kaiser commission on medicaid and the uninsured

The Coverage and Cost Impacts of Expanding Medicaid

Prepared by
Bowen Garrett, John Holahan, Allison Cook, Irene Headen, and Aaron Lucas
The Urban Institute

Prepared for
The Kaiser Commission on Medicaid and the Uninsured

May 2009

THE HENRY J. KAISER FAMILY FOUNDATION

kaiser commission medicaid and the uninsured

The Kaiser Commission on Medicaid and the Uninsured provides information and analysis on health care coverage and access for the low-income population, with a special focus on Medicaid's role and coverage of the uninsured. Begun in 1991 and based in the Kaiser Family Foundation's Washington, DC office, the Commission is the largest operating program of the Foundation. The Commission's work is conducted by Foundation staff under the guidance of a bi-partisan group of national leaders and experts in health care and public policy.

kaiser commission on medicaid and the uninsured

The Coverage and Cost Impacts of Expanding Medicaid

Prepared by
Bowen Garrett, John Holahan, Allison Cook, Irene Headen, and Aaron Lucas
The Urban Institute

Prepared for
The Kaiser Commission on Medicaid and the Uninsured

May 2009

THE HENRY J. KAISER FAMILY FOUNDATION

Executive Summary

There will be considerable debate as the nation moves forward to reform the health care system to both control costs and address coverage for millions of Americans lacking health insurance. Medicaid's role for the low-income population provides a strong platform on which reform efforts to expand coverage can be built as two-thirds of the nation's uninsured are low-income. Medicaid has proven to be an effective vehicle for improving access and health outcomes for low-income and high-need populations. It is a tested program with an administrative structure in every state that has been a foundation for state health reform efforts designed to expand coverage for their low-income residents. However, under current law, non-disabled adults without dependent children are not eligible for Medicaid coverage, even if they are very poor. Medicaid coverage could be broadened to reach more of the low-income uninsured by eliminating categorical restrictions and establishing a consistent, simplified national eligibility standard for the program based on income. This paper estimates that 49 million Americans are uninsured in 2009 and analyzes several options to show the impacts on coverage and cost of expanding Medicaid to cover more low-income uninsured populations. The two options we highlight are:

- ***Option 1:*** An expansion of children to 250% FPL and adults to 100% FPL
- ***Option 2:*** An expansion of children to 300% FPL and adults to 150% FPL

We also examine the options of only expanding coverage to adults to these levels. For these options we assume current participation rates (between 60% and 70%) and also higher participation rates (90%). Participation at 90% approximates the levels under an individual mandate. The paper focuses on the results assuming the enhanced participation because the Medicaid expansions are expected to be part of broader health reform efforts that would strive for near universal coverage. In addition to cost and coverage, the analysis shows the impacts of the options by region and with payment rates adjusted upward to promote provider participation. These estimates reflect the medical costs of coverage for 2009 assuming full implementation of the options. The estimates do not include other costs such as outreach or new policies to achieve broader participation; therefore estimates of legislation would likely differ.

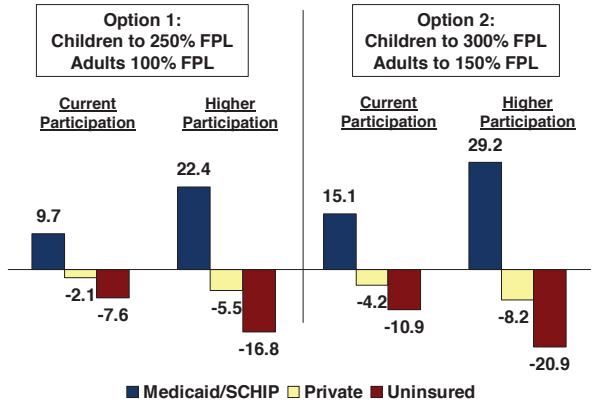
Expanding Medicaid Coverage and Boosting Participation Rates Can Significantly Reduce the Number of Uninsured

Under our two coverage scenarios, the number of uninsured would decline by 7.6 million under Option 1 and by 10.9 million under Option 2 assuming current participation rates. We also estimate the impact of the same Medicaid expansions assuming the enhanced participation rates (90%). The estimates assume that the higher participation rates would apply to current and new enrollees. Under these assumptions, Option 1 is would reduce the number of uninsured by 16.8 million and Option 2 would result in 20.9 million fewer uninsured (Figure ES-1). These estimates assume that states would continue coverage at current levels even if new federal minimum standards are set.

ES-Figure 1

Simulation Model Results: Coverage in 2009

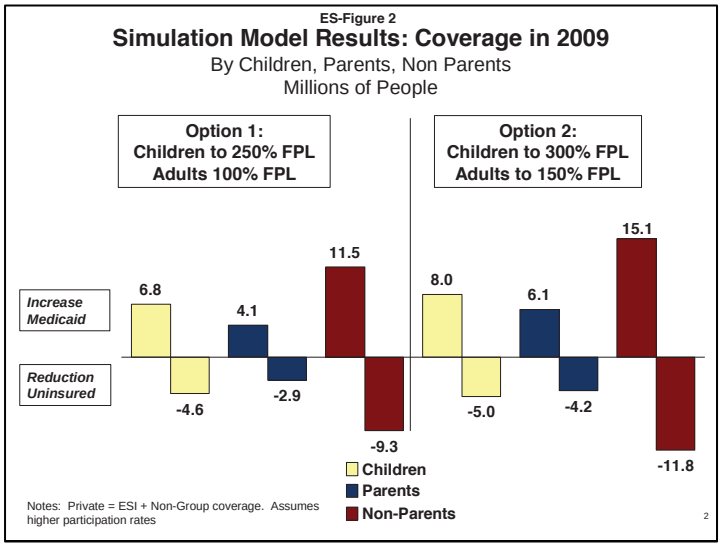
Millions of People



Notes: Private = ESI + Non-Group coverage.

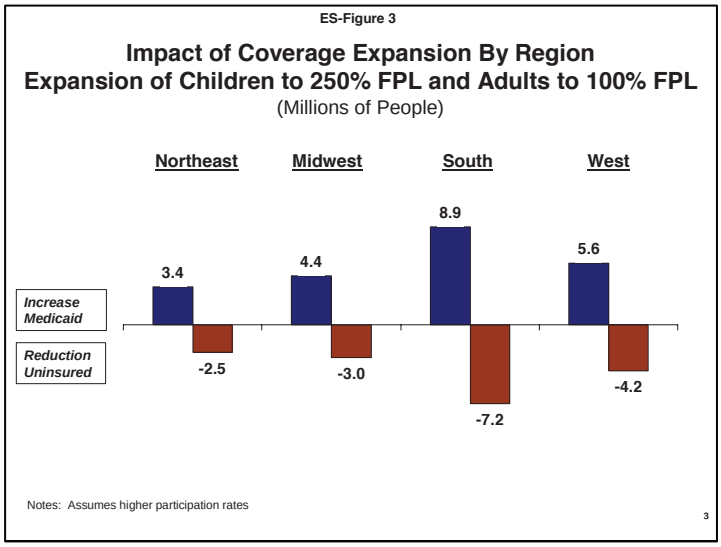
Non-Parents will Experience the Largest Reductions in Uninsured.

Under current law, non-disabled adults without dependent children are generally not eligible for Medicaid regardless of their income. In most states, eligibility levels for children are already set at 200% of poverty or higher, but are much lower for parents. So, these public coverage expansions will have a greater impact on adults. Assuming enhanced participation, Option 1 could reduce the number of uninsured by 16.8 million, of which 9.3 would be non-parents, 2.9 million could be parents and 4.6 million would be children. Option 2 could reduce the uninsured by 20.9 million of which 11.8 million would be non-parents, 4.2 million parents and 5.0 million children (Figure ES-2). The estimates for children may be somewhat overstated because the model is based on 2004 eligibility and some expansions may have already been adopted by states between 2004 and 2009. Further, the recent renewal of the Children's Health Insurance Program already accounts for increased coverage for children.



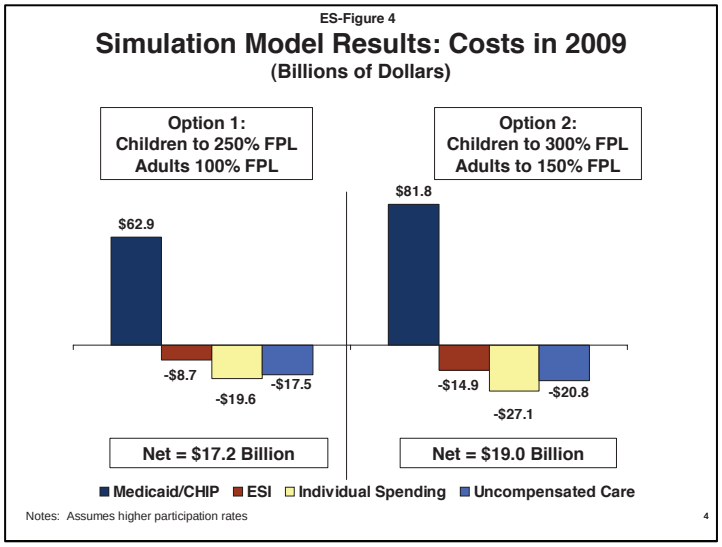
The Coverage Impacts, Like the Uninsured Rate, Varies Considerably by Region.

The baseline shows that percentage of the population covered by Medicaid is roughly the same in Northeast, South, and West but the number of uninsured are highest in the South and West. Because the uninsured rates are greater, the impacts of all of the expansions are generally greatest in the South and West. For example, under Option 1 (the expansion of children to 250% and adults to 100%) assuming enhanced participation there would be an estimated increase of 3.4 million in Medicaid and a decline of 2.5 million uninsured in the Northeast. This would be an increase in Medicaid of 6.9 percent and a reduction in the uninsured of 4.9 percent. In contrast, in the South, 8.9 million would be added to Medicaid and the number of uninsured would fall by 7.2 million (or a 9.3 percent increase in Medicaid and a 7.5 percent decline in the uninsured) (Figure ES-3).



