 trend line, reducing state revenues to 7.0 percent of GDP in calendar year 2003. State tax revenues rebounded in 2004 and 2005 and reached approximately 7.3 percent of GDP in 2005.²¹

Analysis of the pattern of state revenue growth during 1977–2005 leads us to expect that state revenues will continue to grow modestly as a share of GDP from 2005 to 2045. If they continue their historical pattern of growth, they will grow from 7.3 percent of GDP in 2005 to 8.9 percent in 2045—an average real growth rate of 2.8 percent per year from 2006 to 2025 and 2.5 percent from 2026 to 2045. If, alternatively, state revenues stay constant at 7.3 percent of GDP from 2006 to 2045, then real state revenues will grow at the rate of real GDP growth, estimated to be 2.3 percent per year from 2006 to 2025 and 2.0 percent from 2026 to 2045.

Even assuming that Medicaid spending grows as a share of GDP, real state revenues for services other than Medicaid are projected to grow as well, although the level of growth depends on the level of state revenue growth, the level of Medicaid spending growth, and the time period under consideration. If, as seems most likely, state revenues continue to grow modestly and Medicaid spending follows our intermediate projections, real growth in state revenues for services other than Medicaid will average 2.5 percent per year for the next twenty years (Exhibit 9). This is lower than the real growth rate of 2.8 percent per year that states would enjoy if Medicaid spending remained constant as a share of GDP, but it is still well above zero and is slightly higher than the projected rate of real GDP growth.

EXHIBIT 9
Projected Real Annual Growth Rates Of State and Federal Revenues For Services
Other Than Medicaid, 2006–2045

	Alternative scenarios for state revenue growth		
	State revenues/GDP grow at 1977–2003 average rate	State revenues/ GDP constant at 7.3% of GDP	Federal revenues constant as a share of GDP ^a
2006–2025			
Alternative Medicaid/NHE scenarios			
Low	2.7%	2.0%	2.4%
Intermediate	2.5	1.8	2.3
High	2.3	1.6	2.2
Constant Medicaid/GDP growth scenario ^b	2.8%	2.3%	2.5%
2026–2045			
Alternative Medicaid/NHE scenarios			
Low	2.2%	1.4%	1.8%
Intermediate	1.8	0.9	1.6
High	1.3	0.2	1.3
Constant Medicaid/GDP growth scenario ^b	2.5%	2.0%	2.0%

SOURCE: Authors' analysis of data from HCFA/CMS-64; HCFA-2082; Medicaid Statistical Information System (MSIS); Centers for Medicare and Medicaid Services (CMS) Office of the Actuary, National Health Accounts; *Medicare and Medicaid Statistical Supplement*; Social Security Administration; Lewin/ICF Long Term Care Financing Model (LTCFM); U.S. Bureau of the Census, Current Population Survey; and Nelson A. Rockefeller Institute of Government, State University of New York.

NOTES: Growth rates in first two columns are for annual state revenue growth; growth rates in the final column are for annual federal revenue growth. GDP is gross domestic product. NHE is national health expenditures.

^a Rising from 17.5 percent in 2005 to 18.3 percent for 2015–2045 period in accordance with Congressional Budget Office (CBO) projections.

^b These scenarios are for illustrative purposes and show the projected real rate of growth in state and federal revenues.

If state revenues remain constant as a share of GDP, or if Medicaid spending grows more quickly than in our intermediate projections, state revenues for services other than Medicaid will grow more slowly, but in all scenarios shown in Exhibit 9, states are expected to enjoy real revenue growth for services other than Medicaid for the next two decades.

The difference between growth in states' own-source revenue and growth in revenues available for services other than Medicaid provides a summary measure of the extent to which Medicaid spending growth limits states' ability to fund other activities. In the scenario in which state revenues continue to grow modestly as a share of GDP, under the intermediate Medicaid growth assumption, state revenues for services other than Medicaid are projected to grow 0.3 percent per year more slowly than state revenues overall during 2006–2025. If state revenues remain constant at 7.3 percent of GDP, then the difference is projected at 0.5 percent during 2006–2025. By way of comparison, this difference averaged 0.7 percent between 1990 and 2003.

From 2026 to 2045, Medicaid spending growth is expected to create more fiscal stress for states than during 2006–2025. In this second two decades, if state reve-

nues follow their historical trend and Medicaid spending follows the intermediate projection, the gap between state revenue growth and revenues available for services other than Medicaid will be 0.7 percent annually: almost exactly the level observed during 1990–2003. Further, state revenues for services other than Medicaid would grow 1.8 percent annually: approximately the rate of GDP growth. However, if state revenues remain constant as a share of GDP, state resources to fund other priorities will be severely limited.

A parallel analysis indicates that projected Medicaid spending growth will have very little effect on new federal revenues available for services other than Medicaid. Adopting the “conservative” scenario from the CBO long-term budget outlook, we assumed that federal revenues will increase from their current level (17.5 percent of GDP in 2005) to the average level for the previous thirty years (18.3 percent).²² Under this assumption, if federal Medicaid spending grows in accordance with the intermediate projection, then real growth in federal revenues for services other than Medicaid will average 2.3 percent annually from 2006 to 2025, only slightly lower than the 2.5 percent they would average if Medicaid spending remained constant as a share of GDP.

