The Coverage and Cost Effects of Implementation of the Affordable Care Act in New York State

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Introduction

The Patient Protection and Affordable Care Act of 2010 (ACA) provides states with the opportunity to develop health benefit exchanges – structured marketplaces for the purchase of health insurance coverage by small employers and individual purchasers. If New York State elects to do so, the law provides an array of design choices to the states in an effort to allow the exchanges to reflect varying preferences across the country.[1] All health benefit exchanges must adhere to minimum federal standards, but there is considerable room within those standards for states to make a variety of policy choices. This analysis delineates the cost and coverage implications of a standard implementation of the ACA in New York compared to the no reform case, along with the differential effects of a number of alternative design options.

This analysis, based upon the Urban Institute's Health Insurance Policy Simulation Model (HIPSM), is intended to provide analytic support to the state's policymakers as they assess the options available to them for implementing federal health care reform. We quantify the coverage and cost implications of the various reform options for consumers, employers, and government. The results provided in this report should not be taken to suggest any preference for one policy option over another and are merely intended to provide information on the tradeoffs of different approaches.

Policy Options Simulated

In total, we simulated six different options under the ACA in addition to the no reform case. We refer to the first option as the "standard implementation," and the others are compared to it for convenience. In all but one case, the alternative policy options differ from the standard implementation by only one design feature, for ease of comparison. Figure 1 summarizes the six options simulated, and they are described below. All simulations are done as if the reforms were fully implemented and behavior fully phased-in in the year 2011 to ease comparison across the options.

All simulations include the main coverage provisions of the ACA and include only the non-elderly population. Income groups are defined by modified adjusted gross income (MAGI) as required by the law. The main coverage provisions are:[2]

- Medicaid eligibility is set at 138 percent of the federal poverty level (FPL) for all adults, with the Children's Health Insurance Program (CHIP) remaining in place at current levels. Medicaid maintenance-of-eligibility for adults with incomes above 138 percent of the FPL is modeled as an option, as described below.

- New state-based health insurance exchanges offer plans constructed to meet actuarial value standards of 60, 70, 80, and 90 percent.[3] Exchange plans are

Figure 1: Summary of Options Simulated						
	Standard	**Alt. #1**	**Alt. #2**	**Alt. #3**	**Alt. #4**	**Alt. #5**
Small Group & Non-Group Markets	Merged	Non-merged	Merged	Merged	Non-Merged	Merged
Small Group Size	≤ 100 workers	≤ 100 workers	≤ 50 workers	≤ 100 workers	≤ 50 workers	≤ 100 workers
Medicaid Eligibility Level	138% FPL	138% FPL	138% FPL	138% FPL + FHP parents to 150% FPL	138% FPL	138% FPL
Basic Health Plan?	No	No	No	No	No	Yes

guaranteed issue, as are all plans in the small group and non-group markets, as is the case in New York today. Although the ACA permits age bands in these markets of up to 3:1 and tobacco-use bands of up to 1.5:1, our simulations assume that the state will maintain its pure community rating policy in these markets and that no age or tobacco-use rating will be introduced. Undocumented immigrants are ineligible for exchange coverage.

- Refundable premium tax credits (subsidies) are available to eligible families purchasing insurance through the non-group exchange. These are provided on a sliding scale basis. They limit the maximum percentage of income that a family will have to spend on its health insurance premium. The limit is 2 percent of income for those with incomes up to 138 percent of the FPL, 3 to 4 percent of income for those with incomes between 138 and 150 percent of the FPL, 4 to 6.3 percent for those with incomes between 150 and 200 percent of the FPL, 6.3 to 9.5 percent for those with incomes between 200 and 300 percent of the FPL, and 9.5 percent for those with incomes between 300 and 400 percent of the FPL.

- Cost-sharing subsidies are available to those in the non-group exchange with incomes below 250 percent of the FPL, and reduced maximum out-of-pocket limits are provided to those with incomes below 400 percent of the FPL.

- There is an individual responsibility requirement (also known as an individual mandate) that introduces a penalty for remaining uninsured. Undocumented immigrants, Native Americans, prisoners, and those below the tax filing threshold are exempt from the requirement. Exemptions are also granted for financial hardships, religious conscience and if no affordable insurance coverage is available (i.e., if the direct premium of the lowest cost plan available to the individual exceeds 8 percent of family income). The penalty when fully phased in is the greater of 2.5 percent of income or $695 for an individual or a maximum of $2,085 for a family (in 2016 dollars), not to exceed an applicable national average premium.

- Regardless of income, employees of firms that offer coverage are ineligible for subsidized coverage in the exchange unless the employee's share of the single premium exceeds 9.5 percent of income or if the actuarial value of the employer's plan is less than 60 percent.

- A small-employer tax credit is available to firms that offer health insurance, have 25 or fewer employees, and have workers with an average pay of less than $50,000.

- New assessments will apply to some employers with more than 50 employees. If a firm does not offer coverage to its workers and has at least one full-time employee who receives a subsidy in the non-group exchange, a fee of $2,000 per full-time

employee is assessed, excluding the first 30 employees. Employers that do offer coverage but have at least one full-time employee who receives a subsidy in the non-group exchange (due to the premium being unaffordable or the plan having a very low actuarial value) are assessed the lesser of $3,000 for each employee getting subsidies or $2,000 per full-time employee, again excluding the first 30 employees.

- There is risk adjustment in the non-group and small-group markets between plans both inside and outside the exchange. If the state chooses to merge the small group and non-group markets, then risk adjustment will be done across all the plans combined.

The standard implementation case includes these assumptions as well as:

- Merged small group and non-group markets, treating all enrollees in the combined markets (both in and out of the exchange) as a single risk pool for premium rating purposes. States have the option to merge these markets or keep them separate;

- The small group market is defined as employers with 100 or fewer workers, the definition that must be in place by 2016 in all states. States are allowed to set the size as low as 50 workers between 2014 and 2016. The employer size definition not only determines which group coverage plans are subject to the small group insurance market reforms, but also determines eligibility for group purchases of health insurance through the exchange;

- Medicaid eligibility for all adults with incomes up to 138 percent of the FPL, which means no maintenance-of-eligibility for Family Health Plus (FHP) parents who currently have eligibility at a higher income level. The FHP parents will, however, be eligible for subsidies in the non-group exchange under this scenario;

- There is no Basic Health Program (BHP) introduced in the state;

- The state is assumed to maintain its current policy of covering low-income legal resident immigrants ineligible for the federal Medicaid program through a state funded Medicaid program.

Alternative #1 is the same as the standard implementation, except that the small group and non-group markets are not merged for premium rating purposes.[4] Alternative #2 is the same as the standard implementation, except that small employer size is defined as those with 50 or fewer employees (a state option prior to 2016). Alternative #3 is the same as the standard implementation except that there is maintenance-of-eligibility for FHP parents above 138 percent of the FPL. Alternative #4 changes two assumptions of the standard implementation scenario: the small group and non-group markets are not merged and small employers are defined as 50 or fewer workers.

Finally, alternative #5 is the same as the standard implementation except for the implementation of a BHP in the state. This alternative also assumes that those legal resident immigrants eligible for BHP will be enrolled in BHP instead of the state funded Medicaid program. Under the non-BHP simulations, the legal resident immigrants currently in the Medicaid program are assumed to stay in that state financed program even if they are eligible for subsidies in the health insurance exchange because the exchange based coverage is assumed to be too costly to these enrollees to satisfy the state's judicially mandated requirements.

The Health Insurance Policy Simulation Model (HIPSM)

Here we provide a brief description of HIPSM, the microsimulation model used to estimate the cost and coverage implications of the ACA in New York. A more detailed description of the methods underlying HIPSM is provided in the Appendix to this report.

HIPSM simulates the decisions of businesses and individuals in response to policy changes, such as Medicaid expansions, new health insurance options, subsidies for the purchase of health insurance, and insurance market reforms. The model provides estimates of changes in government and private spending, premiums, rates of employer offers of coverage, and health insurance coverage resulting from specific reforms. We simulate the main coverage provisions of the ACA as if they were fully implemented in 2011 and compare results to the HIPSM baseline results for 2011 without implementation of these reforms. This approach differs from that of the Congressional Budget Office (CBO) or the Centers for Medicare and Medicaid Services (CMS) actuaries who by necessity provide 10-year estimates. Our approach permits more direct comparisons of reform with the pre-reform baseline and of various reform scenarios with each other.

The core of the model is two years of the Current Population Survey's (CPS) Annual Social and Economic Supplement (ASEC), matched to several other national datasets, including the Medical Expenditure Panel Survey– Household Component, the February CPS Contingent Work and Alternative Employment Supplement, the Statistics of Income (SOI) Public Use Tax File and the Statistics of U.S. Business. Distributions of coverage are based on March CPS data with adjustments for the under-reporting of Medicaid enrollment on household surveys relative to state administrative data.

Wherever possible, New York specific data is used in the construction of the New York version of HIPSM (HIPSM-NY). For example, ASEC data from the state of New York are used, with the most recent two years of data re-weighted to reflect the estimated 2011 population composition in the state. New York specific

data is also used from the Statistics of U.S. Business which provide the distribution of characteristics of employers in the model. We use detailed information on state eligibility rules to simulate Medicaid eligibility and enrollment and use detailed enrollment and cost data from the Department of Health to calibrate the model's pre-reform baseline for Child Health Plus, Medicaid, FHP, and state funded coverage for immigrants. Data from the Department of Financial Services was used to benchmark private insurance premiums and enrollment and costs in the Healthy New York program. We simulate the documentation status of immigrants, allowing for more accurate identification of those eligible for public programs and exchange enrollment.[5]

The model generates a set of "synthetic" firms that reflect the state distribution of employers of different types. It populates these simulated employers with workers employed in the same types of firms. In this way, we can base the simulated decisions of employers to offer coverage to workers upon the characteristics of the workers in each firm and their dependents.

Premiums in employer and non-group insurance risk pools are computed as a function of the medical expenses of those enrolled, administrative costs, and any relevant regulatory rules. Premiums are also benchmarked to state-specific premium data from the Department of Financial Services and the Medical Expenditure Panel Survey – Insurance Component. The model adjusts premiums to reflect available government subsidies for particular populations and coverage options and can respond to a variety of regulatory changes and types of enrollment behavior.

Individuals' and families' decisions in the model are based in a flexible economic expected utility framework. The value of each coverage option available to each individual or family is a function of the following: the direct premiums they pay, the value of the health care they use, their expected out-of-pocket health expenses, the variance of out-of-pocket expenses (a measure of risk), any premium or cost-sharing subsidies or tax incentives for which they are eligible, the individual's or family's expected out-of-pocket expenses relative to income, and any incentives to purchase created by the individual coverage requirement and the new employer assessments.

Individuals choose the insurance option, including the option of remaining uninsured, that carries the highest valuation for them. This choice is not necessarily the one that is the cheapest nor the one that appears "most rational" to the outside observer, as individuals exhibit a range of preferred behaviors in the pre-reform period that also are allowed to influence their preferences post-reform. Overall price elasticities of employer and household behavior are calibrated to the strongest empirical economics literature.[6]

HIPSM simulates behavior by iterating a sequence of steps. Each iteration involves a sequence of four stages.

At the beginning of an iteration, the health insurance industry sets premiums for all available health insurance plans given information observed in the last period (or in the baseline for purposes of the first iteration) and any policy changes that become effective in that period. In the second stage, based on these premiums and information about their employees, employers decide whether to offer an employer-sponsored health insurance plan, and if so, the plan to be offered and the employees' cash wages.[7] In the third stage, individuals choose their optimal health insurance option given their available alternatives and associated premiums, income, and relevant tax incentives. Once the iteration is complete, the next period begins and the process repeats. Coverage decisions in the previous period are used to update premiums based on current risk pools, and so on. Iterations continue until coverage decision changes from the previous iteration fall below a specified level; in other words, until equilibrium state has been reached.

Limitations. While behavior within HIPSM is calibrated to the best empirical economic literature on employer and household responses to price changes and the availability of new coverage options, some behavioral decisions are more uncertain than others. The split between exchange and non-exchange enrollment in small group coverage carries particular uncertainty. Although it is modeled here as if eligible employers are essentially neutral between exchange and non-exchange coverage at the same price, the actual decision by small employers will depend upon a number of unknowns. These include how small group plans will differentiate their offerings inside and outside the exchanges (states can require that the offerings be uniform, but this is not required by the ACA), whether states will make all regulatory rules in and out of the exchange uniform in this market, the effectiveness of the risk adjustment methodology, the role of brokers, and so on.

At this time, HIPSM does not model changes in employer contributions to workers' coverage or an employee choice option in the SHOP exchange. In addition, the simulations of health reform assume a fully effective risk adjustment system, while the actual system is likely to fall short of that ideal.

As the regulations associated with the ACA are being released on a rolling basis, some uncertainties about the final rules remain. To the extent that rules emerge that are different than expected, the results could be affected. One example is the final treatment of affordability computations, subsidy eligibility, and penalty exemptions for family members of workers with affordable employer-based insurance offers. It is currently unclear how subsidy eligibility and individual responsibility assessments will be implemented when a worker has an affordable offer of single coverage for employer sponsored insurance but the cost of family coverage is unaffordable. Regulations will determine whether all, some, or none of the family members is eligible for subsidized coverage in the exchange in that situation, and if family members are deemed ineligible for subsidies whether they are still subject to assessments if they do not obtain coverage. Here we have simulated results using the interpretation of the Joint Committee on Taxation that affordability is based on single coverage.[8]

Results of Simulations

We provide detailed simulation results comparing the standard implementation of the ACA (described in the Policy Options Simulated section and in figure 1) to the situation with no reform implemented. The other policy options simulated are described by their differences from the standard implementation.