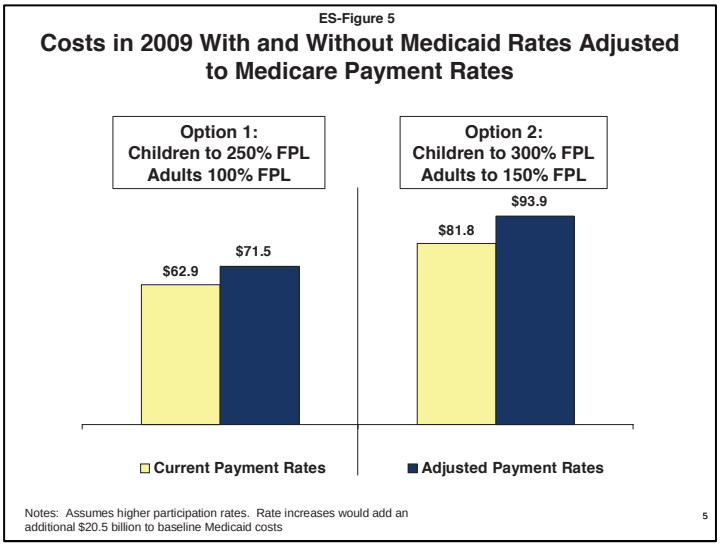
Reductions in Spending by Firms and Individuals and for Uncompensated Care will Help Mitigate the Costs Associated with the Medicaid Expansions

While Medicaid expansions are expected to increase the costs of the Medicaid program, there will be reductions in other areas of health spending. Shifts from private to public coverage would result in less spending by both firms and individuals. Fewer uninsured will also result in lower uncompensated care costs. For example, under Option 2 (with enhanced participation) the Medicaid estimated costs of the expansion would be $81.8 billion. Uncompensated care would fall by $20.8 billion. Employer premiums would fall by $14.9 billion, of which $6.4 billion would be savings to small firms. Small firms would save 7.7% relative to current spending. Individuals and families would save $27.1 billion. Of this those below 200% of poverty would save $24 billion, or 41.7% of current spending. After accounting for the reduction in uncompensated care and savings to firms and individuals/families, the net cost to the system would be $19 billion (Figure ES-4).



Adjusting Medicaid Provider Rates to Medicare Rates Is an Option for Consideration.

In most states Medicaid provider rates, particularly for physicians, are below Medicare and private provider payment rates. If Medicaid is to be expanded as part of health reform, increases in payment rates could help ensure access. Without any new expansions or changes in utilization patterns, the overall effect of increasing Medicaid rates to Medicare levels for acute care services would be an increase in acute care Medicaid spending for non-elderly in 2009 by $20.5 billion, from $251.2 billion to $271.7 billion. These estimates are based on evidence that hospital payment rates in Medicaid are 5% below Medicare and that physician fees are 40% below Medicare. We assume that and other practitioner fees are similarly 40% below Medicare levels and calculated that managed care rates are 14.8% below Medicare (a weighted average of increases in hospital and physician and other acute care). For Option 1, Medicaid costs would increase by $8.6 billion (from $62.9 billion to $71.5 billion) if Medicaid payment rates were adjusted to Medicare levels. The Medicaid costs for Option 2 would increase by $12.1 to adjust the Medicaid payment rates to Medicare levels (Figure ES-5).



Some implications from this analysis include:

- ***Establishing eligibility for Medicaid based on income would have a significant impact on the number of uninsured adults.*** Medicaid already provides a base of affordable and comprehensive coverage that is well suited for the low-income and high-need populations served by the program. Eliminating categorical restrictions and establishing a consistent, simplified national eligibility standard for Medicaid based on income could reach 12.2 million uninsured adults (parents and non-parents) under Option 1 and 16 million uninsured adults under Option 2.

- ***Compared to just expanding coverage levels to adults, setting a national minimum eligibility floor for children at 250% or 300% does not significantly increase the cost of the options because adults are the largest share of new coverage and spending.*** If there were no changes in the eligibility levels for children under Option 1, the Medicaid costs would be $61.5 billion compared to $62.9 billion (a 2.2% difference). Under Option 2 Medicaid costs would be $78.4 billion, compared to $81.8 billion (a 4.3% difference). Even with no direct changes in eligibility levels for children, this analysis shows increases in coverage for children due to higher participation rate assumptions and because increases in coverage for parents has a positive impact on enrollment for children. However, the cost and coverage impacts for children throughout the analysis may be somewhat overstated because these estimates do not account for expansions between 2004 and 2009 (when some states expanded coverage to 250% of poverty or higher) and because the Children's Health Insurance Program Reauthorization (CHIPRA) assumes that an additional 4.1 million uninsured children will have coverage by 2013 (so these coverage costs are already accounted for).

- ***Achieving higher participation among the uninsured requires outreach and new policies.*** The new CHIP reauthorization act includes a number of new tools and fiscal incentives to reach children who are eligible but not enrolled. Similarly, it would be necessary to design outreach and enrollment simplification measures to achieve higher participation for both children and adults for Medicaid. Traditional policies such as investing in outreach and advertising and adopting standard simplification measures are likely to produce significant results; however, achieving near universal coverage may ultimately require stronger incentives related to state enrollment efforts, or mandates that individuals obtain coverage.

- ***Any new coverage expansion will reduce the number of uninsured but also result in some shifts from private to public coverage.*** Most of those who would newly enroll in Medicaid would otherwise be uninsured. However, some substitution of public coverage for private coverage is expected to occur. Extensive research on this issue shows that substitution is low for people with lower incomes. Low-income parents and non-parents with incomes at 100% or 150% of poverty have little access to employer sponsored coverage or other private coverage. For those low-income families that do have private coverage, the cost of the policy may cause great financial hardships and the benefits may not be adequate. The amount of shifting from private to public coverage increases as coverage is expanded to individuals higher up the income scale where more private coverage is available. Overall the percent of new Medicaid enrollees who previously had private coverage varies from about 19% to 28% for the options we modeled. On the cost side of the equation, shifts from private coverage result in savings to employers and

individuals that could offset some of the increases in Medicaid and result in lower overall costs to the health system even for broader expansions. This demonstrates that Medicaid is a low-cost program compared to private insurance. This finding holds true even when provider payments are increased to Medicare levels.

- ***Increases in provider payments could help promote better access to health care services.*** Despite concerns about provider participation, Medicaid enrollees consistently fare as well as privately insured populations on important measures of access to primary care. However, if large Medicaid expansions are implemented, more providers will be necessary to meet new program demands. Increasing provider payment rates to Medicare levels is one option presented to help shore up provider participation and access, but research shows that provider rates are not the only barrier to provider participation in Medicaid. Payment delays and administrative burdens are also key reasons cited by non-participating physicians.

- ***Regional variations and financing must be considered when expanding Medicaid coverage.*** The largest expansions would occur in the lower income southern and western states. Currently the average federal matching rate is about 57%. Since the largest expansions would occur in low income states, the average federal contribution would be well above 57%. Nonetheless, the expansion would still be a major increase in spending for lower income states under the current Medicaid financing structure. It is likely that federal policy would have to find a way to soften this impact across states.

- ***Increased federal financial support will be necessary to expand Medicaid.*** While the costs of legislative proposals may differ from the medical costs of coverage presented in this paper, Medicaid coverage expansions along with rate increases, would add considerably to current states' Medicaid costs. A key issue is how an expansion would be paid for. There would undoubtedly have to be some combination of additional federal financing, restructuring of federal matching rates or shifting some part of the Medicaid program wholly to the federal government.

Methods

The Health Insurance Policy Simulation Model. These estimates rely on the Health Insurance Policy Simulation Model (HIPSM), the new Urban Institute micro-simulation model. Using 2004 data from several different data sets, HIPSM models the health insurance decisions of employers, individuals, and families under different policy changes. HIPSM includes a detailed eligibility simulation for Medicaid that incorporates the most important eligibility rules for each state. The 2004 baseline data are "aged" to 2009. The data are re-weighted to reflect projected coverage rates and demographic characteristics in 2009 changes. Also, costs are inflated so that results are presented in 2009 dollars. Medicaid and CHIP are modeled together because of data limitations.

Medicaid Undercount on the CPS. We estimate 49.1 million uninsured in 2009 by starting with 45.0 million in 2007. This figure is adjusted downward to 44.4 million to reflect the Medicaid undercount on the CPS and then increased by estimates of higher unemployment rates on coverage and population growth. The model adjusts for the undercount of Medicaid enrollment in the CPS-ASEC by increasing Medicaid numbers by 50% of the difference between those reported on the CPS and Medicaid administrative data.

Behavioral Responses. The HIPSM behavioral modules represent individual and family demand for health insurance coverage through a "utility-based" approach in which each individual is assigned utility values that measure the relative desirability of each health insurance option. Based on the findings of the empirical economics literature, we establish targets for (1) take-up rates for Medicaid/SCHIP coverage of newly eligible individuals, (2) ESI premium elasticities of take-up conditional on firms offering, (3) firm premium elasticities of offering coverage and (4) non-group premium elasticities. We then calibrate the behavioral responses of individuals and firms in the model so as to meet our targets. Once we obtain behavioral responses consistent with our targets, they remained fixed across the simulations of different reform scenarios.

Example of Response Module: Medicaid/CHIP expansions create a new health insurance option for the individuals who gain eligibility. Some new eligibles, particularly those with high expected health care costs, are likely to prefer the new public option to their existing coverage options because it offers better protection against out-of-pocket costs. The expansion will reduce the demand for ESI among workers and as a consequence, some firms (particularly small firms), will stop offering ESI. Given these revised decisions among employers, individuals and families then respond by choosing the option that yields the highest level of utility. After some employers change their decisions to offer coverage and individuals switch to different types of coverage, insurance risk pools change. When these risk pools change so must the level of premiums that are required to eliminate excess profits or losses within the insurance market. Premiums are recalculated, thus beginning a new cycle of behavioral responses and potential changes to coverage. The model iterates until coverage is stable. Individuals who gain coverage in reform experience an increase in their total health care expenditures. When an individual shifts to Medicaid in reform, that person's health care utilization rises (because we assume no cost sharing under Medicaid) and the person's out-of-pocket costs and uncompensated care costs are reduced to zero.

I. Introduction

In this paper we analyze alternative options for expanding Medicaid to cover more low income uninsured people. The options would extend coverage for children, parents, and non-parents to different income levels. The advantage of expanding Medicaid to cover these populations rests in the fact that the administrative structure required to enroll individuals, establish benefit packages, pay providers, and contract with managed care plans, as well as a service delivery system that is geared toward the circumstances and health needs of the low-income population are already in place. Enrolling large numbers of low income people in an insurance program is a major undertaking. Medicaid programs have years of experience in carrying out this role for millions of low income people.

In the context of a larger effort to broadly restructure the nation's health care system and extend coverage to all uninsured, Medicaid would be expanded to cover those at the lowest income levels. A set of income-related subsidies would cover those above Medicaid eligibility levels, but for whom affordability of coverage remains an issue.

The major issue in building on the current Medicaid program is that eligibility standards in the program vary considerably among states. Medicaid programs must now cover certain populations, e.g., to 133% of poverty for children under age 6 and to 100% of poverty for older children. Coverage for parents is required for those included under Section 1931 of the Social Security Act, which requires states to cover parents whose incomes are below 1996 AFDC eligibility thresholds. Under federal law, states are not permitted to cover non-parent adults. States must cover those meeting federal disability standards up to Supplemental Security Income (SSI) levels, except for states that for historical reasons have met an alternative standard. There are a large number of options for states to cover additional low income people. Some states have covered children and parents to much higher income levels through Section 1931; some have also extended coverage to parents and non-parents through federal waiver programs. In contrast,

other states provide little coverage beyond the federal minimum requirements. This means that any mandated extension of coverage of Medicaid will affect some states far more than others. In general, states in the South and West would have to extend coverage to large numbers of low income residents while states in the Northeast and Midwest would be somewhat less affected.