However, projected growth in Medicare spending will squeeze the federal government’s ability to pay for services other than health care. Using Medicare projections from the trustees’ report, real federal revenues for services other than Medicare are projected to grow 1.5 percent from 2006 to 2025, much less than the 2.5 percent growth rate if Medicare remained constant as a share of GDP.²³

Concluding Comments

Despite concerns about the LTC needs of the baby boomers and the pressures placed on Medicaid by the expected decline in employer-sponsored insurance, Medicaid spending as a share of NHE will average 16.6 percent from 2006 to 2025, roughly unchanged from 16.5 percent in 2005, and then increase slowly to 19.0 percent by 2045. This projection is driven primarily by three main assumptions.

First, many adults will lose employer coverage, but few of them are eligible for Medicaid. Although the fraction of children covered by Medicaid will increase, this increase will be largely offset by declines in the fraction of the population accounted for by children. Further, per capita spending for children is so low that it does not have much effect on overall Medicaid spending.

Second, growth in the number of disabled enrollees was the main driver of the modest growth in Medicaid spending as a share of NHE that occurred during 1975–2003. However, growth in the SSI population has been very slow for the past decade, and the SSA projects continued slow growth for the next twenty-five years. Thus, the main engine of growth in Medicaid spending as a share of NHE since 1975 is likely to slow down over the next twenty years.

Third, the assumption that nursing home and home health prices will grow at the rate of growth of wages produces the result that even with many more elderly

“The main engine of growth in Medicaid spending is likely to slow down over the next twenty years.”

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people in need of LTC, Medicaid LTC spending as a share of NHE is not likely to increase greatly.

Although there are many uncertainties in projecting Medicaid spending, our sensitivity analysis suggests that it is very unlikely that Medicaid will increase to more than 24.4 percent of NHE by 2045. Preliminary data suggest that Medicaid spending growth has slowed since 2003, which indicates that, if anything, our projections beyond 2003 are likely too high.²⁴

Even assuming that Medicaid stays constant as a share of NHE, it is expected to increase as a share of GDP because NHE is projected to increase as a share of GDP. However, under our intermediate assumptions for Medicaid spending growth, real growth in state government revenue for services other than Medicaid is expected to be substantial from 2006 to 2025. That growth will be 0.3–0.5 percent less per year than if Medicaid spending were to remain constant as a share of GDP, but real state spending growth for services other than Medicaid from 2006 to 2025 is still projected to average 1.8 percent annually if state revenues are constant as a share of GDP, or 2.5 percent if state revenues continue their historical path of increasing modestly as a share of GDP. There is little indication that Medicaid will be the “Pac-Man that ate state budgets.”

Our projections that state governments will, in the aggregate and over a twenty-year time period, enjoy real growth in revenues for services other than Medicaid will be of little comfort to governors and legislatures in some states in some years. In recessions, state revenues grow more slowly than average, and Medicaid spending rises more quickly, straining state budgets. Even during periods when the national economy is strong, individual states might either experience revenue shortfalls or face greater-than-average Medicaid spending pressures. We do not intend to downplay the difficult choices that Medicaid spending growth creates, particularly during recessions. However, our results do suggest that state governments should have sizable new revenues available for services other than Medicaid.

There are certainly areas in which Medicaid programs could improve their performance as purchasers of health care, using their purchasing power to encourage improvement in delivery systems and care coordination. However, the results reported in this paper make it clear that the growth of Medicaid spending as a share of the economy over the next forty years will largely be driven by the growth of health spending as a share of the economy.

MEDICAID IS A SPECIAL PROGRAM in many ways—serving parts of the population that are ill served by the voluntary employer-based financing system. But despite fears about declines in employer-sponsored insurance, increases in the number of disabled people, and the LTC needs of the baby boomers, it appears that there is little that is special about Medicaid spending: It is likely to increase with health spending more generally, neither much more quickly nor much more slowly.

Short of pushing beneficiaries into the ranks of the uninsured or greatly reducing Medicaid benefits, there is likely little that can be done to greatly reduce Medicaid spending growth in the medium term except to do something about reducing overall health spending growth. Medicaid is one purchaser in a larger health care market, and with payment rates already much lower than those of other payers and with an overall population far more costly than that covered by private insurance, the most effective way to control Medicaid spending growth is to pursue strategies to control overall health care cost growth. This is a problem much larger than Medicaid, and beyond the scope of our work here.

We hope that this work makes clear that there is no need to rush headlong into changes in Medicaid for fear that Medicaid is unsustainable or will bankrupt state and federal taxpayers. A measured and careful approach makes much more sense.