Standard Implementation Compared to the No Reform Case

Health Insurance Coverage and Exchange Enrollment. Table 1 compares the distribution of health insurance coverage in New York with the standard implementation compared to the no reform case. Note that exchange based coverage in the no reform case

Table 1. Health Insurance Coverage Distribution for the Nonelderly in New York

	No Reform		Standard Implementation*		*Change*
Insured	**14,230,000**	**84%**	**15,254,000**	**90%**	**1,024,000**
Employer (Non-Exchange)	9,603,000	57%	8,987,000	53%	*-616,000*
Employer (HNY / Exchange)	65,000	0%	453,000	3%	*388,000*
Non-Group (Non-Exchange)	32,000	0%	270,000	2%	*238,000*
Non-Group (HNY / Exchange)	113,000	1%	615,000	4%	*502,000*
Medicaid/CHIP	4,067,000	24%	4,580,000	27%	*513,000*
Other (including Medicare)	349,000	2%	349,000	2%	*0*
Uninsured	**2,724,000**	**16%**	**1,700,000**	**10%**	**-1,024,000**
Total	*16,954,000*	*100%*	*16,954,000*	*100%*	*0*

Source: Urban Institute analysis, HIPSM 2011.

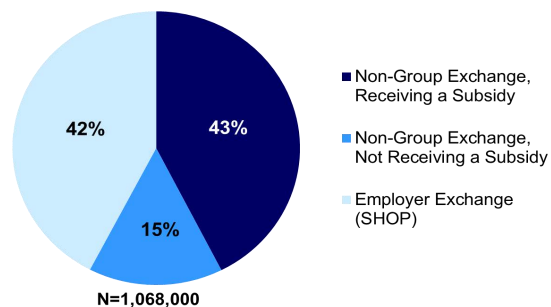*Notes:* We simulate the provisions of the Affordable Care Act fully implemented in 2011.
Exchange based coverage in the No Reform case is enrollment in Healthy New York. Post-reform exchange based coverage is enrollment in the ACA's health insurance exchange(s).
Standard Implementation of the ACA: Merged small group and non-group markets; small group ≤ 100 workers; no maintenance of effort for FHP parents; no BHP.

refers to enrollment in the Healthy New York program. Under reform, the number of New Yorkers with insurance coverage increases by roughly 1 million people, with the share of the population uninsured falling from 16 percent to 10 percent. The new health insurance exchanges would cover approximately 1.1 million people, about 450,000 in the small employer exchange and about 615,000 in the non-group exchange. Additionally, approximately 270,000 individuals will have non-group coverage outside the exchange. Under reform, Medicaid enrollment increases by about 513,000 in total, 76,000 of whom (data not shown) are newly eligible enrollees. Employer based coverage remains very steady post-reform at about 9.5 million people, 9 million of which purchase coverage outside of the new exchange and 450,000 obtaining employer based coverage through the exchange.

Figure 2 provides a graphic view of enrollment in the new state exchange. Forty-two percent of exchange enrollment post-reform is comprised of those obtaining coverage through small employers, and roughly an equal share will purchase coverage independently as individuals and families using a federal subsidy. About 15 percent of exchange enrollment is made up of individuals and families obtaining coverage without a subsidy.

Table 2 shows the numbers of people enrolled and the aggregate subsidies provided to those enrolling in non-group insurance coverage through the exchange. Non-group exchange enrollment and subsidies are both highly concentrated in the lowest income groups, particularly among those with family incomes below 200 percent of the FPL. This group accounts for 52 percent of non-group exchange enrollment, 2/3 of the total premium subsidies, and 87 percent of total cost-sharing subsidies paid out. Approximately 25 percent of health insurance exchange enrollment is made up of individuals with family income between 200 and 300 percent of the FPL, and this group accounts for 30 percent of all premium subsidies and 13 percent of cost-sharing subsidies.[9] About 19 percent of exchange enrollees (118,000 people) are individuals whose incomes are above 400 percent of the FPL.

Figure 2: Categories of Coverage in the Health Insurance Exchange, Standard Implementation

- Non-Group Exchange, Receiving a Subsidy — 43%
- Non-Group Exchange, Not Receiving a Subsidy — 15%
- Employer Exchange (SHOP) — 42%

N=1,068,000

Source: Urban Institute analysis, HIPSM 2011.
Note: Standard Implementation of the ACA: Merged small group and non-group markets; small group ≤ 100 workers; no maintenance of effort for FHP parents; no BHP.

Health Care Spending by Government, Employers, and Households. Table 3 shows how overall health care spending for acute care for the non-elderly differs under reform compared to spending levels in the absence of reform. In total, taking into account increases in federal spending and savings in state spending, aggregate government spending increases under reform by about $4 billion, a relative increase of 11 percent. The state will save about $2.3 billion (13 percent).

The savings accruing to the state is the result of a number of changes. First, New York's Medicaid and FHP programs provide coverage for approximately 810,000 non-disabled adult non-parents up to 100 percent of the federal poverty level (FPL), which is associated with over $6.6 billion in federal and state expenditures. Today, the state receives a federal matching rate of 50 percent on this population, just as it does for Medicaid spending on the state's other eligible populations. Once the ACA is fully implemented, the federal matching rate on most of this population of adult non-parents will increase to 90 percent, significantly reducing the share that the state is required to pay on their behalf.[10] While the ACA will expand Medicaid eligibility to childless adults with incomes between 100 and 138 percent of the FPL starting in 2014, the state

Table 2. Subsidies in the Nongroup Exchange for the Nonelderly in New York, by Income Group

	Persons Covered	% of Total	Persons Receiving Subsidies	% of Total	Total Premium Subsidies (millions $)	% of Total	Total Cost-Sharing Subsidies (millions $)	% of Total
<200% FPL	319,000	52%	301,000	66%	1,453.7	67%	191.5	87%
200-300% FPL	162,000	26%	144,000	32%	640.9	30%	28.7	13%
300-400% FPL	16,000	3%	9,000	2%	61.5	3%	0	0%
400%+ FPL	118,000	19%	0	0%	0	0%	0	0%
Total	**615,000**	**100%**	**454,000**	**100%**	**2,156.0**	**100%**	**220.2**	**100%**

Source: Urban Institute analysis, HIPSM 2011.

*Notes:

(1) We simulate the provisions of the Affordable Care Act fully implemented in 2011.

(2) Some individuals with income below 400% of FPL enroll in the exchange but do not receive subsidies due to having an affordable employer offer.

(3) Standard Implementation of the ACA: Merged small group and non-group markets; small group ≤ 100 workers; no maintenance of effort for FHP parents; no BHP.

Table 3. Overall Health Care Spending for the Nonelderly in New York

	No Reform (in millions)	Standard Implementation* (in millions)	Change (in millions)	Percent Change
Net Government Spending	$35,140	$39,157	$4,017	11%
Medicaid/CHIP	$35,140	$36,915	$1,775	5%
Federal Share	$17,803	$21,881	$4,078	23%
State Share	$17,337	$15,033	-$2,304	-13%
Net Employer Spending	$38,261	$35,757	-$2,504	-7%
Total Individual Spending	$19,893	$21,027	$1,133	6%
Total Uncompensated Spending	$5,928	$3,597	-$2,331	-39%
Overall Spending	***$99,222***	***$99,537***	***$314***	***0%***

Source: Urban Institute analysis, HIPSM 2011.

*Notes: We simulate the provisions of the Affordable Care Act fully implemented in 2011; all figures are one-year estimates.

Standard Implementation of the ACA: Merged small group and non-group markets; small group ≤ 100 workers; no maintenance of effort for FHP parents; no BHP.

will never pay more than 10 percent of the costs associated with this population.[11] Second, under the standard implementation scenario, the Urban Institute assumes that the state does not maintain eligibility for FHP parents with incomes between 138 and 150 percent of the FPL since those individuals will be income-eligible for federally subsidized exchange-based coverage under full implementation.[12] Because the state would no longer contribute towards the cost of coverage for this group, this also leads to state savings. It is important to note, however, that this is an Urban Institute modeling assumption and does not reflect any policy decisions from New York State. (Alternative #3 presents the option with maintenance of eligibility for this group.)

Employer spending falls modestly under reform (by 7 percent) due to moderate premium declines and a small decline in employer coverage. We also see a modest (6 percent) increase in direct spending by households due to more people obtaining coverage under reform and paying at least some share of the costs of those insurance plans; this increase is concentrated among households with income above 200 percent of the FPL. Aggregate state spending on uncompensated care declines by almost 40 percent ($2.3 billion) as the number of uninsured people in the state falls by about the same percentage.

Table 4 breaks out the employer spending results shown in table 3 in greater detail. Employer spending on premiums for workers falls by $2.4 billion under reform, or 6 percent. This decline is due to modest decreases in the average premiums in the small employer market and a small decline in employer coverage overall. In aggregate, employers would pay the federal government about $113 million in assessments imposed due to some of their full-time workers obtaining subsidized insurance coverage through the non-group exchange. Approximately 20,000 small employers (data not shown) providing coverage to their low average wage workforces will receive over $200 million per year in federal subsidies through the small employer tax credit.

Table 5 provides additional detail on the health care costs of households with and without reform. Spending for the lowest income households stays virtually constant, even as health insurance coverage for this population increases substantially. Modest increases (5 to 8 percent) among families with incomes over 200 percent of the FPL are concentrated among previously uninsured households that are contributing to the costs of that new coverage at least in part. This is also reflected in the spending breaks by premiums and cost-sharing, where the results show modest declines in spending on cost-sharing (10 percent) and increases on spending on premiums (16 percent).

Table 4. Employer Spending for the Nonelderly in New York

	No Reform (in millions)	Standard Implementation* (in millions)	Change (in millions)	Percent Change
Employer Spending				
ESI Premiums	$38,261	$35,861	-$2,400	-6%
Employer Assessments	$0	$113	$113	n.a.
Federal Employer Subsidies	$0	$217	$217	n.a.
Net Employer Spending	$38,261	$35,757	-$2,504	-7%

Source: Urban Institute analysis, HIPSM 2011.

*Notes: We simulate the provisions of the Affordable Care Act fully implemented in 2011; all figures are one-year estimates.

Standard Implementation of the ACA: Merged small group and non-group markets; small group ≤ 100 workers; no maintenance of effort for FHP parents; no BHP.

Table 5. Household Spending for the Nonelderly in New York

	No Reform (in millions)	Standard Implementation* (in millions)	Change (in millions)	Percent Change
Individual Spending	$19,893	$21,027	$1,133	6%
Net Out-of-pocket Premiums	$10,720	$12,452	$1,733	16%
Net Out-of-pocket Cost-sharing	$9,174	$8,288	-$886	-10%
Individual Mandate Assessments	$0	$286	$286	n.a.
Total Individual Spending	$19,893	$21,027	$1,133	6%
<200% FPL	$3,033	$3,030	-$2	0%
200-399% FPL	$5,602	$5,860	$258	5%
>400% FPL	$11,259	$12,136	$878	8%

Source: Urban Institute analysis, HIPSM 2011.

*Notes: We simulate the provisions of the Affordable Care Act fully implemented in 2011; all figures are one-year estimates.

Standard Implementation of the ACA: Merged small group and non-group markets; small group ≤ 100 workers; no maintenance of effort for FHP parents; no BHP.

Table 6 shows additional detail on government spending pre- and post-reform. In addition to the Medicaid break-out (federal spending increase of $4.1 billion and state spending decrease of $2.3 billion) delineated in table 3, we see that the federal government would spend $2.6 billion on subsidies to reduce the cost of health insurance premiums and cost-sharing responsibilities for New York households obtaining coverage through the non-group and small employer exchange. The largest component of these federal subsidies by far is premium subsidies for those obtaining non-group coverage in the exchange.

Households pay the federal government about $286 million in assessments due to non-compliance with the individual responsibility requirements under the ACA, and employers would make payments of about $113 million due to their full-time workers obtaining subsidized non-group coverage through the exchange.

Table 7 shows Medicaid/CHIP enrollment and total expenditures pre- and post-reform by eligibility category. Enrollment among nondisabled non-parents increases by 330,000 and spending increases by $1.2 billion as the Medicaid eligibility threshold for this population expands from 100 to 138 percent of the FPL. As described above, this increase in costs is borne fully by the federal government. While total spending increases among this eligibility group, the average cost per enrollee declines by over $1,300, meaning that the average cost per new enrollee is substantially lower than the average cost per baseline enrollee due to their relatively better health status.[13] Additionally, Medicaid/CHIP enrollment and expenditures among nondisabled children modestly increase due to improved outreach efforts. Medicaid enrollment and spending remain relatively constant among the disabled and nondisabled adult parents in reform.

Health Insurance Premiums in the Non-Group and Small Group Markets. Table 8 shows the average annual premiums per covered life in the small employer markets both in the absence of reform and once the ACA is fully implemented. Measuring the premiums as the amount per covered life allows us to use one number to reflect the average costs over both single and family premiums. The premiums shown in the table reflect the average faced by employers, and do not include state subsidies in the case of Healthy New York pre-reform. The state subsidies for Healthy New York amount to about a 31 percent reduction in premiums for individuals/ employers.

Table 6. Government Spending for the Nonelderly in New York

	No Reform (in millions)	Standard Implementation* (in millions)	Change (in millions)	Percent Change
Government Spending	$35,140	$39,157	$4,017	11%
Medicaid/CHIP	$35,140	$36,915	$1,775	5%
Federal Share	$17,803	$21,881	$4,078	23%
State Share	$17,337	$15,033	-$2,304	-13%
Federal Premium Subsidies	$0	$2,160	$2,160	n.a.
Federal Cost-sharing Subsidies	$0	$263	$263	n.a.
Federal Employer Subsidies	$0	$217	$217	n.a.
Individual Mandate Assessments	$0	$286	$286	n.a.
Employer Assessments	$0	$113	$113	n.a.
Net Government Spending	$35,140	$39,157	$4,017	11%

Source: Urban Institute analysis, HIPSM 2011.

*Notes: We simulate the provisions of the Affordable Care Act fully implemented in 2011; all figures are one-year estimates.

Standard Implementation of the ACA: Merged small group and non-group markets; small group ≤ 100 workers; no maintenance of effort for FHP parents; no BHP.