An additional issue is that many states have adopted low provider payment rates. If Medicaid were to be expanded, increasing provider payment rates could help promote better access, which would add to the cost of the Medicaid expansion. Because Medicaid coverage expansions, along with rate increases, would add considerably to current state Medicaid costs, a key issue is how an expansion would be paid for. There would undoubtedly have to be some combination of restructuring of federal matching rates or shifting some part of the Medicaid program wholly to the federal government. These financing issues will be discussed in a forthcoming brief (Holahan, 2009).

II. Methods

The Health Insurance Policy Simulation Model

We estimate the effects of Medicaid expansions in this paper using a new Urban Institute microsimulation model, the Health Insurance Policy Simulation Model (HIPSM). HIPSM models the health insurance decisions of employers, individuals, and families that can obtain insurance as a unit. The model is designed to show the impacts of policy changes (e.g., tax subsidies or public program expansions) on firms' decisions to offer coverage, individuals' decisions to leave current private coverage and enroll in Medicaid, and decisions by the uninsured to take-up new coverage when eligible. The model uses data from several national data sets: the March 2005 Current Population Survey Annual Social and Economic Supplement (CPS-ASEC), the February 2005 CPS Contingent Work and Alternative Employment Supplement, the 2002-2004 Medical Expenditure Panel Surveys (MEPS), the 2004 Statistics of Income (SOI) Public Use Tax File), and the 2004 Statistics of U.S. Businesses. Health

expenditures and health condition variables from pooled 2002-2004 MEPS data were statistically matched to the core CSP-ASEC data by common characteristics in the two data sets.

HIPSM includes a detailed eligibility simulation for Medicaid that incorporates the most important eligibility rules for each state. The eligibility module takes into account family composition, adult work status, earned and unearned income, assets, child care expenses, work expenses, citizenship status, and state of residency and compares these components to state specific information on Medicaid eligibility requirements.

In most states, eligibility has not changed dramatically since 2004. To the extent that states have expanded eligibility, our results will overstate the costs of expansions. The model assume that states would continue coverage at current levels if eligibility levels are set above the federal minimum standards in the options. While the model is based on 2004 data, the baseline data are "aged" to 2009. The data are reweighted to reflect projected coverage rates and demographic characteristics in 2009 changes. Also, costs are inflated so that results are presented in 2009 dollars. We do not have the ability to model Medicaid and CHIP separately because of data limitations. The simulation model is discussed in greater detail in the Methodological Appendix.

We have adjusted the baseline for the increase in the number of uninsured as follows. Tabulations of the 2008 CPS show 45 million non elderly uninsured in 2007. We begin with 44.4 million in 2007 because of the Medicaid undercount adjustment and our procedures for aging from 2004. In making our 2009 estimate, we note that in 2007, the unemployment was 4.6 percent. Assuming a 9 percent unemployment rate in 2009 and using the estimates from Holahan and Garrett (2009), we would add 4.8 million uninsured. Because some of the effect unemployment on coverage operates with a lag, we discount the 4.8 million to 4.0 million. This brings us to 48.4 million. Population growth brings the total to 49.1 million uninsured in 2009.

In the model, we also adjust for the undercount of Medicaid enrollment in the CPS-ASEC. It is widely believed that the CPS misses large numbers of people who are actually enrolled in the program. Our analysis of this topic has convinced us that some adjustment needs to be made. But fully adjusting to state administrative records would lead to too large of an adjustment in many states. In some cases we would have many more children enrolled in Medicaid than we estimate to be eligible. There is no perfect solution to this problem. We assume that neither the CPS nor administrative data are fully accurate and thus increase Medicaid numbers by 50% of the difference between those reported on the CPS and Medicaid administrative data.

The HIPSM behavioral modules represent individual and family demand for health insurance coverage through a "utility-based" approach in which each individual is assigned utility values that measure the relative desirability of each health insurance option. These utilities then shape decisions when reform options are introduced. Among individuals, families and employers, the responsiveness of individual, family, and employer health insurance decisions to changes in health insurance options and premiums are calibrated in HIPSM to reflect the findings of the empirical economics literature. For example, we establish targets for (1) take-up rates for Medicaid/CHIP coverage of newly eligible individuals, (2) ESI premium elasticities of take-up conditional on firms offering, (3) firm premium elasticities of offering coverage and (4) non-group premium elasticities. We then calibrate the behavioral responses of individuals and firms in the model so as to meet our targets. All of these targets are within reasonable ranges as set forth by Glied, Remler and Graff Zivin (2002). Once we obtain behavioral responses consistent with our targets, they remained fixed across the simulations of different reform scenarios.

Medicaid/CHIP expansions create a new health insurance option for the individuals who gain eligibility. Some new eligibles, particularly those with high expected health care costs, are

likely to prefer the new public option to their existing coverage options because it offers better protection against out-of-pocket costs. The expansion will reduce the demand for ESI among workers and as a consequence, some firms (particularly small firms), will stop offering ESI. Given these revised decisions among employers, individuals and families then respond by choosing the option that yields the highest level of utility. After some employers change their decisions to offer coverage and individuals switch to different types of coverage, insurance risk pools change. When these risk pools change so must the level of premiums that are required to eliminate excess profits or losses within the insurance market. Premiums are recalculated, thus beginning a new cycle of behavioral responses and potential changes to coverage. The model iterates until coverage is stable. Individuals who gain coverage in reform experience an increase in their total health care expenditures. When an individual shifts to Medicaid in reform, that person's health care utilization rises (because we assume no cost sharing under Medicaid) and the person's out-of-pocket costs and uncompensated care costs are reduced to zero.

Adjusting Medicaid Fees to Medicare Levels

In most states, Medicaid payment rates are below both Medicare and private provider payment rates. If Medicaid is to be expanded as part of health reform, increasing rates to at least Medicare levels could promote better access for Medicaid enrollees. We describe our approach to making an adjustment to Medicaid payments to Medicare levels below.

Hospital Inpatient and Outpatient Care. In 2006 hospital inpatient and outpatient care for non-duals amounted to $43.8 billion according to CMS-64 data for 2007. Inflating using CBO Medicaid baseline data for 2008 and 2009 yields a 2009 estimate of $58.7 billion. Data from the American Hospital Association (2007) indicate that hospital payment rates in Medicaid are 5% below Medicare. Adjusting by 5% would increase Medicaid spending to $61.6 billion.

Physician and Other Acute Care Services. There are data on physician payment rates, but none on other providers such as dentists, podiatrists, and other practitioners. Zuckerman et

al. (2009) have shown that Medicaid physician fees are 72% of Medicare fees. If we assume that the same increases would be necessary for other practitioners, e.g. dental, podiatrists, and optometrists, we can generate an estimate of the increased cost of bringing rates up to Medicare levels. The Zuckerman et al. research suggests that it will take a 40% increase in fees to bring Medicaid to Medicare levels. This would increase current spending on physician and other acute care services for non-duals from $22.6 billion in 2009 to $31.6 billion (again using CMS-64 and CBO data and inflating to 2009). This does not assume that there would be an increase in utilization of physician services. In realty, the response would be quite complicated. There would be some reduction in use of clinics and hospital outpatient services including emergency rooms. This could lead to fewer hospital admissions. This could offset any increased cost of physician services. This is particularly true since these services tend to be paid at rates closer to full cost (community health centers) or at Medicare rates (hospitals). But without empirical evidence we do not assume these offsetting savings.

Managed Care Costs. We assume that managed care spending is a weighted average of hospital and physician and other acute care services. Thus managed care rates would need to increase by the same amounts as hospital and physician services. That is, the hospital component of the managed care capitation rate would need to be increased by 5% and the physician and other provider component by 40%. A weighted average of the two would result in a 14.8% overall increase in managed care rates. Using the same approach as described above, we estimate that managed care spending for non duals would be $57.8 billion in 2009. Increasing rates to Medicare levels would increase costs to $66.4 billion.

Prescription Drugs. We assume no changes in spending on prescription drugs. Medicaid has developed a system of payment for prescription drugs including substantial rebates. Since there is interest in reducing drug pricing elsewhere in the system, we assume no changes in prescription drug rates.

III. Options

There are a large number of ways that Medicaid could be expanded from its current levels. We examine the following options:

- **OPTION 1:** An expansion of coverage for children to 250% FPL and an expansion of coverage for adults, both parents and non-parents, to 100% FPL. This option sets a uniform standard for coverage of children along with a separate uniform standard for adults.
    - **OPTION 1A:** An expansion to cover all adults, both parents and non-parents, to 100% of the federal poverty line (FPL), with no increase in coverage of children. Additional children would become covered, however, as their parents gain coverage.
- **OPTION 2:** An expansion of coverage for children to 300% FPL and expansion of all adults, both parents and non-parents, to 150% FPL.
    - **OPTION 2A:** An expansion to cover all adults to 150% FPL, with no increase in coverage of children. This would primarily affect low income adults but more children would also gain coverage.

Each of these options is modeled assuming take-up rates among the newly eligible that are similar to those among the currently eligible. For children, Hudson and Selden (2007) estimate take-up rates of 67 percent for Medicaid and 33 percent for CHIP using data from 2004 and 2005. Dubay et al. (2007) report take-up rates for children of 79 percent for Medicaid and 63 percent for CHIP in 2002. For adults, Davidoff et al. (2005) estimate take-up rates of 60 percent for those eligible under mandatory Medicaid eligibility provisions and 48 percent for those eligible under optional Medicaid eligibility provisions and waivers. Long et al. (2006) find overall take-up rates among states that expanded Medicaid coverage to parents ranging from 30 percent to 43 percent. Based on the research literature, we assume take-up rates among those who are uninsured in baseline and become eligible in reform of between 60% and 70%.

We also estimate the impact of the same Medicaid expansions assuming much higher take-up rates. The idea is that, in addition to expanding eligibility, major outreach efforts would also be developed. These would include community outreach and advertising efforts to increase

knowledge of program eligibility, but also include many other efforts to ease enrollment. These include self-declaration of income, elimination of asset tests, continuous eligibility for one year, the ability to enroll when filing taxes, and other measures. While these policies are likely to produce significant results; achieving near universal coverage may ultimately require stronger incentives related to state enrollment efforts, or mandates that individuals obtain coverage. We assume an increased participation rate of 90 percent. Participation rates at these levels approximate the impact of an individual mandate. Increasing outreach and easing enrollment barriers would also increase the dropping of employer and non-group coverage.