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NOTES

1. Medicaid Commission, *Final Report and Recommendations*, December 2006, <http://aspe.hhs.gov/medicaid/122906rpt.pdf> (accessed 5 January 2007).
2. Congressional Budget Office, “Fact Sheet for CBO’s March 2006 Baseline: Medicaid and the State Children’s Health Insurance Program,” March 2006, <http://www.cbo.gov/budget/factsheets/2006b/medicaid.pdf> (accessed 23 October 2006); and U.S. Department of Health and Human Services, “HHS Budget in Brief, Fiscal Year 2007,” February 2006, <http://www.hhs.gov/budget/07budget/2007BudgetInBrief.pdf> (accessed 25 October 2006).
3. CBO, “The Long-Term Budget Outlook,” December 2005, <http://cbo.gov/ftpdocs/69xx/doc6982/12-15-LongTermOutlook.pdf> (accessed 29 September 2006).
4. That is, $\text{Medicaid spending/GDP} = (\text{Medicaid spending/NHE}) \times (\text{NHE/GDP})$.
5. That is, $\text{Medicaid spending/NHE} = (\text{Medicaid spending/Medicaid beneficiaries}) \times (\text{Medicaid beneficiaries/U.S. population}) \times (\text{U.S. population/NHE}) = (\text{Medicaid beneficiaries/U.S. population}) \times (\text{Medicaid spending per beneficiary})/(\text{NHE per capita})$.
6. Our online technical appendix is available at <http://content.healthaffairs.org/cgi/content/full/26/2/w271/DC2>. All data in this analysis are on a calendar-year basis.
7. Projections of NHE as a share of GDP were produced by the Centers for Medicare and Medicaid Services (CMS) in the winter of 2006 and were supplied by Stephen Heffler of the CMS Office of the Actuary.

8. See the online technical appendix, as in Note 6.
9. Social Security Administration, "2006 SSI Annual Report," May 2006, <http://www.ssa.gov/OACT/SSIR/SSI06/index.html> (accessed 23 January 2007). The correlation between the number of under-age-sixty-five Supplemental Security Income (SSI) beneficiaries and the number of cash Medicaid disabled beneficiaries from 1990 to 2003 is 0.95.
10. The LTCFM was initially developed in the mid-1980s and has been updated and enhanced under a contract with the Office of the Assistant Secretary for Planning and Evaluation (ASPE) in the U.S. Department of Health and Human Services. See D.L. Kennell et al., *Brookings/ICF Long Term Care Financing Model: Model Assumptions*, February 1992, <http://aspe.hhs.gov/daltcp/reports/modampes.htm> (accessed 23 January 2007), for the original model specifications. We used baseline output from the updated model that was graciously provided by the staff of the Georgetown University Long-Term Care Financing Project. The updated model is described in P. Kemper, H.L. Komisar, and L. Alecxih, "Long-Term Care over an Uncertain Future: What Can Current Retirees Expect?" *Inquiry* 42, no. 4 (2005/2006): 335–350.
11. See the online technical appendix, as in Note 6.
12. The decline might be a result in part of case-mix changes.
13. See the online technical appendix, as in Note 6.
14. Social Security Administration, "2006 SSI Annual Report."
15. See the online technical appendix, as in Note 6.
16. The "clawback" payments (phased-down state contribution, in statute) in 2006 and beyond are not counted as Medicaid spending.
17. K.G. Manton and X. Gu, "Changes in the Prevalence of Chronic Disability in the United States Black and Non-Black Population above Age Sixty-five from 1982 to 1999," *Proceedings of the National Academy of Sciences (U.S.)* 98, no. 11 (2001): 6354–6359; and D.A. Wolf, K. Hunt, and J. Knickman, "Perspectives on the Recent Decline in Disability at Older Ages," *Milbank Quarterly* 83, no. 3 (2005): 365–395.
18. CBO, "Fact Sheet for CBO's March 2006 Baseline"; and DHHS, "HHS Budget in Brief."
19. See the online technical appendix, as in Note 6.
20. National Association of State Budget Officers, *2004 State Expenditure Report*, Table 28, <http://www.nasbo.org/Publications/PDFs/2004ExpendReport.pdf> (accessed 23 October 2006). Including federal Medicaid funds in the state spending total raises the 2004 percentage to 22.3 percent. These totals exclude administrative spending.
21. Data on states' own-source revenues from FY 1977 to FY 2004 were provided by the Rockefeller Institute of Government, State University of New York. State tax revenue data for FY 2005 are from Census Bureau, "Federal, State, and Local Governments: 2005 State Government Tax Collections," 23 May 2006, <http://www.census.gov/govs/www/statetax05.html> (accessed 23 January 2007).
22. CBO, "The Long-Term Budget Outlook."
23. Boards of Trustees, *2006 Annual Report of the Boards of Trustees of the Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds*, 1 May 2006, <http://www.cms.hhs.gov/ReportsTrustFunds/downloads/tr2006.pdf> (accessed 23 January 2007).
24. J. Holahan, M. Cohen, and D. Rousseau, "What Factors Contributed to Medicaid Spending and Enrollment Growth between 2000–2005" (Washington: Kaiser Commission on Medicaid and the Uninsured, February 2007).