Table 7. Nonelderly Medicaid/CHIP Enrollment and Costs in New York, With Reform

	Baseline			Post-Reform			Change		
	Enrollees	Cost (millions $)	Average Cost ($)	Enrollees	Cost (millions $)	Average Cost ($)	Enrollees	Cost (millions $)	Average Cost ($)
Disabled	554,000	$18,528	$33,429	555,000	$18,574	$33,451	1,000	$46	$22
Nondisabled Children	1,866,000	$5,424	$2,907	2,048,000	$5,815	$2,839	182,000	$392	-$68
Nondisabled Adult Parents	840,000	$4,531	$5,391	837,000	$4,623	$5,524	-4,000	$92	$133
Nondisabled Adult Non-Parents	807,000	$6,657	$8,252	1,139,000	$7,902	$6,935	333,000	$1,245	-$1,316
Total	**4,067,000**	**$35,140**	**$8,639**	**4,580,000**	**$36,915**	**$8,060**	**513,000**	**$1,775**	**-$579**

Source: Urban Institute analysis, HIPSM 2011.

*Notes: We simulate the provisions of the Affordable Care Act fully implemented in 2011; all figures are one-year estimates.

Standard Implementation of the ACA: Merged small group and non-group markets; small group ≤ 100 workers; no maintenance of effort for FHP parents; no BHP.

All increased government costs are borne by the federal government. See table 6 for additional detail.

Averaging over the entire small employer market, the premium per covered life falls from $5,410 to $5,150 post-reform (column 3), a decline of about 5 percent.[14] The average premium per covered life post-reform includes fully insured employers with 100 or fewer workers, as the small employer definition expands under the ACA; the pre-reform averages include only those employers with 50 or fewer workers, the current small group market definition. As a consequence, it is worth examining the effect of reform on the small employers most affected by the change in definition, those with 51 to 100 employees. In the second column of table 8, we see that average premiums for this group of employers falls under reform as well, from an average premium per covered life of $5,430 to $5,050, a decrease of 7 percent. Thus, the expanded definition of the small group market can be expected to have positive effects,

on average, for employers of 51 to 100 workers as well as those with 50 or fewer workers.

Table 9 shows premiums per covered life in New York's non-group market, pre- and post-reform. Again, the Healthy New York premiums in the table exclude the subsidy paid by the state toward that coverage. As a result of the state subsidies, a less comprehensive insurance package, and a healthier group of enrollees, Healthy New York premiums are much lower than non-group premiums in the standard market. Health insurance premiums per covered life in New York's standard non-group market are extremely high – over $15,000 – due to it being a guaranteed issue, pure community rated market with no individual requirement to obtain health insurance coverage and no income-related subsidies to attract lower cost individuals into the

Table 8. Small Employer Market Premiums per Covered Life for the Nonelderly in New York

	Firms With 50 or Fewer Employees	Firms With 51 to 100 Employees	Total Small Group Market
No Reform			
Healthy New York	$3,030	--	$3,030
Standard	$5,520	$5,430	$5,520
Total	$5,410	$5,430	$5,410
Standard Implementation			
Exchange	$4,720	$4,040	$4,670
Nonexchange	$5,370	$5,140	$5,300
Total	$5,180	$5,050	$5,150

Source: Urban Institute analysis, HIPSM 2011.

*Notes:
(1) We simulate the provisions of the Affordable Care Act fully implemented in 2011; all figures are one-year estimates.
(2) In the No Reform case, the small group total only includes employers of 50 or fewer workers, consistent with the pre-ACA state law. *Post-reform, the small group market includes employers of 100 or fewer workers.*
(3) Standard Implementation of the ACA: Merged small group and non-group markets; small group ≤ 100 workers; no maintenance of effort for FHP parents; no BHP.

Table 9. Nongroup Market Premiums per Covered Life for the Nonelderly in New York

No Reform	
Healthy New York	$2,910
Standard	$15,240
Total	$5,620
Standard Implementation*	
Exchange	$4,680
Nonexchange	$5,100
Total	$4,860

Source: Urban Institute analysis, HIPSM 2011.

*Notes:

(1) We simulate the provisions of the Affordable Care Act fully implemented in 2011; all figures are one-year estimates.
(2) The Healthy New York premium estimates do not include state reinsurance subsidies.

(3) Standard Implementation of the ACA: Merged small group and non-group markets; small group ≤ 100 work-ers; no maintenance of effort for FHP parents; no BHP.

market. The market is very small relative to other state non-group markets as a consequence of the very high premiums.

Once the ACA's reforms are fully in place, including the requirement that most individuals obtain health insurance coverage and the provision of federal subsidies to limit the cost of exchange-based coverage to a specified percentage of income, the market becomes attractive to individual purchasers with lower health care needs. As shown in table 1, the non-group market (taking both Healthy New York and directly purchased coverage into account with no reform) is estimated to increase dramatically in size – from 145,000 people to 885,000 – and the entrance of this population with a much more typical distribution of expected health care needs has a dramatic effect on the average premium per covered life. The overall average premium per covered life in the entire non-group market (including Healthy New York and standard coverage pre-reform and exchange and non-exchange coverage post-reform) falls by 14 percent. If one excludes the pre-reform Healthy New York population, however, and compares the average premium in standard non-group coverage pre-reform to average non-group coverage post-reform, the decline is about 70 percent.

Summary. The standard implementation of the ACA in New York state is estimated to:

- Decrease the number of uninsured New Yorkers by about 1 million people;

- Lead to 1.1 million people covered in the health insurance exchanges (about 615,000 of which would obtain coverage in the non-group exchange, 450,000 through small employers);

- Increase those covered by Medicaid/CHIP by about ½ million people;

- Keep employer coverage relatively constant in total;

- Concentrate financial assistance most heavily among those with family income below 200 percent of the FPL;

- Increase federal Medicaid spending in the state by $4.1 billion while reducing state Medicaid spending by $2.3 billion;

- Provide roughly $2.6 billion in federal subsidies to New York households and small employers, while collecting $400 million in assessments from some employers with more than 50 workers and some households;

- Lower employer spending modestly, by reducing premiums in the small employer market;

- Increase household spending modestly among those newly obtaining health insurance coverage and contributing to it at least in part;

- Decrease the average small employer premium per covered life modestly (by about 5 percent), and

decrease non-group premiums per covered life dramatically (by about 14 percent including Healthy New York and by about 70 percent excluding Healthy New York).

Standard Implementation Compared to Alternative Policy Options

We now compare the standard implementation of the ACA to the array of alternative policy options delineated earlier in figure 1. We highlight only those results that differ significantly from the standard implementation.

Alternative #1: Non-Merged Small Group and Non-Group Markets. The distribution of health insurance coverage when the small group and non-group markets are not merged is virtually identical to the distribution of coverage when they are merged (the standard implementation). There are 58,000 fewer individuals obtaining coverage in the non-group exchange and about 53,000 more people uninsured when the markets are not merged (data not shown). This modest difference results because premiums in the non-group market are higher when the small group and non-group markets are not merged. Table 10 shows the differences in health insurance premiums between the merged market and non-merged market options. The non-merged markets (Alternative 1) lead to average premiums per covered life in the non-group market that are 14 percent higher than they are when the small group and non-group markets are merged. Small employer premiums are about 1 percent lower in the small group market when the markets are not merged, relative to when they are. The effect on the non-group market is much larger than that in the small employer market because the latter is so much larger than the former, thus the savings to the small employer market of not merging are spread much more broadly than are the costs that are incurred by the non-group market.

Small group average premiums per covered life (including Healthy New York) under alternative 1 are about 6 percent lower in the non-merged market case than with no reform ($5110 versus $5410).[15] The non-merged small group average premium per covered life is 7 percent lower than the no reform case if only the standard (non-Healthy New York) market is taken into account ($5110 versus $5520). The overall average premium per covered life in the entire non-group market (including Healthy New York and standard coverage pre-reform and exchange and non-exchange coverage post-reform) falls by 1 percent in the non-merged market case relative to no reform ($5570 versus $5620).[16] If one excludes the pre-reform Healthy New York population, however, and compares the average premium in standard non-group coverage pre-reform to average non-group coverage post-reform with no merged markets, the decline is 63 percent ($5570 versus $15,240).

Table 10. Covered Lives and Premiums of the Nonelderly in New York Under Reform, Standard Implementation vs. Non-Merged Small Group and Non-Group Markets

	Standard Implementation		Alternative #1 Non-Merged Markets		Change in Premium per Covered Life	
	Covered Lives	Premium per Covered Life ($)	Covered Lives	Premium per Covered Life ($)	Total ($)	Percent
Small Group						
Exchange	453,000	4,670	432,000	4,640	-$30	-1%
Non-Exchange	1,416,000	5,300	1,442,000	5,250	-$50	-1%
Total	1,868,000	5,150	1,875,000	5,110	-$40	-1%
Non-Group						
Exchange	615,000	4,680	557,000	5,620	$940	20%
Non-Exchange	270,000	5,100	304,000	5,500	$400	8%
Total	885,000	4,860	860,000	5,570	$710	15%

Source: Urban Institute analysis, HIPSM 2011.

*Notes: We simulate the provisions of the Affordable Care Act fully implemented in 2011; all figures are one-year estimates.
Standard Implementation of the ACA: Merged small group and non-group markets; small group ≤ 100 workers; no maintenance of effort for FHP parents; no BHP.

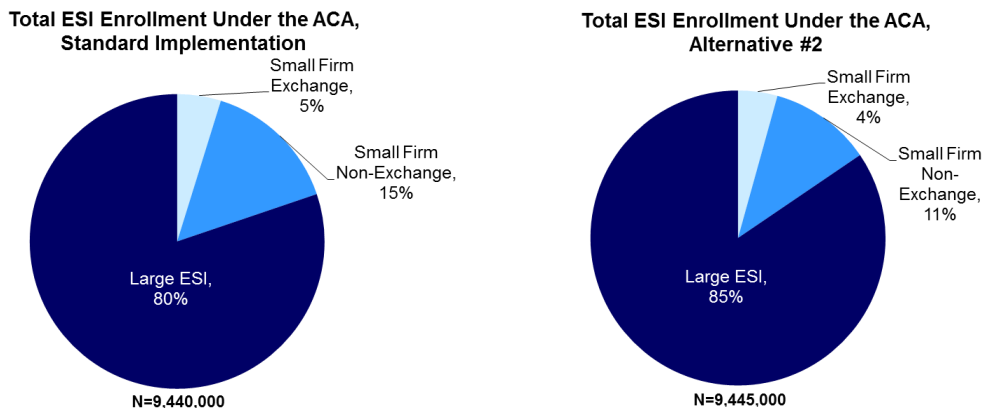**Alternative #2: Small Group Market Definition Set at 50 or Fewer Employees.** Figure 3 shows how the different definitions of the size of the small group market affect enrollment in employer-sponsored insurance under the ACA. The share of employer sponsored insurance coverage in the large employer market is 85 percent when the small group market is limited to firms with 50 or fewer workers, compared to 80 percent when the small group market is expanded to 100 or fewer workers. This difference merely represents a shift of covered lives between the small group and large group markets; there is no change in the share of state residents covered by employer-based coverage in total. With the more limited small employer definition, the employer exchange would account for 4 percent of the employer market, as opposed to 5 percent under the 100 or fewer worker definition. Likewise, the small employer market outside of the exchange is 11 percent when the 50 or fewer worker definition is used, compared to 15 percent when the 100 or fewer definition

is in place. Again, this represents a shift of coverage from one market to the other. There are no significant differences in premiums or the distribution of health insurance coverage between the two policy options.

Alternative #3: Maintaining Family Health Plus (FHP) Eligibility Levels for Parents at 150 Percent of the Federal Poverty Level. The decision whether to keep the current eligibility levels (150 percent of the FPL) for FHP parents in place once the ACA is fully implemented has implications not only for that eligible population and the state's costs, but also for the private non-group insurance market. Table 11 shows that maintaining FHP eligibility levels will lead to 63,000 more individuals obtaining public coverage (Medicaid/CHIP) and will decrease the number of non-group exchange enrollees by about double that amount. This larger difference in the non-group market occurs because the FHP parents are relatively healthy, so when they are kept in public insurance as opposed to allowed to enroll in subsidized

Figure 3: Employer-Sponsored Insurance Enrollment under the ACA

Total ESI Enrollment Under the ACA, Standard Implementation
Small Firm Exchange, 5%
Small Firm Non-Exchange, 15%
Large ESI, 80%
N=9,440,000

Total ESI Enrollment Under the ACA, Alternative #2
Small Firm Exchange, 4%
Small Firm Non-Exchange, 11%
Large ESI, 85%
N=9,445,000

Source: Urban Institute analysis, HIPSM 2011.
Notes:
(1) We simulate the provisions of the Affordable Care Act fully implemented in 2011.
(2) Standard Implementation of the ACA: Merged small group and non-group markets; small group ≤ 100 workers; no maintenance of effort for FHP parents; no BHP.
(3) Alternative #2 defines small group as ≤ 50 workers.

Table 11. Nonelderly Insurance Coverage Under Reform, Standard Implementation vs. Alternative #3

| | Standard Implementation | | Alternative #3 MOE for FHP Parents | | Difference |
	Total	%	Total	%	Total
Insured	**15,254,000**	**90%**	**15,198,000**	**90%**	**-56,000**
Employer (Non-Exchange)	8,987,000	53%	9,033,000	53%	45,000
Employer (Exchange)	453,000	3%	414,000	2%	-38,000
Non-Group (Non-Exchange)	270,000	2%	271,000	2%	1,000
Non-Group (Exchange)	615,000	4%	488,000	3%	-128,000
Medicaid/CHIP	4,580,000	27%	4,643,000	27%	63,000
Other (including Medicare)	349,000	2%	349,000	2%	0
Uninsured	**1,700,000**	**10%**	**1,756,000**	**10%**	**56,000**
Total	*16,954,000*	*100%*	*16,954,000*	*100%*	*0*

Source: Urban Institute analysis, HIPSM 2011.

*Notes: We simulate the provisions of the Affordable Care Act fully implemented in 2011.