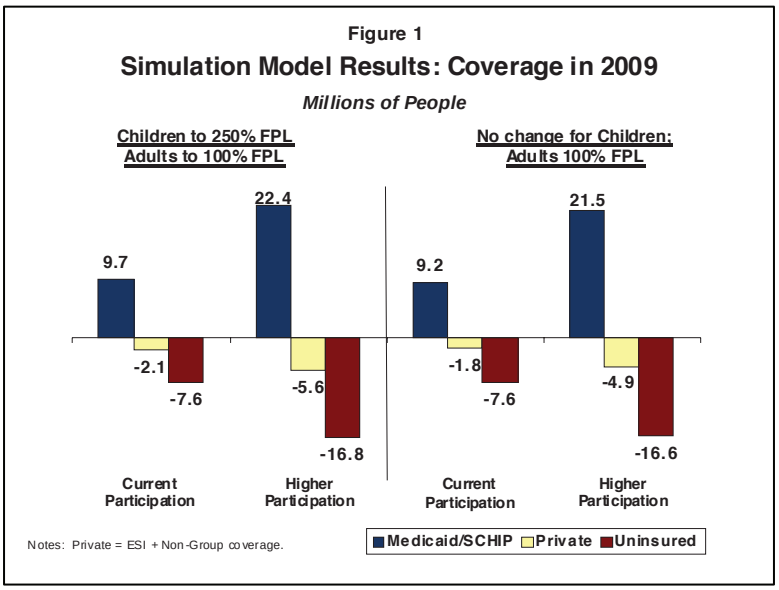
In the context of broad health reform that draws on a combination of public and private approaches to reduce the number of uninsured, Medicaid's responsibilities for covering the low-income population would increase, but there are likely to be changes in employer responsibilities as well. As Medicaid is expanded to reach more low-income uninsured, some low-income individuals also substitute public coverage for private coverage; the behavioral modules yield estimates of shifts from employer and non-group coverage to Medicaid in response to the Medicaid expansion. The take-up rates of those with private coverage in baseline overall is about 30 percent of the take-up rate of those who are uninsured in baseline, consistent with an analysis of the empirical literature that has examined the substitution of Medicaid for private coverage (Glied et al. 2002). Overall, the percent of new Medicaid enrollees who previously had private coverage varies from about 19 percent to about 28 percent for the options that we modeled.

IV. Results

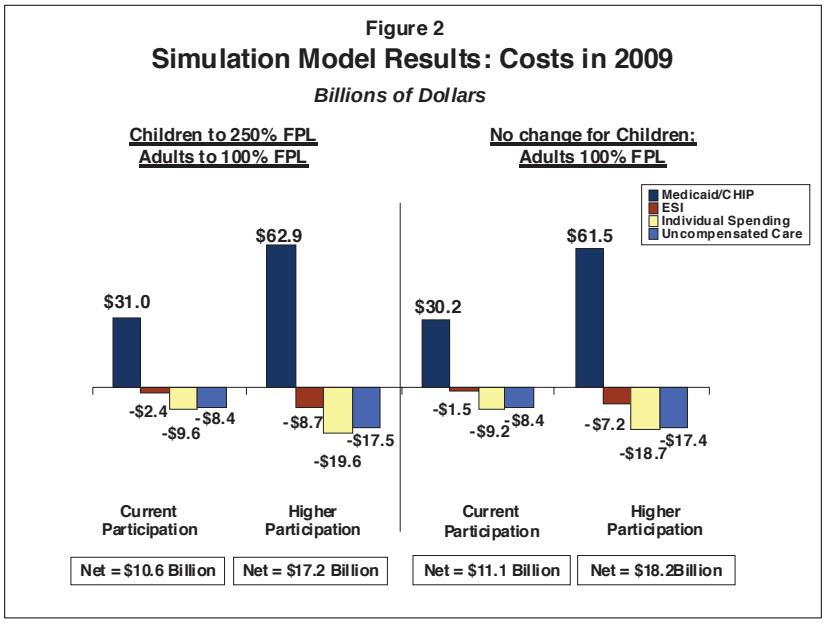
This section summarizes the results that are shown in Tables 1-6. Tables 1 and 2 show the effects of the reforms on overall health insurance coverage, first with current participation rates, then with enhanced participation rates. Tables 3 and 4 report changes in Medicaid enrollment and the number of uninsured, separately for children, parents, and non-parent adults. Tables 5 and 6 report changes in spending due to the reforms. Only the main highlights of the tables are mentioned below.

Option 1: Expansion of Medicaid for children 250% FPL, adults to 100% FPL

This expansion would increase Medicaid/CHIP enrollment by 9.7 million and reduce the number of uninsured by 7.6 million (Figure 1). Private coverage would fall by 2.1 million reflecting a 21.8% shift in private coverage to public. This expansion would add 7.4 million non-parents, 1.1 million parents, and about 1.1 million children to Medicaid. The number of uninsured would fall by 725,000 children, 6.0 million non-parents, and 840,000 parents.



The expansion would cost $31.0 billion (Figure 2). Uncompensated care would fall by $8.4 billion. After accounting for the fall in uncompensated care and the reduction in spending by employers and individuals, the overall added cost to the health system would be $10.6 billion. Employer spending would fall by $2.4 billion or by 0.6%. Spending by small firms, those with fewer than 50 workers, would fall by $1.1 billion or by 1.3%. Individual and family spending would fall by $9.6 billion, or 2.9%; those with incomes below 200% of poverty would see a 16.0% reduction in



current spending for out-of-pocket premiums and health care costs.

With the same expansion of eligibility for children to 250% FPL and adults to 100% FPL but with enhanced outreach, Medicaid/CHIP coverage would be extended to 22.4 million and the number of uninsured would fall by 16.8 million (Figure 1). The number with private coverage would fall by 5.6 million. The take-up rate by the uninsured would be 90.1%. At the lowest income levels, increasing participation has a major effect on the impact of the expansion. Medicaid coverage would be extended to 6.8 million children, 11.5 million non-parents, and 4.1 million parents. The number of uninsured would fall by 4.6 million children, 9.3 million non-parents, and 2.9 million parents.

Under this option, Medicaid costs would increase by $62.9 billion (Figure 2). Uncompensated care would fall by $17.5 billion. After accounting for the reduction in uncompensated care and in employer and individual spending, the net cost to the system would $17.2 billion. Firms would save $8.7 billion, or 2.0%. Small firms would save $3.3 billion or 4.0% of current spending. Individuals and families would save $19.6 billion; of this $17.7 billion would be reductions in premiums and out-of-pocket costs by those below 200% of poverty. This would represent a 30.8% reduction in spending by families at the lowest income levels.

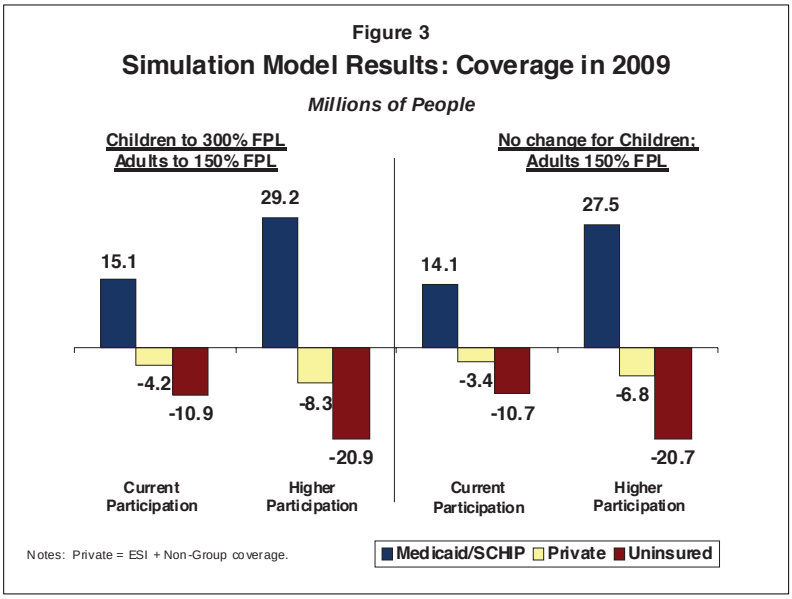
Option 1A: Expansion of coverage to parents and non-parents to 100% of FPL; no change for children

This option differs from the previous one by dropping the higher standard for children. It would increase coverage in Medicaid and CHIP by 9.2 million, about 460,000 fewer than in the option discussed above (Figure 1). The number of uninsured children would be more than the previous option by 463,000. This expansion would increase Medicaid spending by $30.2 billion; thus the absence of a uniform standard for children would reduce spending by $800 million.

With enhanced outreach, Medicaid and CHIP coverage would expand by 21.5 million; the number of uninsured would fall by 16.6 million, and private coverage would drop by 4.9 million. This adds about 850,000 fewer to Medicaid than expanding coverage of children to 250% FPL as well as adults to 100% FPL. Again almost all the change in coverage would be among children. Medicaid spending would increase by $61.5 billion, $1.4 billion less than in the broader expansion.

Option 2: Expansion of coverage of children to 300% FPL, and adults to 150% FPL

This expansion would extend Medicaid/CHIP coverage to 15.1 million Americans and reduce the number of uninsured by 10.9 million (Figure 3). Private coverage would fall by 4.2 million reflecting a 27.9% shift in private coverage to public. This expansion would extend Medicaid coverage to 2.4 million children, 10.1 million non-parents, and 2.6 million parents. The number of uninsured children would fall by 1.4 million. The number of uninsured non-parents would fall by 7.7 million and parents by 1.8 million.



This expansion would cost $45.5 billion (Figure 4). Uncompensated care would fall by $11.2 billion. After accounting for the reduction in uncompensated care and the decline in the employer and individual/family spending, the net cost would be $11.3 billion. Employer premiums would fall by $7.6 billion. There would be $4.0 billion in savings to small firms; spending by small firms would fall by 4.9%. Spending by individuals and families on premiums

and out-of-pocket costs would decline by $15.3 billion; of this $14.4 billion would be savings to those below 200% of poverty. Those below 200% of poverty would see savings of 25.1%.

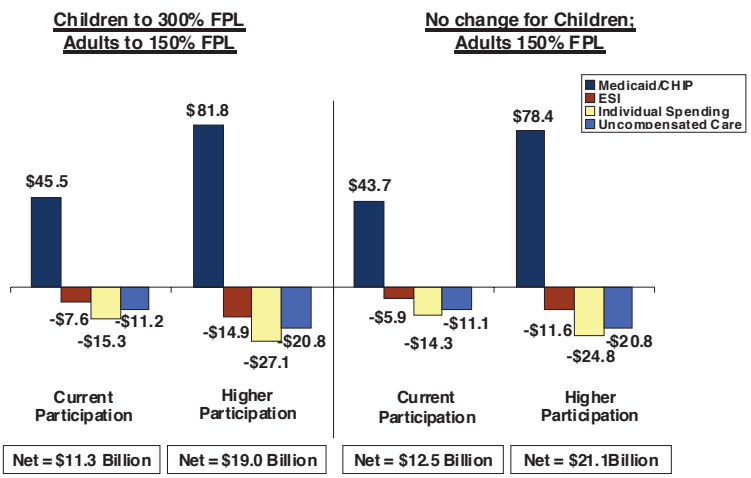
With enhanced outreach, this option would expand coverage in Medicaid and CHIP by 29.2 million and reduce the number of uninsured by 20.9 million. There would be 8.3 million people who would leave employer or non-group coverage. The crowd-out rate would be 28.3%. In this approach 8.0 million children would gain public coverage, as would 15.1 million non-parents, and 6.1 million parents. The number of uninsured would fall by 5.0 million children, 11.8 million non-parents, and 4.2 million parents.