Standard Implementation of the ACA: Merged small group and non-group markets; small group ≤ 100 workers; no maintenance of effort for FHP parents; no BHP.

exchange-based coverage, the average cost of coverage in the non-group market is higher. Due to facing higher premiums in the non-group market, some unsubsidized individuals will decide not to purchase coverage there, whereas they would purchase coverage under the lower premium that included the FHP parents in the insurance pool. These coverage changes and the premium changes are small, however, relative to the size of the New York population.

Table 12 shows the costs to government and households under the two policy options. At the top of the table we see that state Medicaid costs are $100 million (0.7 percent) higher when FHP eligibility is maintained,[17] as compared to the standard implementation. However, this difference is quite small relative to the savings of more than $2 billion that the state would achieve due to the ACA overall in either case. The bottom of table 12 shows that maintaining FHP eligibility for families does create significant savings for low income families compared to the standard implementation. Household spending for families with

incomes below 200 percent of the FPL are 12 percent lower when FHP eligibility is maintained, compared to the standard implementation.

Alternative #4: Non-Merged Markets, Small Group Definition at 50 or Fewer Workers, Medicaid Eligibility to 138 Percent of the FPL (No FHP Maintenance of Eligibility). Relative to the standard implementation, this option uses the more limited definition of the small employer market and keeps the small group and non-group markets distinct for premium rating purposes. As such, the results are a combination of those for Alternatives 1 and 2, discussed earlier. Table 13 shows only modest differences in the distribution of health insurance coverage relative to the standard implementation. Because non-merged markets lead to higher premiums in the non-group market, there are 57,000 fewer non-group exchange enrollees in Alternative #4 compared to the standard implementation. There are also 39,000 fewer employer exchange enrollees under this option, since those employers with 51 to 100 workers are not eligible to

Table 12. Net Government and Household Spending Under Reform, Standard Implementation vs. Alternative #3

| | Standard Implementation | Alternative #3 MOE for FHP Parents | Difference | |
	Total (millions)	Total (millions)	Total (millions)	Percent
Net Government Spending	**$39,157**	**$39,294**	**$137**	**0%**
Medicaid/CHIP (Federal + State)	$36,915	$37,047	$132	0%
Federal Share	$21,881	$21,913	$32	0%
State Share	$15,033	$15,133	$100	1%
Total Individual Spending	**$21,027**	**$20,631**	**-$395**	**-2%**
<200% FPL	$3,030	$2,654	-$376	-12%
200-399% FPL	$5,860	$5,860	$0	0%
>400% FPL	$12,136	$12,117	-$20	0%

Source: Urban Institute analysis, HIPSM 2011.

*Notes: We simulate the provisions of the Affordable Care Act fully implemented in 2011.

Standard Implementation of the ACA: Merged small group and non-group markets; small group ≤ 100 workers; no maintenance of effort for FHP parents; no BHP.

Table 13. Nonelderly Insurance Coverage Under Reform, Standard Implementation vs. Alternative #4

	Standard Implementation		Alternative #4 Non-Merged Markets Small Group ≤ 50		Difference
	Total	%	Total	%	Total
Insured	**15,254,000**	**90%**	**15,229,000**	**90%**	**-24,000**
Employer (Non-Exchange)	8,987,000	53%	9,042,000	53%	55,000
Employer (Exchange)	453,000	3%	413,000	2%	-39,000
Non-Group (Non-Exchange)	270,000	2%	307,000	2%	37,000
Non-Group (Exchange)	615,000	4%	558,000	3%	-57,000
Medicaid/CHIP	4,580,000	27%	4,560,000	27%	-20,000
Other (including Medicare)	349,000	2%	349,000	2%	0
Uninsured	**1,700,000**	**10%**	**1,725,000**	**10%**	**24,000**
Total	*16,954,000*	**100%**	*16,954,000*	**100%**	**0**

Source: Urban Institute analysis, HIPSM 2011.
*Notes: We simulate the provisions of the Affordable Care Act fully implemented in 2011.
Standard Implementation of the ACA: Merged small group and non-group markets; small group ≤ 100 workers; no maintenance of effort for FHP parents; no BHP.

enroll. The higher non-group premiums under Alternative #4 lead to a slight increase, 24,000 people, in the uninsured compared to the standard implementation. The other notable difference between this policy option and the standard implementation is the differences in non-group and small group premiums. These differences – a 14 percent higher non-group premium on average and a 1 percent lower small group premium on average – are the same magnitude as those shown in tables 8 and 9.

Alternative #5: The Basic Health Program (BHP).
This policy option is identical to the standard implementation, except that it introduces a state BHP for those with incomes at or below 200 percent of the FPL who are ineligible for Medicaid, CHIP, and Medicare, who are citizens or legally present immigrants, and who do not have access to affordable employer based insurance that meets the federal standard of having an actuarial value of 60 percent or higher.

Our primary analysis of the BHP option assumes that the program provides Medicaid benefits (excluding long-term care) to its enrollees, paying Family Health Plus payment rates to providers. We also provide results on the cost implications of increasing Family Health Plus payment rates by 25 percent across the board. We assume that the BHP plan is offered to eligible enrollees for a $100 annual premium and that the coverage has an actuarial value of 98 percent.

Guidance has not yet been issued detailing how the federal government will compute BHP payments to the states. For these modeling purposes, we compute BHP payments consistent with the spirit of the law, which says that states will receive 95 percent of the amount that BHP enrollees would have received as premium and cost-sharing subsidies had they obtained health insurance coverage through the non-group exchange. HIPSM computes this amount very precisely by first running a simulation without BHP, determining the subsidy payments for eligible individuals in the exchange and importing that information to the BHP simulation;

federal government payments in practice will be computed by some approximation of this approach. Also, HIPSM uses the average simulated health insurance premium for silver coverage in the exchange as the benchmark for determining premium subsidies; if the state's second lowest cost silver plan turns out to be lower than this (perhaps due to Medicaid MCOs entering the exchange market using lower provider payment rates), the federal payments would be lower than simulated here.[18] Consequently, there remains uncertainty over the actual level of federal payments if New York chooses to develop a BHP.

Our simulation of Alternative 5 assumes that the immigrant groups (those subject to the 5-year Medicaid ban and the PRUCOL population) that are eligible for state-funded coverage under Medicaid pre-reform are for the most part made eligible for BHP post-reform instead. The exceptions are those immigrants who have affordable employer-sponsored insurance offers as these individuals are prohibited from BHP enrollment under federal law, and we assume that the state will continue to finance their coverage with state funds. In addition, those immigrants receiving long-term care and community rehabilitation services are also assumed to remain in Medicaid. Under the standard implementation, the immigrant population covered by state funded Medicaid remains in that program, as the exchange based coverage is not assumed to be sufficient to satisfy judicial requirements.

Table 14 shows the distribution of health insurance coverage under the standard implementation and under the option with BHP. We see that the number of state residents covered by Medicaid is about 4 percent lower with BHP than it is without it; this difference is accounted for by moving the state-only financed coverage for immigrants out of Medicaid and into BHP. Approximately 468,000 individuals enroll in BHP, and the size of the non-group insurance exchange falls to 367,000. There is also a small negative effect on enrollment in the employer-based market of introducing BHP because its coverage is more attractive to some

Table 14. Nonelderly Insurance Coverage Under Reform, Standard Implementation vs. Alternative #5

	Standard Implementation		Alternative #5 Basic Health Program		Difference
	Total	%	Total	%	Total
Insured	**15,254,000**	**90%**	**15,230,000**	**90%**	**-24,000**
Employer (Non-Exchange)	8,987,000	53%	8,937,000	53%	-50,000
Employer (Exchange)	453,000	3%	453,000	3%	0
Non-Group (Non-Exchange)	270,000	2%	267,000	2%	-3,000
Non-Group (Exchange)	615,000	4%	367,000	2%	-248,000
BHP	0	0%	468,000	3%	468,000
Medicaid/CHIP	4,580,000	27%	4,390,000	26%	-190,000
Other (including Medicare)	349,000	2%	349,000	2%	0
Uninsured	**1,700,000**	**10%**	**1,724,000**	**10%**	**24,000**
Total	*16,954,000*	**100%**	*16,954,000*	**100%**	**0**

Source: Urban Institute analysis, HIPSM 2011.
*Notes: We simulate the provisions of the Affordable Care Act fully implemented in 2011.
Standard Implementation of the ACA: Merged small group and non-group markets; small group ≤ 100 workers; no maintenance of effort for FHP parents; no BHP.

than exchange-based subsidies. Due to the greater attractiveness of BHP for this population, a small number of employers will stop offering coverage to their workers, thus making them eligible for BHP. We also find that moving the BHP eligible population out of the non-group exchange will tend to increase the premium in the non-group market slightly (data not shown), leading to a slightly higher number of uninsured (about 24,000 people) as some unsubsidized individuals decide not to purchase non-group policies.

There is a modest premium effect in the non-group market if the BHP is put in place. BHP eligibles tend to be younger and less costly than the remaining non-group insurance pool. As a result, premiums in the non-group market are slightly higher (by about $100 per covered life per year) when the BHP option is implemented.

Figure 4 provides a graphic depiction of the size of New York's exchange post-reform, with and without the BHP option in place. Without BHP, total exchange enrollment is about 1.1 million people, 615,000 of which enroll in non-group insurance and 453,000 enroll via small

employers. If the BHP option is implemented, the size of the non-group exchange is 367,000 people, and the small employer exchange enrollment remains at 453,000. Thus the combined size of the small group and non-group exchange enrollment with the BHP in place is about ¾ of what it is without the BHP; the non-group exchange on its own is about 60 percent of what it is without the BHP. This is a sizable difference, yet the enrollment of 820,000 people in the combined exchange is still large enough to be viable and stable.

Figure 5 shows that BHP leads to large savings on premiums and out-of-pocket spending for low-income individuals compared to subsidized coverage in the health insurance exchange. By design, the BHP simulated here charges a $100 annual premium per person, compared to the average direct premium payment for subsidized coverage in the exchange of $1,670 per year. In addition, the 98 percent actuarial value plan assumed for the BHP leads to average out-of-pocket health care costs of $120 per year per adult enrolled, as compared to $330 on average per year for this population enrolled in the non-group exchange.

Figure 4: Exchange Enrollment, Standard Implementation (Without BHP) vs. Alternative #5 (With BHP)
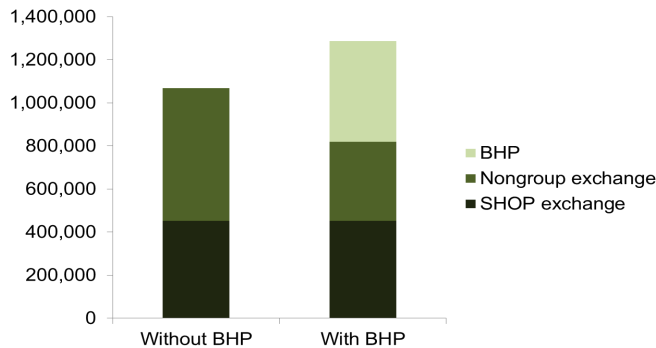
Source: Urban Institute analysis, HIPSM 2011.
Note: Standard Implementation of the ACA: Merged small group and non-group markets; small group ≤ 100 workers; no maintenance of effort for FHP parents; no BHP.

Figure 5: Average Annual Costs for Adults with Incomes Between 138-200% FPL: BHP vs. Subsidized Coverage in the Exchange
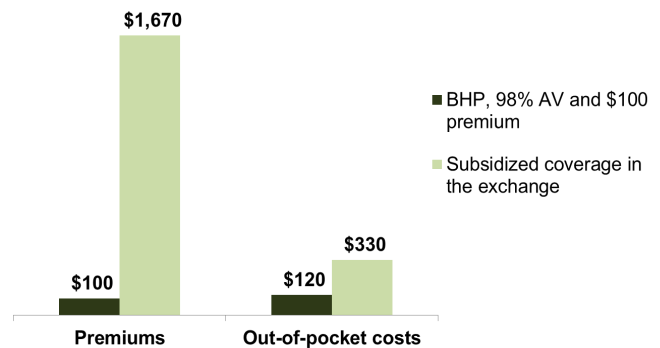
Source: Urban Institute analysis, HIPSM 2011.

Figure 6 compares the simulated per capita federal BHP payments to the per capita costs of providing care under the BHP. We provide this comparison in two ways: assuming BHP pays health care providers using FHP payment rates and assuming the program pays FHP payment rates plus 25 percent. This chart does not take any state savings into account from shifting the legal resident immigrants out of state-only funded Medicaid; the implications of those savings will be shown next. This is simply a comparison of federal BHP payments per enrollee and their costs.

Figure 6: Per Capita Annual BHP Payments vs. Costs
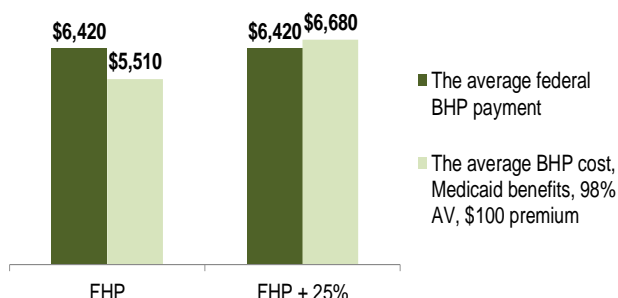
Source: Urban Institute analysis, HIPSM 2011.

The simulated per capita BHP payment is $6,420 in both cases, as the federal payment is unrelated to the payment rates states choose to make under the program. Under the FHP payment rate scenario, BHP costs per enrollee are $5,510, 14 percent below the estimated payment. If FHP payment rates are increased by 25 percent for care provided under BHP, the program's cost per enrollee is $6,680, 4 percent higher than the estimated federal payment.

The state currently fully finances Medicaid coverage for 215,000 legal resident immigrants who are non-long term care users. Approximately 130,000 of that group are estimated to enroll in the BHP if it is implemented in New York. The remaining 85,000 currently covered by the state have access to affordable offers of employer-based insurance and are therefore ineligible to enroll in BHP. We assume that the state continues to finance Medicaid coverage for these 85,000 individuals. We estimate that the state saves $597 million per year if it moves the 130,000 legal resident immigrants who are eligible from current state-funded coverage into BHP.

Figure 7 compares the aggregate federal BHP payments plus the state savings from the immigrant population to the aggregate program costs associated with BHP under the two payment rate scenarios. The estimated BHP payments and the state savings associated with moving most of the legal resident immigrant population into BHP totals $3.6 billion, compared to aggregate BHP costs of $3.1 billion (using FHP provider payment rates plus 25 percent) or $2.6 billion (using FHP provider payment rates). Thus, while the estimated federal BHP payments are not sufficient to fully finance the BHP coverage assumed here ($100 annual premium, 98 percent

actuarial value) if the program uses provider payment rates that are 25 percent above FHP rates, the state can do so by devoting a portion of the savings it achieves when moving many of the state-funded immigrant Medicaid enrollees into BHP.

Figure 7: Total BHP Payments and State Savings on Legal
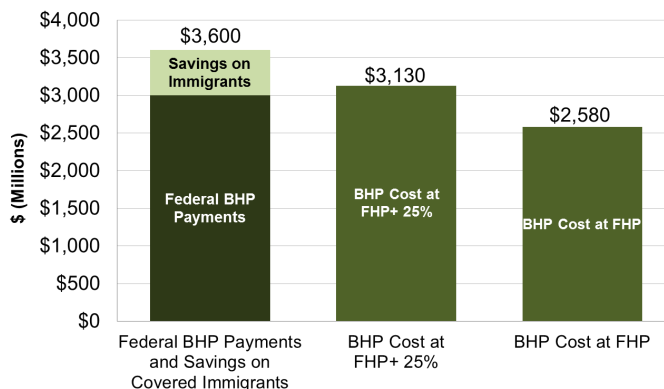
Source: Urban Institute analysis, HIPSM 2011.

Summary. The BHP option offers the state of New York potential benefits while still raising a number of concerns. On the benefit side, the BHP is funded through federal dollars, just as is the case with exchanged based subsidies. Its implementation in New York provides the potential for significant state savings due to the ability to move a significant share of the fully state-funded immigrant population into fully federally funded BHP. In addition, the ACA provides states with considerable flexibility in designing BHP benefit packages. Federal rules require that BHP premiums and cost-sharing not exceed what enrollees would have paid if in the subsidized exchange instead, but the state is likely to have sufficient funds to design a package with premiums and cost-sharing responsibilities much closer to existing public programs. Thus the BHP is likely to have substantial affordability advantages for eligible individuals.

The BHP option also provides the potential to improve the continuity of coverage for low-income individuals whose incomes fluctuate between Medicaid and BHP eligibility, since many of the same health plans could be used to provide coverage in both programs. Plan transitions would occur, however, for those with incomes fluctuating from below 200 percent of the FPL to higher levels as individuals move from BHP eligibility to eligibility for subsidized coverage in exchange-based plans. In addition, BHP enrollees are shielded from the annual reconciliation of premium tax credits (subsidies) provided in the non-group exchange, protecting some of them from significant liabilities to repay subsidies through their tax returns due to unexpected increases in income during the year. Reconciliation for BHP enrollees is done at the state level, and as it is aggregated over a substantially sized population, the aggregate state repayments and refunds can be expected to be roughly zero over time.

As noted, however, some concerns remain. Provider payment rates in the BHP program will be lower than commercial rates, although as we have seen, payment can be set somewhat higher than FHP rates. These lower rates may limit access of BHP enrollees to providers, relative to the experience they are likely to have in exchange-based plans. The state is likely to have considerable flexibility, however, in designing its BHP structure, for example, it could increase provider payment rates using some of the funds the state would have saved otherwise, or it can increase payment rates at the expense of reduced benefits or cost sharing.[19] BHP implementation will reduce the number of individuals enrolled in exchange-based plans (although the exchange would still be sizable), and the smaller size could mean that the exchange has less negotiating leverage with plans, since it will account for a smaller share of the small group and non-group markets.

In addition, two significant uncertainties remain that make it difficult to accurately assess the state cost implications of developing a BHP. First, federal guidance has yet to be issued on how the federal BHP payment will be calculated. Our simulation presented here follows the spirit of the law's stated intent, but the actual calculation will no doubt be different in unknown ways. It could end up being higher or lower than the estimate provided here. In addition, federal BHP payments will be linked to the subsidies that would be provided to BHP enrollees if they enrolled in the second lowest cost silver plan in the non-group exchange. However, until 2014 (or shortly before it) we will not know what those premiums will be in each region of the state. If the benchmark plan is priced below currently prevailing commercial rates, BHP payment will be lower than simulated her. If that is the case, there is a risk that federal payments would be insufficient to cover the costs associated with BHP, leaving the state financially vulnerable or making it necessary to increase the enrollee's costs associated with BHP coverage.

Conclusion

The ACA is anticipated to reduce the number of uninsured New Yorkers by about 1 million people in all of the policy options simulated here. The employer-based insurance market stays at about the same size under reform as it is without reform, although a portion of the post-reform small employer-based market obtains coverage through the new exchange. In the absence of the BHP options, exchange enrollment (non-group and small group combined) is estimated to be about 1 million people. This number falls by about 250,000 people in the BHP case. In aggregate, federal subsidies of about $2.6 billion per year will be paid to low-income households and small employers in the state. In all policy options, premiums in the small group and non-group markets are lower under reform than they are in the absence of reform. The state will reap substantial savings under the ACA due to the higher federal matching rate that it will receive on Medicaid coverage for adult non-parents. We estimate those savings to be approximately $2.3 billion annually (estimated as if the ACA were fully phased-in in 2011).

While coverage and cost estimates are similar across all policy options considered here, a number of modest differences exist across scenarios. For example, non-group premiums are about 14 percent lower, on average, when the small group and non-group markets are merged under reform compared to when those markets remain distinct for premium rating purposes. If the state chooses to maintain current FHP eligibility levels for parents, state costs will be modestly higher than under the standard implementation case, but the state achieves substantial savings -- over $2 billion-- overall regardless. In addition, this maintenance of eligibility leads to a somewhat smaller exchange and modestly higher non-group market premiums, but significantly lower household costs for the eligible low-income families.

Endnotes

1) Should the state not choose to develop its own health insurance exchange(s), the federal government will do so. It is not clear at this time which design choices would be made under a Federally Facilitated Exchange, nor is it known whether the state would have input into those choices.

2) All dollar amounts mentioned below are adjusted within the simulations to 2011 dollars.

3) We do not model the catastrophic-only insurance plans that will be available to some young adults and to other adults not subject to the individual responsibility requirement.

4) The model assumes the same plans will be available to individuals and small businesses under this scenario, but enrollment and premium levels will differ relative to the standard implementation scenario.

5) J. Passell and P. Taylor. "Unauthorized Immigrants and Their U.S.-Born Children." Washington (DC): Pew Hispanic Center, 2010.

6) L. Blumberg, L. Nichols, J. Banthin, "Worker Decisions to Purchase Health Insurance," International Journal of Health Care Finance and Economics, 2001, vol. 1 (3-2):305-25; L. Nichols, L. Blumberg, P. Cooper, and J. Vistnes, "Employer Decisions to Offer Health Insurance: Evidence from the MEPS-IC data," paper presented at the American Economic Association Meeting, 2001, January 5-7, New Orleans, LA; J. Gruber and M. Lettau, "How Elastic is the Firm's Demand for Health Insurance?" Journal of Public Economics, 2004, vol. 88 (7-8): 1273-93.

7) Worker wages adjust to reflect changes in decisions employers make about their contributions to employer-based insurance. Consistent with the economic literature, HIPSM employers "pass-back" their costs for employer-based coverage to workers in the form of reduced wages.

8) Joint Committee on Taxation, "Technical Explanation of the Revenue Provisions of the 'Reconciliation Act of 2010, as Amended,' in Combination with the Patient Protection and Affordable Care Act" (JCX-18-10, March 21, 2010).

9) Small numbers of those with incomes below 400 percent of the FPL enroll in the non-group exchange but do not receive subsidies due to having an affordable employer offer. This is consistent with what is observed today, with small percentages of individuals buying non-group coverage even though they have access to employer-based insurance

10) Results shown here are for the full implementation federal match rate of 90 percent which will be in place in 2020 and beyond. Beginning in 2014, the federal match rate begins to phase up from the current level of 50 percent. In 2014, the federal matching rate will be 75 percent.

11) The federal match rate for this group will start at 100 percent in 2014 and phase down to 90 percent in 2020; again, we present results with the fully phased in 90 percent rate

12) Some of these higher income FHP parents will not actually be eligible for subsidies in the non-group exchange due to having an affordable employer-sponsored insurance offer.

13) As is delineated in detail in the appendix to this report, each individual in the HIPSM model is associated with a level of annual health expenditures in each possible insurance coverage status, and these expenditures are a function of their socio-demographic characteristics and self-reported health status.

14) If, however, one compares the average single premium in the standard small employer market (excluding Healthy New York) pre-reform ($5,890) with the average small employer single premium in the new exchange post-reform ($4,630), this represents a 21 percent decrease (Average single premiums not shown in table 8).

15) No reform small group premiums are shown in table 8.

16) No reform non-group premiums are shown in table 9.

17) Note that maintaining Family Health Plus eligibility above 138 percent FPL would require federal approval.

18) According to the ACA, subsidies in the exchange will be benchmarked to the second lowest cost silver plan available in the non-group exchange.

19) The ACA prohibits states from reducing benefits in BHP to a level below that provided in the health insurance exchange. Likewise, cost-sharing requirements in BHP cannot exceed what the enrollee would have paid if covered through the exchange.

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About the Authors and Acknowledgements

The Urban Institute is a nonprofit, nonpartisan policy research and educational organization that examines the social, economic, and governance problems facing the nation.

Technical Appendix:

Methodological Approach to Simulating the Effects of Implementing the ACA in New York Using the Urban Institute's Health Insurance Policy Simulation Model (HIPSM)

March 2012

Overview

The Health Insurance Policy Simulation Model (HIPSM) is a detailed microsimulation model of the health care system. It estimates the cost and coverage effects of proposed health care policy options. HIPSM is designed for quick-turnaround analysis of policy proposals. It can be rapidly adapted to analyze a wide variety of new scenarios—from novel health insurance offerings and strategies for increasing affordability to state-specific proposals—and can describe the effects of a policy option at a number of points in time.

HIPSM was developed by researchers in the Health Policy Center at the Urban Institute (UI), a nonprofit, nonpartisan policy research organization. The Health Policy Center has a long history of health insurance simulation work, including extensive experience working with state and national policymakers to examine the impact, costs, and financing of alternative strategies to cover the uninsured. The HIPSM research team includes innovative researchers, economists, mathematicians, and other experienced policy experts.

Our most notable early work in health reform simulation, using a predecessor to HIPSM, provided a road map for the design of the landmark 2006 health care reform legislation in Massachusetts. That research garnered the prestigious Health Services Research Impact Award in 2007. More recently, the new HIPSM has been used to analyze the effects of the ACA at the national level, and to provide technical assistance in Missouri, Massachusetts, Virginia, and Washington in addition to the current work in New York, as those states plan for implementation of the ACA. HIPSM was also used to analyze state reform options in New York prior to the ACA. These analyses have been disseminated in published research reports and policy briefs designed for policymakers in Congress, the media, and stakeholders.

To evaluate how the health care system would be affected by policy changes, HIPSM simulates the decisions of employers, families, and individuals to offer and enroll in health insurance coverage. The model is designed to show the impact of policy on changes in government and private health care spending, uncompensated care costs, health insurance premiums in employer and non-group health insurance risk pools, rates of employer offers of coverage, and health insurance coverage. To calculate the impacts of reform options, HIPSM uses a flexible simulation approach based on the relative desirability of the health insurance options available to each individual and family under reform. The approach (known as a "utility-based framework") allows new coverage options to be assessed without simply extrapolating from historical data, as in previous models. Within HIPSM, health insurance decisions made by individuals, families, and employers are calibrated to findings in the best empirical economics literature. The model's capabilities are broad, and include but are not limited to the following policies.

- The consequences over time of maintaining the status quo in the health care system;

- Health insurance exchanges, with specified premium rating rules (e.g., age and tobacco use rating) and alternative benefit packages;

- Other health insurance market reforms, including changes in premium rating rules and rules of issue;

- Income-related premium and/or cost-sharing subsidies for the non-group market, group market, and/or a new exchange;

- Plan choice between comprehensive and high-deductible plans, public plan options, and capability to model plans with differing levels of actuarial value;

- Individual mandates, pay-or-play employer mandates, and employer assessments (e.g., by employee wage);

- Tax credits for employer premium contributions;

- Multiyear estimates of health care costs and savings under a reform;

- The Basic Health Program option under the ACA;

- Medicaid/Children's Health Insurance Program (CHIP) eligibility expansions, with different eligibility rules for children, parents, and nonparents;

- Effects of reducing Medicaid and CHIP maintenance-of-eligibility requirements for adults and children;

- New public coverage options;

- Single payer systems;

- Reinsurance for high-cost cases; and

- Choice of year in which reforms are to be applied, with adjustments made to population characteristics and dollar amounts based on specified demographic, economic, and health care cost trends.

This technical appendix is divided into two main sections. The first describes the construction of baseline data for the New York specific version of the model, HIPSM-NY, including the use of state-specific data wherever possible. The second describes the model itself and how behavior is simulated and calibrated to results from the empirical literature.

A very brief summary of constructing the baseline is as follows:

- We use multiple years of the New York observations from the Current Population Survey (CPS) and national samples[1] of the Household Component of the Medical Expenditure Panel Survey (MEPS-HC);

- We estimate health care expenditures for each individual in the data set in each possible coverage status, including out-of-pocket spending, spending covered by insurance, Medicaid/CHIP spending, and uncompensated care for the uninsured;

- We impute offers of employer-sponsored insurance, immigration status, and type of Medicaid/CHIP eligibility; and

- We group together workers with the same employment characteristics, such as firm size and industry, into simulated firms.