The cost of this expansion with higher participation rates would be $81.8 billion (Figure 4). Uncompensated care would fall by $20.8 billion. After accounting for the reduction in uncompensated care and the savings to firms and individuals/families, the net cost would be $19.0 billion. Firms would save $14.9 billion. Of this small firms would save $6.4 billion or 7.7% relative to current spending on premiums. Individuals and families would save $27.1 billion, of this $24.0 billion would represent savings to those below 200% of poverty. Individuals and families below 200% of poverty would see reduced spending of 41.7% relative to current levels.

Figure 4

Simulation Model Results: Costs in 2009

Billions of Dollars



Option 2A: Expansion of Medicaid for adults to 150% FPL, no change for children

This policy would extend coverage to adults to 150% FPL but make no change in current coverage levels for children. This expansion will increase Medicaid/CHIP coverage by 14.1 million and reduce the number of uninsured by 10.7 million (Figure 3). Private coverage would drop by 3.5 million. This expansion would add 900,000 fewer children than if there were a higher standard for children and 500,000 more children would be uninsured. The expansion will cost $43.7 billion, $1.7 million less than the previous option (Figure 4).

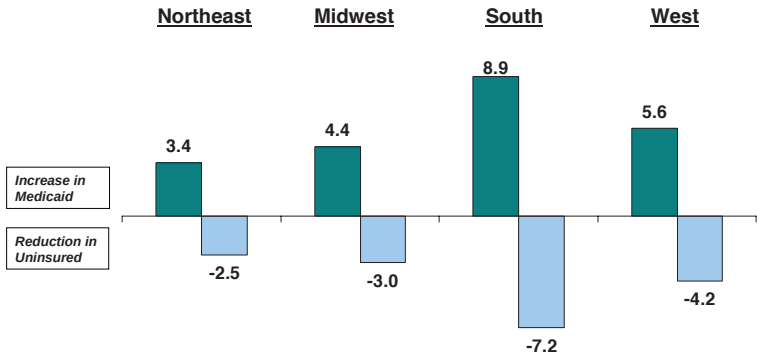
With enhanced outreach, this option would extend Medicaid/CHIP coverage to 27.5 million people. The number of uninsured would fall by 20.7 million. The expansion would add 1.7 million fewer children and 800,000 more children would be uninsured than if children were covered to 300% of the federal poverty line. The cost of this expansion would be $78.4 billion, $3.4 billion less than in the previous option.

Impacts by Region

Tables 7 and 8 show the impacts of the different expansion approaches by region. The baseline shows that the percentage of the population covered by Medicaid is roughly the same in the Northeast, South, and West, but the number of uninsured are highest in the South and West. Because the uninsured rates are greater, the impacts of all of the expansions are generally greatest in the South and West (Figure 5). For example, the expansion to cover children to 250% FPL and adults to 100% of FPL with enhanced outreach would increase Medicaid enrollment by 3.4 million and reduce the uninsured in the Northeast by 2.5 million (6.9 and 4.9 percentage points respectively). In contrast, the expansion would increase the number of people on Medicaid in the South by 8.9 million and lower the number of uninsured by 7.2 million, (9.3 and 7.5 percentage points respectively).

Figure 5

Impact of Coverage Expansion By Region
Expansion of Children to 250% FPL and Adults to 100% FPL
(in millions)



With an expansion of children to 300% and adults to 150%, there would be an increase of 4.3 million in Medicaid and a decline of 2.9 million uninsured in the Northeast. This would be an increase in Medicaid of 8.5 percentage points and a reduction in the uninsured rate by 5.8 percentage points. In contrast, in the South, 12.1 million would be added to Medicaid and the number of uninsured would fall by 9.4 million. The number of people on Medicaid would increase by 12.6 percentage points and the uninsured would fall by 9.7 percentage points.

The Impact of Adjusting Medicaid Fees to Medicare Levels

In most states Medicaid provider rates, particularly for physicians, are below Medicare and private provider payment rates. If Medicaid is to be expanded as part of health reform, increases in payment rates could help ensure access. Without any new expansions or changes in utilization patterns, the overall effect of increasing Medicaid rates to Medicare levels for acute care services would be an increase in acute care Medicaid spending for current non-elderly enrollees in 2009 by $20.5 billion, from $251.2 billion to $271.7 billion (See Table 9). These estimates are based on evidence that hospital payment rates in Medicaid are 5% below Medicare and that physician fees are 40% below Medicare. We assume that and other practitioner fees are similarly 40% below Medicare levels and calculated that managed care rates are 14.8% below Medicare (a weighted average of increases in hospital and physician and other acute care). For Option 1, Medicaid costs would increase by $8.6 billion (from $62.9 billion to $71.5 billion) if Medicaid payment rates were adjusted to Medicare levels. The Medicaid costs for Option 2 would increase by $12.1 to adjust the Medicaid payment rates to Medicare levels.

V. Discussion

Medicaid provides a logical foundation on which to build broader coverage of the low-income uninsured. Medicaid already provides a base of affordable and comprehensive coverage that is well suited for the low-income and high-need populations served by the program. Medicaid is a low-cost program and enrolling low-income uninsured individuals in private coverage plans would be more costly.

We have presented the impacts on coverage and public expenditures for several Medicaid expansion options under two different assumptions about outreach and participation. This analysis provides estimates of the medical costs of expanding Medicaid, but the estimates do not

include the costs of policies designed to achieve new enrollment (like outreach and fiscal incentives); therefore, these estimates will differ from estimates of legislation.

The findings presented here have a number of implications. First, the results demonstrate the importance of serious outreach efforts to get individuals and families to participate in the programs that they are eligible for or mandates. For both options discussed, the enhanced outreach efforts or mandates would more than double current enrollment, and similarly, would double the impact of the expansion on the reduction in the uninsured.

Second, expansions to lower income levels do not result in large shifts from private to public coverage because adults with incomes below 150% of poverty have lower levels of access to private coverage. For those low-income families that do have private coverage, the cost of the policy may cause great financial hardships and the benefits may not be adequate. Substitution rates of public for private coverage increase as coverage is expanded to individuals higher up the income scale where more private coverage is available. The results show higher shifts from private to public coverage for children compared to adults because the expansion of eligibility levels for children is set at a higher level. Overall the percent of new Medicaid enrollees who previously had private coverage varies from about 19% to 28% for the options we modeled.

Third, as we have noted earlier, these cost estimates may be somewhat overstated because some of the expansions may have already been adopted by states between 2004 and 2009. Some states have expanded coverage for children to 250% or higher and the Children's Health Insurance Program Reauthorization (CHIPRA) provides additional federal financing, incentives and tools for states to reach more low-income uninsured children. CHIPRA is expected to result in coverage for an additional 4.1 million uninsured children by 2013, so these coverage costs are already accounted for. On the other hand, we have not assumed that premiums or cost sharing would apply to any of the expansion groups.

Fourth, increasing provider participation would probably be necessary to assure access for enrollees. One option to promote increased provider participation is to increase Medicaid fees to Medicare levels. We estimate that this would increase costs for covering new enrollees by 14.8%; there would be much larger increases for physicians and other practitioners (40%) than for hospitals and clinics (5.0%). Increasing Medicaid rates would also mean additional costs of $20.5 billion because the higher fees/rates would also be paid on behalf of current enrollees.

Fifth, some broader expansion of Medicaid will add as expected to Medicaid costs but will actually lower overall system costs compared with a more modest expansion. This occurs because some people shift to Medicaid from employer coverage, which is more expensive. For example, if we compare option 2 and 2A (with higher participation rates), where the only substantive difference is an expansion of children to 300% in option 2 versus no change in coverage for children in option 2A, Medicaid costs increase by $3.4 billion. Health system costs however fall by $2.1 billion. Overall system costs fall because there are greater savings to both firms and individuals in option 2 that more than offset the increase in Medicaid expenditures. In these cases overall system costs are lower because of the lower administrative costs and lower provider payments for Medicaid coverage compared to employer plans. This effect holds even if Medicaid rates are increased to Medicare levels demonstrating that Medicaid is a lower cost approach, relative to private insurance, to expanding coverage to the low-income uninsured.

Sixth, the largest expansions would occur in the lower income southern and western states. Currently the average federal matching rate is about 57%. Since the largest expansions would occur in low income states, the average federal contribution would be well above 57%. Nonetheless, the expansion would still be a major increase in spending for lower income states

under the current Medicaid financing structure. It is likely that federal policy would have to find a way to soften this impact across states.

Finally, increased federal financial support will be necessary to expand Medicaid. Because Medicaid coverage expansions, along with rate increases, would add considerably to current state Medicaid costs, a key issue is how an expansion would be paid for. There would undoubtedly have to be some combination of additional federal financing, restructuring of federal matching rates or shifting some part of the Medicaid program wholly to the federal government.

Appendix A: Description of the Health Insurance Policy Simulation Model

To estimate the effects the Medicaid and CHIP expansions, we used the Health Insurance Policy Simulation Model (HIPSM) developed by Urban Institute researchers. HIPSM can be roughly divided into three parts: a baseline database, health insurance reform modules, and behavioral modules. The baseline database represents the population of the non-institutionalized population in the United States in terms of its demographics, health insurance coverage and premiums, health expenditures, and employers. The reform modules apply key aspects of the health insurance reforms to the individuals and employers within the baseline database. It implements changes in the set of available options and re-computes the costs of alternative coverage types under reform. The behavioral modules compute the changes that occur as individuals and employers react to changes in health insurance costs and/or availability.

Construction of the Core Baseline Database File

The core microdata file defining the model's national population base is a matched version of the March 2005 CPS Annual Social and Economic Supplement, the February 2005 CPS Contingent Work and Alternative Employment Supplement, and the 2004 Statistics of Income (SOI) public use tax file. The March CPS is the main source of demographic characteristics and insurance coverage; the February CPS contains information on employer-sponsored insurance (ESI) offer and employee eligibility that are not available in the March file; and the SOI is a stratified random sample of 150,047 unaudited tax returns representative of the population of returns filed for tax year 2004. The SOI file provides detailed information on the forms filed, the income earned, and the tax computed for each record. Wherever possible, we link CPS records across the February and March surveys. For observations in the March CPS without a corresponding observation in the February CPS, we impute values for health insurance offer and eligibility. We statistically matched observations from the augmented CPS file to the SOI. Health care expenditures, unique health insurance variables, and health conditions from a

dataset that pooled 2002-2004 of the Medical Expenditure Panel Survey (MEPS) were statistically matched to the core file by common characteristics in the two datasets. We "age" the population, income, and health expenditure data to 2009 and present reform results as if reforms are fully implemented in 2009.