The general flow of a HIPSM simulation is as follows:

- The model constructs available insurance packages and computes premiums based on current enrollment;

- Simulated employers choose whether or not to offer coverage and whether to offer coverage inside or outside the exchange (if applicable);

- Individuals and families choose from among the coverage options available to them: employer-sponsored insurance, nongroup insurance, health benefit exchanges (if applicable), Medicaid/CHIP, or uninsured;

- Employer, individual, and family decisions are calibrated so that overall behavior is consistent with a number of results from the health economics literature; and

- Premiums are updated based on the new enrollment decisions. The cycle is repeated until equilibrium—in other words, until there is little change between successive iterations of the model.

Baseline Construction

Survey Data

Key information for the HIPSM baseline comes from the CPS. The CPS is a monthly household survey that collects nationally representative data on employment, income, demographic, and socioeconomic

characteristics, as well as health insurance status. The CPS interviews households in the civilian non-institutionalized population, as well as members of the armed forces living in civilian housing units in the United States or on a domestic military base. From its interviewees in March each year, it collects detailed information on income and health insurance from the previous year. The core microdata file that defines HIPSM's population base is a pooled data set of the March 2009 and 2010 CPS Annual Social and Economic Supplement (ASEC). The March ASEC is the largest CPS data set, and is the main national source of demographic characteristics and insurance coverage used by many analysts (and the media).[2]

The survey generally samples more than 78,000 households and contains 200,000 sets of observations on individuals. Information on age, sex, race, and household relationship is collected. In addition to the usual labor force data, the March ASEC also collects information on income, migration, work experience, and noncash benefits.

For HIPSM-NY, only ASEC data from the state of New York are used, and the two years of data (roughly 20,000 observations) are re-weighted to reflect the estimated 2011 population composition in the state. The data are aged for population growth and changes in the expected distribution of insurance coverage and income as a consequence of the economic changes between the data years and 2011.

Employer Sponsored Insurance Offers and Eligibility

In preparing the HIPSM files, we impute the offer of employer-sponsored insurance (ESI) and worker eligibility for ESI to CPS observations, since such information is not available on the ASEC. The February 2005 CPS Contingent Work and Alternative Employment Supplement is the most recent survey that asked questions about ESI offer and eligibility. Consequently, we developed a regression model to impute offer and eligibility status using a match of the February 2005 CPS and the March 2005 ASEC and the wealth of socioeconomic data on both surveys. This regression captures the variation in offer and eligibility across workers of different characteristics. For example, most part-time workers are not eligible for ESI, even if other workers in their firm are offered coverage and are eligible for it. The probability of offer from the regression model is adjusted to give results matching the latest available (2010) ESI offer rates from the Medical Expenditure Panel Survey Insurance Component.

Baseline Health Care Expenditures

Heath expenditures by individuals and families are central pieces of information necessary for computing health insurance premiums, evaluating the health insurance options facing families, and assessing the costs of the components of the ACA. The CPS does not collect data on health care expenditures, so we

statistically match health care expenditure data from individuals in the Medical Expenditure Panel Survey—Household Component (MEPS-HC) to individuals in the CPS. A number of adjustments to the MEPS data are made as well, and these are described below.

MEPS is a survey of individuals and families, employers, and medical providers across the United States that provides information about health care expenditures and health insurance coverage. There are two major components of MEPS. The Household Component collects data from individuals, families, and their health care providers, while the Insurance Component collects information on employer-based insurance from employers.

We statistically matched health care expenditures, unique health insurance variables, and health conditions from three years (2006–2008) of pooled MEPS-HC data sets to our core CPS file, matching MEPS individuals and CPS individuals by insurance coverage, demographic, and other common characteristics in the two data sets. All expenditures from the three years of MEPS data are expressed in 2008 dollars. Using a propensity-weighting approach, we assigned a MEPS observation to each CPS observation, and we then appended the health expenditure data and information on health status and health conditions from the matched MEPS individuals to the records of their matched CPS individuals. We then confirmed that health expenditures in the appended CPS file maintained the statistical distributions and relationships with other variables that exist in the original MEPS data. Because there are no state identifiers on the public use files of the MEPS-HC and because of the need to maintain sufficient sample size to do credible analyses, observations from the full national file are used to create HIPSM-NY. As is explained below, adjustments to state-specific benchmark premiums are used in order to ensure that differences in health care spending levels in New York state relative to the rest of the country are taken into account.

For each observation, we include expenditure data for seven service categories: hospital, physician, dental, other professional care, home health care, prescription drugs, and other medical equipment. We create these categories to be consistent with the National Health Accounts (NHA) Personal Healthcare Expenditures data, which are maintained by federal actuaries. According to Sing et al., compared to the NHA, MEPS routinely underestimates the aggregate insured costs associated with Medicaid and privately insured individuals.[3] To correct for this discrepancy, we use adjustment factors to increase Medicaid and privately insured dollars, with the factors consistent with the relative differences in the two data sets identified by Sing et al. We apply these factors to each observation in our data set that reported positive Medicaid and/or privately insured expenditures. We then inflated our expenditures to the year 2011 using the NHA's per capita growth in each expenditure category, assuming that recent average annual growth

rates would persist between 2008 and 2011. For growth in total Medicaid expenses between 2010 and 2011, we used the annual growth rate observed in New York Department of Health data, 4 percent.

To adjust for any MEPS underreporting of the high-cost tail of the health expenditure distribution, we looked to the Society of Actuaries (SOA) High-Cost Claims Database. This comprehensive survey examined seven insurers and all of their claimants. It is designed to be representative of the national distribution of all claims to private insurers. We found that the 97th to 99th percentiles of private expenditures among the nonelderly in the MEPS data fell below the same percentiles in the SOA. The discrepancy ranged from less than 1 percent (97th percentile) to 13 percent (99th percentile). We used these discrepancies as adjustment factors for all privately insured individuals with private expenditures above the 97th percentile. In order to keep total health expenditures in our MEPS-appended CPS file consistent with the NHA totals following the SOA adjustment of the tail of the distribution, we decreased the private expenditures of the privately insured individuals in the lower portion of the distribution by a fixed percentage.

Uncompensated Care

Uncompensated care (donated or free care) associated with the uninsured is not fully captured by MEPS expenditure data. For each uninsured person, we now have estimates of out-of pocket health care expenditures and total expenditures were that person to receive private coverage. We lower the total expenditures under private coverage to capture the moral hazard effect of the additional out-of-pocket spending resulting from being uninsured. The result is an estimate of the total expenditures of the uninsured person. We then calculate the difference between these expected costs and the original out-of-pocket costs for each uninsured person. This difference is a person's uncompensated care. The estimates are calibrated to produce a total amount of uncompensated care consistent with the findings of Hadley et al.[4]

Spending Under Different Coverage Types

The same individual will incur different levels of health expenditures when insured differently (e.g., employer coverage versus Medicaid, or Medicaid versus uninsured). This is because out-of-pocket costs and costs covered by insurance will vary depending upon plan cost-sharing requirements (e.g., deductibles, copayments, out-of-pocket maximums) and benefits covered, effectively altering the price an individual will face when consuming medical care. The higher the out-of-pocket price faced, the less the individual is apt to consume. Thus, in order to understand the value of care an individual will obtain under various coverage options pre-and post-reform, we compute health care spending for each observation under several alternate "states" or statuses of health coverage: uninsured, insured by Medicaid/CHIP, insured under a typical comprehensive

employer-sponsored insurance (ESI) package, and insured under a typical non-group (individual) package. In this way if an individual's coverage situation changes as a result of reform, we will have computed the appropriate level of health care spending for that individual in their new coverage situation based upon their characteristics, health status, and health conditions.

For the uninsured, we divide total spending into out-of-pocket and uncompensated care. For the other statuses, we divide spending into insured expenses and out-of-pocket costs. Each of our CPS observations is either insured or uninsured in the baseline. For the uninsured, expenditures in their uninsured state are obtained from the MEPS-HC, as was described above, but we need to estimate what they would spend if insured (an alternate "state" that may occur under reform). Conversely, we need to know what the insured would spend if they were uninsured. To simulate spending under insurance (and, conversely, under no insurance), we estimated two-part models using MEPS-HC data. For example, consider an uninsured person:

Step 1: Estimating the probability of having any health expenditures:

- **Probability of having any expenditures if privately insured** is computed using a sample of the privately insured and controlling for an array of socio-demographic characteristics, health status, and health conditions.

- **Probability of having any expenditures if enrolled in Medicaid** is estimated similarly, but using a sample of those reporting Medicaid coverage.

- **Uninsured individuals are deemed to have expenditures or not if they become privately insured or enrolled in Medicaid** by comparing the probabilities computed to a random number from a uniform distribution.

Step 2: For those deemed to have expenditures if insured in step 1, the change in total expenditures after gaining coverage is estimated as follows:

- **Expenditures if gaining private coverage** are computed using a sample of the privately insured incurring health care expenses and controlling for an array of socio-demographic characteristics, health status, and health conditions.

- **Expenditures if gaining Medicaid coverage** are computed similarly, but using a sample of those with Medicaid coverage.

We impute expenditures if uninsured and if enrolled in Medicaid for those with private coverage, and we impute expenditures if uninsured and if privately insured for Medicaid enrollees.[5]

Construction of Insurance Packages

At this point, each individual in the file has been assigned health expenditures consistent with having private coverage – some have been statistically matched on from MEPS-HC observations with similar characteristics and some have been imputed using the process described in the section: *Spending Under Different Coverage Types.* These total health expenditures, however, are reflective of the particular benefit package that the matched MEPS individual had at the time of the survey (in the case of those with statistical matches), or the average package of those with private insurance coverage (in the case of those with imputed expenditures). For example, if two identical people were given two different health insurance policies, one with a high deductible and one with a low deductible, the person with the low deductible would have total health expenditures that were higher than would the one with the high deductible. Higher out-of-pocket liability lowers the expected spending (an effect referred to as moral hazard). To remove as much of the benefit package effect on total spending as possible, we standardize spending to be consistent with a typical benefit package for the ESI market and one for the nongroup market based on data from the Kaiser Health Research and Educational Trust (HRET) for employer plans and NY specific information on non-group plans from the Department of Financial Services. In HIPSM-NY these typical benefit packages have the following characteristics:

- $550/$1100 deductible for single/family policies;
- 20 percent co-insurance;
- $2,500/$5,000 out-of-pocket maximum for single/family policies.

New York is atypical in that it has a standard benefit package in the standardized non-group market which makes the policies in the non-group market more comprehensive and similar to average employer-based policies than is seen in other states. Healthy NY coverage is set to a separate standardized benefit package.

Each individual has his or her private health expenditures adjusted so that he or she has a calculated level of health expenditures consistent with each of the defined typical benefit packages.[6] Induction factors provided by actuaries are used to incorporate a behavioral response for those individuals/families who would have different levels of out-of-pocket spending under the standardized policies than they are assumed to have had at the time of the MEPS. Those with decreases in out-of-pocket expenses are presumed to respond by increasing use and total expenditures, while those with increases in out-of-pocket expenses are presumed to decrease use and total expenditures. High spenders (those observed to have high medical needs) will respond less to changes in out-of-pocket expenses than will those who are lower in the spending distribution.

Once such packages are created, they can be modified to achieve a given actuarial value (i.e., the average share of spending on covered benefits paid for by the insurer). For example, under the ACA, packages in the small group and non-group markets will include the same essential benefits but will differ in actuarial value due to different cost-sharing requirements. Also, today, average cost-sharing requirements in smaller group plans are higher than in large group plans. The actuarial adjustment factors mentioned earlier can be used to compute individual spending under alternative insurance packages that might be offered under reform.

Expenditures in HIPSM cannot be disaggregated into spending on individual benefits, such as pharmaceuticals or visits to particular types of providers. The process described above gives three benefit packages which can be adjusted to any actuarial value: an average comprehensive ESI package, an average non-group package, and Medicaid benefits. A bulletin has been issued by the US Department of Health and Human Services[7] that describes the options available to states in choosing their essential health benefits under the ACA, but at the time of this writing New York has yet to make such a decision. The available options are, however, consistent with current comprehensive ESI coverage, and so we construct exchange packages by taking the standard ESI package and adjusting it to the various actuarial value tiers. The relevant stop losses are also applied.

Aging of Data to the Current Year

The model as discussed above is based on the latest two years of available survey data (currently 2009 and 2010 CPS). We, however, present model results as if reform were fully phased in in 2011.[8] In order to do this, we apply estimates from Holahan and Garrett to estimate the impact of more recent changes in unemployment rates on changes in employer coverage, public coverage, non-group coverage, and the uninsured over that period.[9] To project the unemployment rate for the current year, we use forecasts from the Congressional Budget Office (CBO), Blue Chip (a consensus of 50 private forecasters), and Economy.com. We make further adjustments to ensure consistency with Census estimates of population growth, by age and gender cell. Wages and income grow at rates consistent with the Consumer Price Index-Urban, and health care costs grow at rates of growth projected by the National Health Expenditure Accounts.

Correcting the Tail of the Income and Wage Distributions

Income and wages on the CPS are top-coded. Thus, the total income and distribution of high incomes are very different from tax data such as the Statistics of Income. While many health reform policies focus exclusively on lower-income families, other important factors such as the ESI tax advantage require getting the distribution of higher-income individuals right. We use the income

distribution in the Statistics of Income (SOI) to modify the tail of the CPS income distribution so that it converges with the tail of the SOI distribution and the total income matches the total income of the United States according to tax data. A related adjustment is made to wages for the highest earners so that total wages in our data match tax data.

Public Program Eligibility and Enrollment

HIPSM-NY simulates eligibility for Medicaid and CHIP in each state using available information on eligibility guidelines, including the amount and extent of disregards, for each program in place as of 2011.[10] Eligibility for CHIP is based on income and immigration status and does not take into account waiting periods that might apply to children who meet the income and immigration criterion but who have employer-sponsored insurance. Family-level characteristics used in determining eligibility, such as income, are based on the family grouping (i.e., the child's health insurance unit) that states use during the eligibility process.