Medicaid/CHIP Eligibility Simulation Model

A major component of HIPSM is the incorporation of the Urban Institute Health Policy Center's eligibility simulation model (Dubay, Holahan, and Cook 2007). This model assesses, at the state level, Medicaid eligibility for adults, and Medicaid and State Children's Health Insurance Program (CHIP) eligibility for children. It is applied to data from the 2005 CPS-ASEC. This capability is essential for modeling health reform policies that would expand Medicaid or initiate subsidies once Medicaid eligibility ends.

The eligibility model takes into account family composition, adult work status, age, earned and unearned income, assets, childcare expenses, work expenses, citizenship status and state of residency and compares these components to state specific information on Medicaid and CHIP eligibility requirements. Eligibility for nonelderly adults, age 19 to 64, is modeled for Section 1931, Section 1115, Transitional Medical Assistance, Ribicoff, and Medically Needy pathways. Eligibility for children under age 19 is modeled for Aid to Families with Dependent Children, poverty-related expansion, and CHIP pathways.[1]

In order to approximate the family units for which income is counted by states when determining eligibility, the model uses health insurance units (HIUs) which contain the members of a nuclear family who could be considered eligible for a family heath insurance policy. HIUs are similar to CPS subfamilies but exclude some individuals who could not be covered under the same policy as other family members. For example, part-time students or non-students over age

18 who are living with their parents would not be included in an HIU with their parents because they would no longer be considered their dependents. HIU income used to test income eligibility excludes Supplemental Security Income received by members of the HIU. In addition, only parent's income and children's unearned income is included in family income for children. Children's earned income is excluded because states often fully disregard dependent children's earned income in the countable income determination.

Because information about assets and childcare expenses is not collected on the CPS, these values are imputed. Asset values are calculated by dividing a person's reported rental, dividend and interest income by an assumed 6% annual rate of return on assets. Childcare expenses are imputed on the basis of the mother's demographic and work characteristics, ages of children in the household, earnings and region. Work expense and earnings deductions are calculated from earned income for each working parent.

The model also takes into account the citizenship status of children and adults based on whether their state of residency provides Medicaid or CHIP coverage to those who have been in the country since 1996; for less than five years; or for more than five years.

Because data are not available to determine immigration status of non-citizens on the CPS, estimates of eligibility are likely to be biased upwards to the extent that they include non-citizens who are income eligible, but are ineligible on the basis of immigration status.[2]

While the model provides detailed information on eligibility for both children and adults, it is limited by the information available on person and family level characteristics, and state eligibility requirements. In some cases, information regarding eligibility rules was unavailable or

[1] Eligibility is modeled for programs that provide individuals with full benefit coverage only. Therefore, if individuals enrolled in limited benefit programs, such as family planning programs, report that they are enrolled in Medicaid on the CPS, they would be simulated to be ineligible, absent eligibility for any full benefit pathways.
[2] The capability to impute immigration status to non-citizens is being developed and will be incorporated into future models.

differed between sources. In these cases, a best approximation was made from available data sources.[3]

In addition, because eligibility is modeled for 2004, estimates of current and newly eligible individuals may be overstated or understated to the extent that states' eligibility requirements have changed between 2004 and 2009. Less than one-third of states expanded eligibility thresholds for children and only one state reduced eligibility thresholds between July 2004 and January 2009 (Ross and Ross 2004, Ross and Marks 2009). Fewer than one-quarter of states expanded eligibility for adults, and fourteen percent decreased eligibility.[4] Thus, while the majority of states have not changed eligibility levels for Medicaid or CHIP, the model is underestimating eligibility for a number of states. Eligibility is overestimated in a limited number of states.

[3] In addition, the CPS does not provide information on monthly income. As a result, some individuals reporting Medicaid/CHIP on the CPS may report annual income that implies that they are not eligible, when in fact they were income-eligible for Medicaid or CHIP for one or more months of the year. While the model attempts to accurately estimate the income used by the state in determining eligibility, it may not precisely model all forms of income deductions calculated by states in determining eligibility. For example, while the model takes into account earnings and child care expense disregards, it does not take into account disregards related to child support income received or paid, in part because CPS information on child support payments is limited. In addition, because the 2005 CPS does not identify step-parents, it was not possible adjust family income to match programs' requirements regarding step-parent income.

[4] This estimate includes states that expanded full-benefit coverage to adults. It does not count eligibility expansions for limited benefit programs, such as Family Planning Waiver programs.

Health Insurance Coverage on the CPS

Information on health insurance coverage from the CPS is obtained for members of the household from the respondent. Respondents are asked to report on coverage in the prior year and can report multiple sources of coverage for themselves and members of the household. For those for whom no coverage is reported, uninsured status is verified by the respondent. In this analysis, a hierarchy has been used to assign one source of coverage to individuals for whom multiple sources were reported. Medicaid/CHIP is assigned first, followed by employer coverage, other federal coverage (including Medicare and TRICARE), and private non-group coverage. The remainder is considered uninsured.

While the CPS asks respondents to report on health insurance coverage in the past year, CPS estimates of coverage have been observed to more closely reflect estimates of uninsured from surveys which measure coverage at a point in time. The Census Bureau has commented on this, stating that CPS estimates of uninsured more closely align with other national surveys' point-in-time estimates (DeNavas-Walt, Proctor and Lee 2008). In the HIPSM, baseline estimates of coverage are interpreted to reflect current coverage in the baseline year, which is 2009 in this application.

There is also concern that there is under-reporting of public coverage on the CPS leading to over-reporting of private coverage and uninsurance. This concern stems from observed differences between counts of public coverage on the CPS and administrative data produced by states (Davern et al 2009). However, there is evidence that the administrative data may not be directly comparable with CPS estimates of coverage (Call et al. 2006, Davern et al. 2009). In particular, there is concern that the administrative data may be overstating the number of people enrolled in these programs relative to individuals' perceptions of their coverage (Call et al. 2006, Call et al. 2007). Specifically, there may be duplicate counts of enrollees due, for example, to individuals moving across states or programs. In addition, some people may remain on the

administrative data after they have obtained another type of coverage or may not realize that they have coverage as a result of retroactive or presumptive eligibility, or continuous enrollment (Call et al. 2001, Call et al. 2006). To address the underreporting of public coverage, while also taking into account inconsistencies between the CPS and administrative measures of Medicaid/CHIP enrollment, CPS public coverage totals for adults and children have been adjusted half-way between CPS estimates of Medicaid/CHIP and those reported in the administrative data. In addition, based on research that suggests that most Medicaid enrollees who do not accurately report their coverage are more likely to report having private coverage than being uninsured (Call et al. 2001, Call 2007, Davern et al. 2009), the uninsured and privately insured have been adjusted downward by one-third and two-thirds, respectively, of the adjustment to public coverage.

Creation of Synthetic Firms

For the purpose of imputing premiums for employer-sponsored coverage and modeling firm decisions regarding the offer of health insurance coverage (as well as the types of coverage to offer), we assign employees in the core file to "synthetic firms." In particular, for each employee, we draw a set of coworkers from the relevant group of observations, classified by region of residence, industry, firm size, and health insurance offering status. The coworkers are drawn such that the distribution of employees in the resulting synthetic firms resembles the underlying distribution in the baseline database from which the observations are drawn. Firm weights were constructed to reflect the distribution of firms in New York State, by firm size and industry in 2004, as measured by Statistics of U.S. Business.

Effects of Coverage on Total Health Care Expenditures

Using data from the MEPS-HC, we use two-part health care expenditure regression models to estimate the effects of changes in health insurance coverage on health care expenditures. The effects vary by individual characteristics such as demographic characteristics,

socio-economic status and health, and are estimated separately for children and adults. Our estimates are consistent with those from recent studies (Buchmueller et al. 2005).

Calculation of Health Insurance Premiums

Premiums are determined endogenously within HIPSM, and are built up from underlying health care costs. We compute single and family ESI premiums faced by each employee and each firm based on insured expenditures for each firm and an administrative load that varies by firm size, according to a set of rules regulating the rating of ESI premiums. The rating rules are based on regulations of a "typical" state. Our baseline national ESI premium estimates compare well to premiums in the MEPS-IC and Kaiser/HRET surveys.

We compute single and family non-group premiums based on insured expenditures of those insured in the non-group market at the baseline, and non-group rating rules of a "typical" state. Our methodology captures the overall risk pooling in the non-group market across individuals within rating cell and across rating cells, as well as individual-level underwriting.

Modeling Behavioral Effects

In order to model individual and family demand for health insurance coverage, we adopt a utility-based approach in which each individual is assigned a "utility value" associated with each health insurance option. Utility values are a measure of the relative desirability of each health insurance option and are expressed in dollars. We model individuals as being in one of four possible insurance coverage states: ESI, non-group coverage, public coverage, or uninsured. We assign utility values for these insurance options based on an individual's premiums, expected out-of-pocket payments, risk of high out-of-pocket expenditures, taxes, incomes, and measures of how the individual values health care when insured vs. uninsured, and when coverage is more vs. less generous. Employees convey their valuations of health insurance options to their employers. Employers decide whether to offer their employees coverage based on whether the sum of the employees' valuations for coverage is greater than its cost, where the cost includes

both the total premium for the firm as well as a fixed cost for arranging and administering the coverage.

The utility values for each individual's health insurance options are paired with an individual-specific error term for each option (less one). There are error terms associated with individual decisions, family decisions, and firm decisions. The error terms account for unobserved preferences for certain types of coverage. The magnitudes of behavioral effects in the model (e.g., enrollment rates, responsiveness to changes in premiums) are directly related therefore to the distribution of the error terms.

Calibration of Behavioral Effects

We use findings from the economic literature to establish targets for the responsiveness of health insurance decisions to changes in available coverage options and premiums. We established targets for 1) take-up rates for Medicaid/CHIP coverage of newly eligible individuals, 2) ESI premium elasticities of take-up conditional on firms offering, 3) firm premium elasticities of offering ESI, and 4) non-group premium elasticities. We then calibrate the error terms that relate to particular elasticities and take-up rates so as to meet our targets. All of these targets are within reasonable ranges as set forth by Glied, Remler, and Graff Zivin (2003). Once we obtain error terms that produce behavior consistent with our targets, they remain fixed across the simulations of different reform scenarios.

Simulation of Medicaid/CHIP Expansions in HIPSM

Medicaid/CHIP expansions create a new health insurance option for the individuals who gain eligibility. Many new eligibles, particularly those with high expected health care costs, are likely to prefer the new public option to their existing coverage options. The expansion would reduce the demand for ESI among workers and as a consequence some firms (particularly small firms) will stop offering ESI. Given these revised decisions among employers, individuals and families then react to their new set of available options, and chose the option that yields the

highest level of utility. This completes one cycle, or "iteration", in the behavioral flow of the model. After some employers change their decision to offer coverage and individuals switch to different types of coverage, insurance risk pools change. When risk pools change, so must the level of premiums that are required to eliminate excess profits or losses within the insurance market. Premiums are recalculated, thus beginning a new cycle of the behavioral model and potential changes in coverage. The model iterates until coverage is stable across iterations. For practical purposes, we find that the model converges to an acceptable degree with three iterations. We interpret the results after three iterations as representing the new long run equilibrium resulting from the reforms.

References

American Hospital Association. "Underpayment by Medicare and Medicaid: Fact Sheet," October 2007.

Buchmueller, Thomas, Kevin Grumbach, Richard Kronick and James Kahn. "The Effect of Health Insurance on Medical Care Utilization and Implications for Insurance Expansion: a Review of Literature," *Medical Care Research and Review*. Volume 62, Number 1 (2005): 3-30.

Call, Kathleen Thiede, Gestur Davidson, Anna Stauber Sommers, Roger Feldman, Paul Farseth, and Todd Rockwood. "Uncovering the Missing Medicaid Cases and Assessing Their Bias for Estimates of the Uninsured." *Inquiry*. Volume 38, Number 4 (Winter 2001/2002): 396-408.

Call, Kathleen Thiede, Gestur Davidson, Allyson Hall, Jennifer Kincheloe, Lynn A. Blewett, and E. Richard Brown. "Sources of Discrepancy between Survey-based Estimates of Medicaid Coverage and State Administrative Counts" State Health Access Data Center, July 2006.

Call, Kathleen Thiede, Michael Davern, and Lynn Blewett. "Estimates of Health Insurance Coverage: Comparing State Surveys with the Current Population Survey." *Health Affairs*. Volume 26, Number 1 (2007): 269-278.

Cohen Ross, Donna and Laura Cox. "Beneath the Surface: Barriers Threaten to Slow Progress on Expanding Health Coverage of Children and Families." Kaiser Commission on Medicaid and the Uninsured, October 2004.

Cohen Ross, Donna and Caryn Marks. "Challenges of Providing Health Coverage for Children and Parents in a Recession: A 50 State Update on Eligibility Rules, Enrollment and Renewal Procedures, and Cost-Sharing Practices in Medicaid and CHIP in 2009" Kaiser Commission on Medicaid and the Uninsured, January 2009.Davern, Michael, Jacob Alex Klerman, David K. Baugh, Kathleen Thiede Call and George D. Greenberg. "An Examination of the Medicaid Undercount in the Current Population Survey: Preliminary Results from Record Linking." *Health Services Research*, published online 29 January 2009.

Davidoff, Amy, Alshadye Yemane, Emerald Adams. "Health Coverage for Low-Income Adults: Eligibility and Enrollment in Medicaid and State Programs, 2002." Kaiser Commission on Medicaid and the Uninsured, February, 2005.

DeNavas-Walt, Carmen, Bernadette Proctor and Jessica Smith. "Income, Poverty, and Health Insurance Coverage in the United States: 2007." U.S. Census Bureau, August 2008.

Dubay, Lisa, John Holahan, and Allison Cook. "The Uninsured and the Affordability of Health Insurance Coverage," *Health Affairs*. Volume 26, Number 1 (2007): w22–w30 (published online 30 November 2006).

Dubay, Lisa, Jocelyn Guyer, Cindy Mann, and Michael Odeh. "Medicaid at The Ten-Year Anniversary of CHIP: Looking Back and Moving Forward." *Health Affairs*. Volume 26, Number 2 (March/April 2007): 370-381.

Glied, Sherry, Dahlia Remler, and Joshua Graff Zivin, 2002, "Inside the Sausage Factory: Improving Estimates of the Effects of Health Insurance Expansion Proposals." *Milbank Quarterly*. Volume 80, Number 4 (2002): 603-636.

Holahan, John and A. Bowen Garrett, "Rising Unemployment, Medicaid and the Uninsured." Kaiser Commission on Medicaid and the Uninsured, January 2009.

Holahan, John, "Expanding Medicaid: Offsetting the Costs to the States." Kaiser Commission on Medicaid and the Uninsured, May 2009 (forthcoming).

Long, Sharon K., Stephen Zuckerman, John A. Graves. "Are Adults Benefiting from State Coverage Expansions?" *Health Affairs*. Volume 25, Number2 (2006): w1-w14.

Zuckerman, Steve, Aimee Williams, and Karen Stockley, "Trends in Medicaid Fees, 2003-2008," *Health Affairs*. Volume 28, Number 3 (2009): w510-w519 (Published online 28 April 2009).

Table 1
Baseline and Reform Simulation Results for Health Insurance Coverage 2009
Current Participation Rates

Model	0		1		1A		2		2A	
	Baseline		Public Expansion:		Public Expansion:		Public Expansion:		Public Expansion:	
			Children to 250% Adults to 100%		***No Change for Children Adults to 100%***		***Children to 300% Adults to 150%***		***No Change for Children Adults to 150%***	
Coverage (millions, %)	**millions**	**%**	**millions**	**%**	**millions**	**%**	**millions**	**%**	**millions**	**%**
ESI	150.0	56.1%	149.1	55.7%	149.4	55.8%	147.5	55.1%	148.1	55.4%
Non-Group	15.8	5.9%	14.6	5.5%	14.7	5.5%	14.1	5.3%	14.2	5.3%
Medicaid/CHIP	44.1	16.5%	53.8	20.1%	53.3	19.9%	59.2	22.1%	58.2	21.8%
Other	8.5	3.2%	8.5	3.2%	8.5	3.2%	8.5	3.2%	8.5	3.2%
Uninsured	49.1	18.4%	41.5	15.5%	41.7	15.6%	38.2	14.3%	38.4	14.4%
Total	267.6	100%	267.6	100%	267.6	100%	267.6	100%	267.6	100%
Difference										
ESI	-	-	-0.9	-0.3%	-0.6	-0.2%	-2.5	-0.9%	-1.9	-0.7%
Non-Group	-	-	-1.2	-0.5%	-1.2	-0.4%	-1.7	-0.6%	-1.6	-0.6%
Medicaid/CHIP	-	-	9.7	3.6%	9.2	3.4%	15.1	5.6%	14.1	5.3%
Other	-	-	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
Uninsured	-	-	-7.6	-2.8%	-7.4	-2.8%	-10.9	-4.1%	-10.7	-4.0%
% Decline in uninsured	-	-		-15.4%		-15.2%		-28.3%		-21.7%
Take up rates for uninsured	-	-		68.9%		69.5%		66.9%		67.4%
Shifts from private to public	-	-		21.8%		19.0%		27.9%		24.7%

Source: Urban Institute's Health Insurance Policy Simulation Model.
Note: Numbers do not include population age 65 and over.

Table 2

Baseline and Reform Simulation Results for Health Insurance Coverage, with Enhanced Outreach 2009

Higher Participation Rates

Model	0		1		1A		2		2A	
	Baseline		Public Expansion: ***Children to 250% Adults to 100%*** With enhanced outreach		Public Expansion: ***No Change for Children Adults to 100%*** With enhanced outreach		Public Expansion: ***Children to 300% Adults to 150%*** With enhanced outreach		Public Expansion: ***No Change for Children Adults to 150%*** With enhanced outreach	
Coverage (millions, %)	**millions**	**%**	**millions**	**%**	**millions**	**%**	**millions**	**%**	**millions**	**%**
ESI	150.0	56.1%	146.7	54.8%	147.3	55.0%	144.7	54.1%	145.9	54.5%
Non-Group	15.8	5.9%	13.6	5.1%	13.7	5.1%	12.9	4.8%	13.2	4.9%
Medicaid/CHIP	44.1	16.5%	66.5	24.8%	65.6	24.5%	73.3	27.4%	71.6	26.7%
Other	8.5	3.2%	8.5	3.2%	8.5	3.2%	8.5	3.2%	8.5	3.2%
Uninsured	49.1	18.4%	32.3	12.1%	32.5	12.1%	28.2	10.5%	28.4	10.6%
Total	267.6	100%	267.6	100%	267.6	100%	267.6	100%	267.6	100%
Difference										
ESI	-	-	-3.3	-1.2%	-2.8	-1.0%	-5.3	-2.0%	-4.1	-1.5%
Non-Group	-	-	-2.2	-0.8%	-2.1	-0.8%	-2.9	-1.1%	-2.7	-1.0%
Medicaid/CHIP	-	-	22.4	8.4%	21.5	8.0%	29.2	10.9%	27.5	10.3%
Other	-	-	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
Uninsured	-	-	-16.8	-6.3%	-16.6	-6.2%	-20.9	-7.8%	-20.7	-7.7%
% Decline in uninsured	-	-		-34.3%		-33.8%		-42.6%		-42.1%
Take up rates for uninsured	-	-		90.1%		90.1%		89.5%		89.4%
Shifts from private to public	-	-		24.8%		22.7%		28.3%		24.7%

Source: Urban Institute's Health Insurance Policy Simulation Model.
Note: Numbers do not include population age 65 and over.

Table 3
Health Insurance Coverage in Baseline and Reform for Children, Parents, and Non-Parents 2009
Current Participation Rates

Model		Medicaid/CHIP N	Medicaid/CHIP %	Uninsured N	Uninsured %	Shifts from Private to Public
0	**Baseline**					
	Children	27,825,204	35.1%	7,943,461	10.0%	-
	Adult Non-Parents	9,291,880	7.8%	28,656,042	24.1%	-
	Adult Parents	6,980,482	10.1%	12,500,497	18.0%	-
	Total	44,097,566	16.5%	49,100,000	18.4%	-
1	**Public Expansion:**					
	Children to 250%, Adults to 100%					
	Children	1,098,703	1.4%	-725,005	-0.9%	34.0%
	Adult Non-Parents	7,422,545	6.2%	-5,987,970	-5.0%	19.3%
	Adult Parents	1,133,317	1.6%	-840,453	-1.2%	25.8%
	Total	9,654,565	3.6%	-7,553,428	-2.8%	21.8%
1A	**Public Expansion:**					
	No Change for Children, Adults to 100%					
	Children	639,076	0.8%	-463,230	-0.6%	27.5%
	Adult Non-Parents	7,420,267	6.2%	-6,034,631	-5.1%	18.7%
	Adult Parents	1,131,697	1.6%	-949,371	-1.4%	16.1%
	Total	9,191,039	3.4%	-7,447,232	-2.8%	19.0%
2	**Public Expansion:**					
	Children to 300%, Adults to 150%					
	Children	2,392,093	3.0%	-1,439,922	-1.8%	39.8%
	Adult Non-Parents	10,073,763	8.5%	-7,662,157	-6.4%	23.9%
	Adult Parents	2,588,400	3.7%	-1,757,481	-2.5%	32.1%
	Total	15,054,256	5.6%	-10,859,559	-4.1%	27.9%
2A	**Public Expansion:**					
	No Change for Children, Adults to 150%					
	Children	1,501,356	1.9%	-951,408	-1.2%	36.6%
	Adult Non-Parents	10,065,224	8.5%	-7,710,285	-6.5%	23.4%
	Adult Parents	2,581,957	3.7%	-1,998,738	-2.9%	22.6%
	Total	14,148,536	5.3%	-10,660,431	-4.0%	24.7%

Source: Urban Institute's Health Insurance Policy Simulation Model.
Note: Numbers do not include population age 65 and over.