We received pre-reform (baseline) enrollment and cost data for Medicaid, Family Health Plus, and Child Health Plus from the New York Department of Health. Appendix Table 1 contains key baseline target average monthly enrollment and expenditure data. The first three data columns contain the 2010 administrative data that we received from the state and the last three columns show the 2011 levels, assuming a 1 percent growth in enrollment and 4 percent growth in expenditures from 2010 to 2011. The Department of Health also supplied us with the number of CY 2010 legal resident immigrants subject to the 5-year Medicaid ban (162,000) or are in the PRUCOL category (53,000). These 215,000 immigrants are currently covered by state-only dollars; we adjusted this estimate to be consistent with the monthly snapshot enrollment data. We adjust these estimates for population growth between 2010 and 2011 (increasing them by 1 percent).

We also received Healthy New York program enrollment and premium information from the CY 2010 Healthy New York Annual Report. The HIPSM-NY baseline includes 113,000 Healthy New York enrollees in the individual market and 65,000 in the small group market. In all simulated policy options presented in this report, the Healthy New York program is assumed to be eliminated once the ACA is fully implemented.

Enrollment in Healthy New York and Family Health Plus is not reported on the CPS survey data. We imputed enrollment in both programs given the characteristics of enrollees provided in the Healthy New York annual report and by the state Medicaid agency, respectively. Healthy New York enrollees were drawn from those reporting non-group and ESI coverage, while FHP enrollees were drawn from Medicaid enrollees with appropriate incomes who were not found to be disabled or TANF-eligible by our eligibility model.

Appendix Table 1. New York State Medicaid and CHIP Enrollment and Expenditures by Eligibility Group

	2010 Administrative Data			2010 Administrative Data, Aged to 2011 Levels		
	Average Monthly Enrollment	Total Expenditures (billions)	Annual Expenditure per Enrollee	Average Monthly Enrollment	Total Expenditures (billions)	Annual Expenditure per Enrollee
Adult Parents	828,078	$4.34	$5,241	836,359	$4.51	$5,396
Non-FHP	629,714	$3.61	$5,732	636,011	$3.75	$5,902
FHP	198,364	$0.73	$3,680	200,347	$0.76	$3,790
Non-Parents	660,731	$5.61	$8,490	667,338	$5.83	$8,742
Non-FHP	591,999	$5.32	$8,987	597,919	$5.53	$9,254
FHP	68,732	$0.29	$4,205	69,419	$0.30	$4,330
19-20 Year Olds	142,116	$0.78	$5,502	143,537	$0.81	$5,665
Enchanced Match	138,017	$0.77	$5,580	139,397	$0.80	$5,746
No Enchanced Match	4,099	$0.01	$2,853	4,140	$0.01	$2,938
Children	1,847,505	$5.22	$2,823	1,865,980	$5.42	$2,907
Medicaid	1,531,451	$4.59	$3,000	1,546,765	$4.78	$3,089
CHP (excludes self-pay)	316,054	$0.62	$1,965	319,215	$0.65	$2,024
Disabled	548,763	$17.82	$32,465	554,251	$18.53	$33,430
Children	116,943	$2.35	$20,074	118,113	$2.44	$20,670
Adults	431,820	$15.47	$35,821	436,138	$16.09	$36,885
Total	**4,027,193**	**$33.76**	**$8,383**	**4,067,465**	**$35.11**	**$8,632**

Notes:

(1) 2010 Administrative Data Source: DataWarehouse and DOH/OHIP AFPP DataMart, produced 2/28/12

(2) Aged 2011 levels assume a 1 percent growth in enrollment and 4 percent growth in expenditures from 2010 to 2011.

There were significantly fewer individuals identified by the simulation model as Medicaid eligible due to the presence of a disability than was reflected in the administrative data totals. We therefore imputed disability status to other Medicaid enrollees for whom the model was unable to determine an eligibility pathway using characteristics such as medical costs and health status.

As a final step in developing the HIPSM-NY baseline for the Medicaid/CHIP population, we reweighted the data for those identified as Medicaid enrollees in each eligibility category in order to achieve the following targets:

- Medicaid/CHIP enrollment and average expenses by eligibility type: disabled, FHP, Medicaid adults (parents and non-parents), Medicaid children, and CHIP children;

- Healthy New York enrollment and costs.

Immigration status

For noncitizens, the model also takes into account the length of residency in the United States. Because the CPS does not contain sufficient information to determine whether an individual is an authorized immigrant, we impute documentation status for noncitizens based on an approach developed by Passel.[11] Documentation status for children is imputed based on an imputation of the documentation status of co-residing adults (typically, the child's parents). Estimates of the number of undocumented adults and children are designed to

match, in the aggregate, published summary estimates of the U.S. undocumented population nationally, and in a subset of large states.

Synthetic Firms

In order to compute firm level premiums for employer-sponsored coverage and to model firm decisions of whether to offer insurance or not, and if offering, the type of health insurance coverage they provide, workers are grouped into simulated, or "synthetic," firms. These groupings allow HIPSM to model firm decisions related to health insurance in response to policy changes, reflecting the combined preferences and characteristics of the workers in each firm as well as their dependents who might also obtain coverage through the employer. The distribution of synthetic firms in HIPSM-NY mimics the known New York distribution of employers by size, industry, region, and baseline offer status, and workers matched into each are those reporting employment in the same type of firms.

We designed and implemented a procedure to create synthetic firms that records the distribution of workers within and across firms, yet minimizes computational burden. The optimal number of synthetic firms must be relatively large in order to analyze the distribution of firms' outcomes, and experiments on the optimal number of firms were performed. Observations of workers in our core CPS file were separated by specific factors: employer-provided health insurance offer status, region of residency, industry category, and firm size. Small partitions could be combined to ensure

heterogeneity. Each observation in the combined CPS/MEPS data set was thus assigned to one particular firm to create a core set of employees with common characteristics for each firm, and each firm was then populated by coworkers of the core employees.

Very few data are available regarding how the distribution of wages in firms of similar size and industry varies. Since our algorithm is based on a representative population of workers, it approximates the actual distributions on average. However, there may be fewer extreme wage distributions in our synthetic firms than in reality if firms in a particular size and industry employ very different mixes of workers.

Analytical firm weights were constructed to reflect the distribution of firms in New York by firm size, region, and industry. To calculate the weights, we relied on the data derived from the Statistics of U.S. Business and the sum of the weights of each synthetic firm's core employees. To decrease computational complexity, the creation of synthetic firms is modified so that one individual observation can represent more than one individual employee, with modifications in order to maintain distributional characteristics across the firms. The analytic weight for each replicated individual observation was calculated. The result was a data set of synthetic firms that not only reflects the state distribution of firms but also has the ability to reflect the offering behavior of such firms.

Private Non-Group Insurance Coverage

The number of individuals in the CPS New York data reporting enrollment in non-group insurance coverage is significantly higher than the total enrollment in non-group plans reported to the Department of Financial Services plus the individual enrollment in Healthy New York. According to the state's data, there are currently about 32,000 covered lives in New York's private non-group insurance market, with average monthly premiums of $1,200. We rely upon the data reported to us from the state for modeling purposes so this enrollment and average cost was added to our list of targets. The data were then reweighted to simultaneously achieve targets for Medicaid eligibility categories, Family Health Plus, CHIP, Healthy New York, and the standardized non-group market, while keeping the overall share of the population without insurance coverage unchanged from the survey data. Since the CPS is a household survey, all household members had to be reweighted equally to avoid distorting household and family characteristics. Since households can have a mixture of groups for which we had targets, simultaneously satisfying all of them was not straightforward. We used an entropy maximization algorithm to perform this.

Premium Computations

HIPSM premiums are constructed within the model in the baseline and in each iteration of a simulation, based upon the underlying distribution of expenditures of the individuals enrolled in each particular insurance pool, the

insurance market regulations applicable to that insurance pool, and an appropriate administrative loading factor. The baseline premiums in each insurance market (employer by size, non-group) are also benchmarked to averages from state-specific data to ensure that overall levels of premiums are reflective of the most current knowledge we have of the costs of coverage in New York. As policy changes are introduced in the model, workers, non-workers, and employers make new decisions as a function of new incentives, insurance market rules, and coverage options, and the model re-computes premiums in each market and within each insurance pool as a function of these new coverage decisions. All post-reform results reflect fully-phased in effects in equilibrium (i.e., once decisions by all households and employers have settled down between iterations of the model). Post-reform premiums in each market are described further below.

The Flow of a Policy Simulation

HIPSM coordinates behavior by iterating a sequence of steps. Each iteration involves a sequence of four stages. At the beginning of an iteration, the health insurance industry sets premiums for all available health insurance plans given information observed in the last period (or in the baseline for purposes of the first iteration) and any policy changes that become effective in that period. In the second stage, based on these premiums and information about their employees, employers decide whether to offer an employer-sponsored health insurance plan, and if so, the plan to be offered and the employees' cash wages.[12] In the third stage, individuals choose their optimal health insurance option given their available alternatives and associated premiums, income, and relevant tax incentives. Once the iteration is complete, the next period begins and the process repeats. Coverage decisions in the previous period are used to update premiums based on current risk pools, and so on. Iterations continue until coverage decision changes from the previous iteration fall below a specified level; in other words, until an equilibrium state has been reached.

The details of these stages are as follows:

Stage 1: Calculate Health Insurance Packages and Premiums

HIPSM calculates health insurance premiums using information on risk pools relevant to health insurance plans. For example, to calculate non-group premiums in the current period, we rely on information of people who bought a non-group health insurance plan in the last period, accompanied by information on any policy changes that may affect the risk pool in the current period.[13] This feature ensures that self-selection into a specific coverage type will be reflected in the premiums.

Under this mechanism, any policy change that affects individuals' health insurance decisions has the potential to affect premiums of all available coverage types. For

example, a policy to expand public health insurance coverage will in general cause some people who formerly chose other types of coverage, such as non-group health insurance, to become insured under the public program. Given the change in non-group risk pools, non-group premiums will change accordingly.[14] Likewise, providing subsidized coverage in the non-group market and putting in place requirements that most residents obtain insurance coverage will tend to increase demand for non-group coverage (as well as other forms of coverage). If the increased interest in non-group coverage is from a population of individuals with lower average health care costs than pre-reform enrollees, the average costs of those covered in the non-group market post-reform will fall, as will average premiums.

For example, in the Standard Implementation policy option simulated using HIPSM-NY, with merged small group and non-group markets, small employer group size defined at less than or equal to 100 employees, and Medicaid eligibility level at 138 percent of the federal poverty level (no maintenance of effort for Family Health Plus Parents), the post-reform non-group market is very different from both the standardized nongroup market and Healthy New York. Most of the current nongroup enrollees end up with nongroup coverage post-reform, but they are a small minority of the total market. Appendix table 2 shows the characteristics of covered lives in the post-reform nongroup market, both inside and outside the exchange.

In all simulations done for the state of New York thus far, we assume that the state's pure community rating rules in the small group and non-group insurance markets will remain in place. In simulations that expand the small group market to employers of 100 or fewer workers (from the current 50 employee small group size) we extend the pure community rating rules to that expanded small group market.

Appendix Table 2. Demographic Characteristics of Non-Group Enrollees in New York, Under Reform

	Non-Group Enrollees (100 Merge)				Non-Group Enrollees (100 Split)			
	Post-Reform*				Post-Reform*			
	Non-Exchange		Exchange		Non-Exchange		Exchange	
	N	%	N	%	N	%	N	%
Total Population	**270,026**	--	**615,336**	--	**303,531**	--	**556,933**	--
Age Group								
<19	8,774	3.2%	18,085	2.9%	17,398	5.7%	9,024	1.6%
19-24	14,052	5.2%	82,368	13.4%	16,409	5.4%	77,982	14.0%
25-44	132,468	49.1%	263,084	42.8%	144,403	47.6%	242,788	43.6%
45-64	114,732	42.5%	251,799	40.9%	125,321	41.3%	227,139	40.8%
Gender								
Male	134,065	49.6%	307,054	49.9%	146,859	48.4%	277,299	49.8%
Female	135,959	50.4%	308,282	50.1%	156,672	51.6%	279,634	50.2%
Health Status								
Excellent, Very Good, or Good	259,417	96.1%	569,497	92.6%	289,068	95.2%	516,153	92.7%
Fair or Poor	10,608	3.9%	45,840	7.4%	14,463	4.8%	40,780	7.3%
Race/Ethnicity								
Hispanic	41,364	15.3%	140,838	22.9%	41,865	13.8%	132,940	23.9%
White (Non-Hispanic)	181,209	67.1%	304,882	49.5%	201,382	66.3%	275,685	49.5%
Black (Non-Hispanic)	17,526	6.5%	101,062	16.4%	19,966	6.6%	96,828	17.4%
Other	29,925	11.1%	68,555	11.1%	40,318	13.3%	51,481	9.2%
Tobacco Use								
Non-Smoker	214,071	79.3%	443,944	72.1%	241,973	79.7%	398,522	71.6%
Smoker	55,953	20.7%	171,392	27.9%	61,558	20.3%	158,412	28.4%
HIU Income								
Under 200% FPL	25,858	9.6%	319,042	51.8%	42,166	13.9%	292,065	52.4%
200% - 400% FPL	41,340	15.3%	178,358	29.0%	53,738	17.7%	171,836	30.9%
Above 400% FPL	202,826	75.1%	117,937	19.2%	207,628	68.4%	93,033	16.7%

Source: Urban Institute analysis, HIPSM 2011.

*Notes: We simulate the provisions of the Affordable Care Act fully implemented in 2011.
"100 Merge" refers to the simulation scenario where the small group market is defined as employers of 100 or fewer workers and the small group and non-group markets are merged for premium rating purposes. "100 Split" refers to the scenario where the small group and non-group markets are kept separate for rating purposes and the small employer definition is 100 or fewer workers.
**Average total costs include those that are reimbursed by carriers, those paid out-of-pocket by the insureds themselves, and those paid by the federal government through cost-sharing subsidies to low-income individuals. The average costs are higher outside the exchange because those with current non-group coverage (a very high cost group) are assumed to have a stronger preference for non-exchange coverage post-reform, since they are already accustomed to purchasing coverage that way. Post-reform premiums will be computed consistent with ACA rules, however, by averaging together the reimbursable health care costs of those in the exchange and non-exchange markets as a single risk pool, making any difference in exchange and non-exchange enrollee costs irrelevant for premium determination purposes.