Table 4
Health Insurance Coverage in Baseline and Reform for Children, Parents, and Non-Parents, with Enhanced Outreach 2009
Higher Participation Rates

Model		Medicaid/CHIP		Uninsured		Shifts from Private to Public
		N	%	N	%	
0	**Baseline**					
	Children	27,825,204	35.1%	7,943,461	10.0%	-
	Adult Non-Parents	9,291,880	7.8%	28,656,042	24.1%	-
	Adult Parents	6,980,482	10.1%	12,500,497	18.0%	-
	Total	44,097,566	16.5%	49,100,000	18.4%	-
1	**Public Expansion: With Enhanced Outreach**					
	Children to 250%, Adults to 100%					
	Children	6,781,456	8.6%	-4,615,945	-5.8%	31.9%
	Adult Non-Parents	11,522,580	9.7%	-9,301,281	-7.8%	19.3%
	Adult Parents	4,072,126	5.9%	-2,905,980	-4.2%	28.6%
	Total	22,376,162	8.4%	-16,823,206	-6.3%	24.8%
1A	**Public Expansion: With Enhanced Outreach**					
	No Change for Children, Adults to 100%					
	Children	5,930,699	7.5%	-4,197,755	-5.3%	29.2%
	Adult Non-Parents	11,509,276	9.7%	-9,334,945	-7.9%	18.9%
	Adult Parents	4,069,266	5.9%	-3,086,248	-4.4%	24.2%
	Total	21,509,240	8.0%	-16,618,948	-6.2%	22.7%
2	**Public Expansion: With Enhanced Outreach**					
	Children to 300%, Adults to 150%					
	Children	7,982,743	10.1%	-4,990,006	-6.3%	37.5%
	Adult Non-Parents	15,124,234	12.7%	-11,774,760	-9.9%	22.1%
	Adult Parents	6,066,414	8.7%	-4,157,649	-6.0%	31.5%
	Total	29,173,391	10.9%	-20,922,415	-7.8%	28.3%
2A	**Public Expansion: With Enhanced Outreach**					
	No Change for Children, Adults to 150%					
	Children	6,315,586	8.0%	-4,221,317	-5.3%	33.2%
	Adult Non-Parents	15,094,625	12.7%	-11,835,692	-10.0%	21.6%
	Adult Parents	6,056,804	8.7%	-4,623,406	-6.7%	23.7%
	Total	27,467,015	10.3%	-20,680,414	-7.7%	24.7%

Source: Urban Institute's Health Insurance Policy Simulation Model.
Note: Numbers do not include population age 65 and over.

Table 5
Changes in Total Spending Due to Reforms 2009
Current Participation Rates

Model	0	1	1A	2	2A
Description	Public Expansion: **Baseline** (Level) *(in millions)*	Public Expansion: ***Children to 250%*** ***Adults to 100%*** *(in millions)*	Public Expansion: ***No Change for Children*** ***Adults to 100%*** *(in millions)*	Public Expansion: ***Children to 300%*** ***Adults to 150%*** *(in millions)*	Public Expansion: ***No Change for Children*** ***Adults to 150%*** *(in millions)*
Medicaid/CHIP	$251,230	$31,009	$30,214	$45,471	$43,735
ESI Premiums	$429,789	-$2,392	-$1,535	-$7,624	-$5,900
Small Firms (1-49 employees)	$82,011	-$1,106	-$731	-$3,987	-$3,407
Medium Firms (50-999 employees)	$121,250	-$749	-$482	-$2,303	-$1,691
Large Firms (1000 plus employees)	$226,528	-$537	-$323	-$1,334	-$802
Gross Individual Spending	$326,359	-$9,615	-$9,150	-$15,335	-$14,264
<200% of FPL	$57,456	-$9,164	-$9,104	-$14,448	-$14,374
200 - 399% of FPL	$99,206	-$474	-$35	-$992	-$38
400%+ of FPL	$169,697	$24	-$11	$105	$149
Uncompensated Care	$52,266	-$8,436	-$8,429	-$11,234	-$11,117
Overall Spending	$1,007,378	$10,567	$11,100	$11,278	$12,455

Source: Urban Institute's Health Insurance Policy Simulation Model.

Table 6
Changes in Total Spending Due to Reforms 2009
Higher Participation Rates

Model	0	1	1A	2	2A
Description	Public Expansion: **Baseline** (Level)	Public Expansion: ***Children to 250%*** ***Adults to 100%*** With enhanced outreach	Public Expansion: ***No Change for Children*** ***Adults to 100%*** With enhanced outreach	Public Expansion: ***Children to 300%*** ***Adults to 150%*** With enhanced outreach	Public Expansion: ***No Change for Children*** ***Adults to 150%*** With enhanced outreach
	(in millions)	*(in millions)*	*(in millions)*	*(in millions)*	*(in millions)*
Medicaid/CHIP	$251,230	$62,894	$61,512	$81,752	$78,383
ESI Premiums	$429,789	-$8,651	-$7,226	-$14,879	-$11,631
Small Firms (1-49 employees)	$82,011	-$3,317	-$3,014	-$6,352	-$5,703
Medium Firms (50-999 employees)	$121,250	-$3,354	-$2,753	-$5,128	-$3,740
Large Firms (1000 plus employees)	$226,528	-$1,980	-$1,458	-$3,400	-$2,188
Gross Individual Spending	$326,359	-$19,580	-$18,691	-$27,055	-$24,846
<200% of FPL	$57,456	-$17,693	-$17,554	-$23,965	-$23,827
200 - 399% of FPL	$99,206	-$1,973	-$1,170	-$3,213	-$1,163
400%+ of FPL	$169,697	$86	$32	$123	$144
Uncompensated Care	$52,266	-$17,452	-$17,406	-$20,818	-$20,811
Overall Spending	$1,007,378	$17,210	$18,189	$18,999	$21,095

Source: Urban Institute's Health Insurance Policy Simulation Model.
Note: Numbers do not include population age 65 and over.

Table 7
Changes in Health Insurance Coverage by Region 2009
Current Participation Rates

Model			Northeast		Midwest		South		West	
			Medicaid/ CHIP	Uninsured	Medicaid/CHIP	Uninsured	Medicaid/CHIP	Uninsured	Medicaid/CHIP	Uninsured
0	**Baseline**									
	(Level)	*N*	8,419,898	7,628,136	9,059,752	8,429,864	16,094,374	20,909,981	10,523,527	12,131,758
		pct	16.9%	15.3%	15.1%	14.0%	16.7%	21.7%	17.1%	19.8%
1	**Public Expansion:**									
	Children to 250%, Adults to 100%									
		N	974,820	-671,450	1,988,250	-1,417,199	4,868,230	-4,066,417	1,823,196	-1,398,282
		pct	2.0%	-1.3%	3.3%	-2.3%	5.1%	-4.2%	3.0%	-2.3%
1A	**Public Expansion:**									
	No Change for Children, Adults to 100%									
		N	955,248	-682,161	1,894,049	-1,440,745	4,630,362	-3,972,720	1,711,311	-1,351,529
		pct	1.9%	-1.4%	3.1%	-2.4%	4.8%	-4.1%	2.8%	-2.2%
2	**Public Expansion:**									
	Children to 300%, Adults to 150%									
		N	1,644,013	-1,038,465	2,964,989	-1,914,028	7,366,437	-5,784,736	3,078,776	-2,122,298
		pct	3.3%	-2.1%	4.9%	-3.2%	7.7%	-6.0%	5.1%	-3.5%
2A	**Public Expansion:**									
	No Change for Children, Adults to 150%									
		N	1,550,715	-1,034,861	2,795,767	-1,944,689	6,932,190	-5,623,142	2,869,831	-2,057,704
		pct	3.1%	-2.1%	4.6%	-3.2%	7.2%	-5.8%	4.7%	-3.4%

Source: Urban Institute's Health Insurance Policy Simulation Model.
Note: Numbers do not include population age 65 and over.

Table 8
Changes in Health Insurance Coverage by Region 2009
Higher Participation Rates

Model		Northeast		Midwest		South		West	
		Medicaid/ CHIP	Uninsured	Medicaid/CHIP	Uninsured	Medicaid/CHIP	Uninsured	Medicaid/CHIP	Uninsured
0	**Baseline**								
(Level)	*N*	8,419,898	7,628,136	9,059,752	8,429,864	16,094,374	20,909,981	10,523,527	12,131,758
	pct	16.9%	15.3%	15.1%	14.0%	16.7%	21.7%	17.1%	19.8%
1	**Public Expansion: With Enhanced Outreach**								
	Children to 250%, Adults to 100%								
	N	3,416,256	-2,468,048	4,395,161	-2,966,467	8,948,724	-7,213,657	5,615,894	-4,174,897
	pct	6.9%	-4.9%	7.3%	-4.9%	9.3%	-7.5%	9.2%	-6.8%
1A	**Public Expansion: With Enhanced Outreach**								
	No Change for Children, Adults to 100%								
	N	3,362,291	-2,476,344	4,235,238	-2,999,902	8,494,098	-7,054,909	5,417,483	-4,087,647
	pct	6.8%	-5.0%	7.0%	-5.0%	8.8%	-7.3%	8.9%	-6.7%
2	**Public Expansion: With Enhanced Outreach**								
	Children to 300%, Adults to 150%								
	N	4,251,687	-2,912,157	5,679,652	-3,587,468	12,084,808	-9,378,492	7,157,146	-5,044,192
	pct	8.5%	-5.8%	9.4%	-5.9%	12.6%	-9.7%	11.7%	-8.3% 0
2A	**Public Expansion: With Enhanced Outreach**								
	No Change for Children, Adults to 150%								
	N	4,071,829	-2,919,633	5,339,927	-3,653,321	11,266,668	-9,118,395	6,788,488	-4,988,955
	pct	8.2%	-5.9%	8.9%	-6.1%	11.7%	-9.5%	11.1%	-8.2%

Source: Urban Institute's Health Insurance Policy Simulation Model.
Note: Numbers do not include population age 65 and over.

Table 9
Medicaid/CHIP Costs under Current and Increased Provider Payment Rates

	Current Payent Rates	Higher Payent Rates
Baseline Spending	$ 251.2	$ 271.7
Changes in Spending under Reform		
Current Participation Rates		
Model 1	31.0	35.6
1A	30.2	34.7
2	45.5	52.2
2A	43.7	50.2
Higher Participation Rates		
Model 1	62.9	71.5
1A	61.5	70.6
2	81.8	93.9
2A	78.4	90.0

Source: Urban Institute's Health Insurance Policy Simulation Model.
Note: Numbers do not include population age 65 and over.

1330 G Street NW, Washington, DC 20005
Phone: (202) 347-5270, *Fax:* (202) 347-5274
Website: www.kff.org/KCMU

This report (#7901) is available on the Kaiser Family Foundation's website at www.kff.org.