Calculation of Employer-Sponsored Insurance Premiums

We compute single and family ESI premiums faced by each employee and each firm for both standard and high-deductible ESI packages. We base our premium computations on the expenses of the covered lives within each synthetic firm. Premiums are calculated based on a blend between the weighted averages of actual and expected insured costs. From these blended costs we calculate expected values for the individual firm and for ESI groups defined by firm size, industry, and self-insured status. From these blended and expected costs, an average insured cost is calculated that is a blend of the firm's average cost and the ESI group's average cost. An administrative load that varies by firm size and industry is then applied. The worker's share of premiums is then computed based on the firm contribution rates calculated previously. Our baseline national ESI premium estimates are calibrated to be compatible with New York specific premiums in the most recent MEPS-Insurance Component (MEPS-IC). Average premiums by firm size are calibrated by adjusting the actuarial value of ESI plans. Under reform, rating rules can change although, as noted previously, we assume that New York's pure community rating rules remain in place post-reform. Medical Loss Ratio (MLR) requirements cap administrative loads at 20 percent, though this is binding only for the smallest firms. Small group is also defined as employers of 100 or fewer workers by the year 2016, instead of the pre-ACA norm of 50 or fewer workers. These changes affect the type of rating factors that HIPSM uses and the definition of employer group types and their associated risk pools.

We also simulate pre-reform enrollment in Healthy New York's group coverage option based upon characteristics of enrollment provided in the Healthy New York annual report. Enrollment in this program must be simulated since individuals do not have an opportunity to report Healthy NY enrollment specifically on the CPS. Healthy NY group coverage enrollees were drawn from those reporting ESI coverage.

Calculation of Non-Group Premiums

We compute single and family non-group premiums in each iteration. The initial premiums computed to begin a simulation are based on insured expenditures of those insured in the non-group market at the baseline. In the following iterations, those individuals simulated to enroll in non-group coverage in the immediately preceding period are used. We model the non-group market regulations and rating rules specific to New York, and simulate enrollment in non-group coverage through the Healthy NY program based upon characteristics of enrollment data provided in the Healthy NY annual report. Simulated enrollees in Healthy NY non-group coverage are drawn from CPS individuals reporting non-group enrollment.

Baseline national non-group premium estimates are calibrated to data provided to us by the state Department of Financial Services.

Merged Versus Separate Small Group and Non-Group Markets and Risk Adjustment

In simulations where the non-group and small group markets are merged, the two markets are treated as one large risk pool. In simulations where the markets are not merged, they remain as two separate risk pools. Post-reform, we simulate perfect risk adjustment both within the exchange market(s) and across the exchange and non-exchange small group and non-group markets. If the markets are merged, we risk adjust the combined small group and non-group markets, otherwise risk adjustment is done across all non-group plans and separately across all small group plans.

HIPSM does not simulate competing insurers. Insurance plans of different characteristics and actuarial value are simulated, and employers and individuals make choices among the options available to them, but there is no simulation of multiple carriers offering the same types of plans and competing for their own market share.

Stage 2: Employers' Decisions to Offer Health Insurance

In HIPSM, employers take into account their employees' gains or losses from having a health insurance offer and perceived offering costs to decide whether to make an offer. The costs of offering coverage are calculated as:

- The employers' premium contributions;

- Plus any assessments to which the employer is liable under reform based on whether or not it offers coverage deemed affordable to its workers;

- Plus a fixed administrative cost to employers of offering ESI;

- Minus any tax incentives due to employers' tax exclusions; and

- Minus any employer tax credits under reform

Employers (HIPSM's synthetic firms) will make an offer when they anticipate that (i) the employees' combined value of the offer exceeds the offering costs, and (ii) there are enough employees who gain from having the offer.[15] By an individual worker's value of the offer, we mean the difference in his or her family's expected utility with and without an offer. The utility function is described in Stage 3 below. Our utility is dollar-valued, so it can be summed over workers. We assume that employers distribute offering costs back to their employees in the form of wage offsets. That is, employees' cash wages are lower when they have an employer-provided health insurance offer.[16] This wage change is not individual; employer costs and savings are distributed across the wages of all workers.[17]

Choice Between Exchange and Non-Exchange plans

Under the ACA, small employers will have the choice of offering coverage through the Small Business Health Options Program (SHOP) exchange or through coverage offered outside it. The same benefit tiers and essential benefits are required across the exchange and non-exchange markets, and risk adjustment across them is required. The default value of the exchange administrative load is 15 percent in our simulations. Administrative loads outside the exchange vary in our model by firm size and industry, up to the state's current Medical Loss Ratio requirement. Loads are generally above 15 percent for firms below 50 and less than that for firms above 50 outside the exchange.

Choice between non-group coverage inside and outside the exchange is governed by the difference in expected utility between the plans and a latent preference term whose distribution can be set to simulate behavior such as inertia, making individuals already purchasing coverage in the pre-exchange non-group market less likely to switch to the exchange. Subsidies for premiums (non-group market and small group market, and cost sharing in the non-group market) are available only in the exchange, and eligibility for these will change the costs facing potential purchasers. Note that, absent subsidies, we assume administrative costs create the only difference in expected utility between the exchange and non-exchange plans, assuming perfect risk adjustment. By default, we assume full risk adjustment, as that is the intent of the law. When more regulatory guidance is available on exactly which risk adjustment methodologies will be used and their effectiveness is assessed, we will be able to implement less than full adjustment between the exchange and non-exchange plans as an option.

Stage 3: Individuals' Optimal Health Insurance Decisions

We adopted a utility-based approach to modeling individual and family demand for health insurance coverage. With this approach, workers value different insurance options based on premiums, expected out-of-pocket payments, risk of high out-of-pocket expenditures, and how much they value health care. Workers convey their valuation to employers, who decide whether and what to offer their workers based on whether the sum of the workers' valuations for an option is greater than its cost. We model individuals as being in one of four possible insurance coverage states—ESI, non-group coverage, public coverage, or uninsured. We allow both high-deductible plans and more comprehensive coverage under the ESI and non-group options.

Health Insurance Units. A health insurance unit is defined as a collection of individuals whose health insurance decisions are interrelated and cannot be separated distinctly. A health insurance unit is classified into one of the following four types: (i) single without dependents, (ii) single with dependents, (iii) married

couple without dependents, and (iv) married couple with dependents. Dependents are defined as individuals who can obtain health insurance coverage through a parent's policy.[18]

Utility Functions. The utility functions are the metric for valuing different insurance options available to individuals and health insurance units. The value of each type of coverage takes into account (1) out-of-pocket health care expenses; (2) premiums; (3) the uncertainty of out-of-pocket health care expenses; and (4) the value of differences in the amount of health care consumed when insured vs. uninsured, and the comprehensiveness of coverage a plan provides. The utility functions also capture aspects of family preferences including aversion to public program participation (e.g., due to welfare stigma) and socio-demographic characteristics. Key inputs to the utility calculations include the expected total and out-of-pocket health care spending that individuals and health insurance units would incur under each of the health insurance options, as well as the variance of expenditure under each option. Our utility u is a function of disposable income (C), health care spending paid out-of-pocket (m), and health care spending paid for by insurers, the government, or uncompensated care (s). The function has the following mathematical and economic properties:

1. Utility is additively separable into a function of disposable income and a function of health care spending, whether out-of-pocket or other.

2. Both individuals and firms exhibit constant relative risk aversion (CRRA). Whereas several papers in the literature use absolute risk aversion (ARA), HIPSM uses CRRA in order to achieve decreasing absolute risk aversion (DARA).[19,20,21] We chose this for the following reasons:

   - As is well known in the literature, DARA incorporates two theoretically desirable behaviors. First, not only does the marginal utility of wealth decrease with wealth, but the percentage decrease also decreases. Second, the willingness to tolerate risk varies directly with wealth.

   - Many of the studies that chose constant ARA were based on data from a limited income range (e.g., the Rand Health Insurance Experiment). HIPSM uses income and wages adjusted to match SOI data from tax returns in its utility computations. The resulting amounts are not top-coded. We therefore model a much larger range of wealth.

   - The utility model in HIPSM is not used only for individual health insurance units. Sums of health insurance unit utility are the basis of the utility functions for firms. With constant ARA, there is no benefit to the pooling of risks. This is why DARA utility functions are generally chosen for modeling insurer behavior.[22]

- Beyond DARA, there is significant empirical evidence in support of CRRA.[23,24]

3. We use the standard form of a CRRA utility function for risk aversion constant $\sigma \neq 1$ which is generally set to 2, e.g.,

$$u(C) = \frac{C^{1-\sigma}}{1-\sigma}$$

4. The following elasticities are constant:

$$\frac{\partial u}{\partial C} \bigg/ \frac{\partial u}{\partial m} \equiv \gamma_m \qquad \frac{\partial u}{\partial C} \bigg/ \frac{\partial u}{\partial s} \equiv \gamma_s$$

Further, these do not depend on the health insurance option under consideration. This is fairly standard in the literature.

5. Out-of-pocket and insured costs are valued differently, i.e. $\gamma_m \neq \gamma_s$. This is an important component of some models in the literature,[25] but is absent from others.[26] We believe the difference in valuation between costs paid directly by the health insurance unit and those paid on its behalf to be important. Based on a review of the literature, we set the out-of-pocket elasticity to 1 and the insured cost elasticity to 0.5.

6. The coefficients of relative risk aversion are the same for C, m, and s. Different estimates of this coefficient in different papers were done for different types of risk with comparable results.[27,28] Our choice of coefficient is within the ranges estimated. Empirical estimates of the coefficients for m and s would be very difficult, and there is no a priori reason why they should be substantially different from the coefficient for S.

7. We must be able to aggregate measures of individuals' utility to a group utility for purposes of computing the best available option for health insurance units and for employer groups. In particular, the utility of a firm can be represented by either the mean or median of the utilities of its workers modified by the overall costs of offering coverage.

Refinement of Utility Measures and Benchmarking to Behavioral Parameters from the Literature. Because our method converts utilities to dollar values, we can examine whether the valuations that families have for various insurance options are reasonable. We adjust the utility values for individuals by adding a latent preference term so that the baseline insurance coverage choice that they make in a HIPSM simulation is consistent with what they are observed to have chosen in the core data. This adjustment captures unobserved reasons why people might not choose the coverage type that appears to be their best option given what we can observe. We continue to refine our utility parameters and components so that the model will reflect what is known about the

sensitivity of workers' behavior to different incentives such as price responsiveness to changes in premium.

ESI Price Elasticity. We use the following elasticity targets by firm size, drawn from the literature.[29]

Firm size	Elasticity
<10	-1.16
10–25	-0.45
25–50	-0.4
50–100	-0.3
100–500	-0.21
500–1,000	-0.047
1,000+	Not available from the literature.

Nongroup Price Elasticity. For the price responsiveness of nongroup coverage, we use calculations and targets introduced by CBO.[30] We separately calibrate single and family coverage by income group.

Public Coverage Expansions. HIPSM models the effects of additional outreach and the stigma of public coverage on enrollment for Medicaid and CHIP. Expansions of public programs have often led to additional enrollment from those who were already eligible. Large expansions, such as CHIP or health reform in Massachusetts, are often accompanied by major outreach efforts that alter societal attitudes toward public coverage. Expansions of coverage in HIPSM increase take-up rates for those previously eligible for public programs, and our modeling is calibrated to three policy simulations. First is an expansion of Medicaid to 400 percent of the federal poverty level. We have targets for take-up of both those newly made eligible and those eligible under pre-reform rules but not enrolled; these are distilled from the literature and expert consensus within the Health Policy Center. Second is a Massachusetts-like reform, duplicating the gains in coverage that were observed in that state. Third is a simulation of opening Medicaid eligibility to all, but without an individual mandate. This third simulation is an extreme one, in which essentially free, comprehensive coverage is open to all. No social stigma attaches to such coverage, so take-up rates should be very high. These are three points on a continuum of expansions that can be modeled.

Public Coverage Take-Up. We calibrate the behavior of our model so that a standard expansion of Medicaid and CHIP achieves take-up rates consistent with the empirical literature.[31] These baseline take-up rates for the uninsured are between 60 and 70 percent, depending on person type and income group. The ACA contains important provisions that would increase take-up. States are required to establish a web site capable of determining eligibility for Medicaid and automatically enrolling eligibles. Hospitals would be able to make presumptive eligibility determinations. There would be other new requirements for simplifying enrollment and renewal of Medicaid and CHIP. We estimate a take-up

rate of about 73 percent for the uninsured who become newly eligible under the ACA. While this is a national take-up rate assumption, this rate is quite consistent with the pre-reform take-up rate in New York, which is higher than the national average.

Crowd-Out. To ensure reasonable levels of displacement of private coverage by expanded public insurance (a.k.a. crowd-out), we calibrate the decrease in private coverage as a share of total increase in Medicaid enrollment at 22 percent, following the literature.[32]

Individual Mandates. To model the individual mandate, we begin with the baseline HIPSM model, in which behavior is calibrated to agree with results from the empirical health economics literature. The resulting model behavior is applicable for a voluntary health insurance regime. To model behavior under an individual requirement to obtain insurance, we rely heavily on empirical evidence from the only similar requirement already implemented, the Massachusetts reforms.[33] Our simulation of how behavior would change under the mandate has three components:

1. *The applicable financial penalty*. A computation of whether the penalty is applicable and the amount of the penalty as defined by the law (i.e., the fully phased in amount discounted to present dollars).

2. *An additional "disutility" of not complying with the mandate.* The mandate is more than a dollar amount, it is a legal requirement. Desire to comply with the law, or at least to avoid enforcement and the stigma of noncompliance, can lead to behavioral responses much stronger than the amount that the nominal penalty would suggest, as appears to be the case in Massachusetts. The mandate has the effect of making being uninsured less desirable. We operationalize this in the model by applying an additional "psychic penalty" to being uninsured.[34]

3. *A relatively small "spillover" disutility of being uninsured on populations not bound by the mandate*. The mandate in Massachusetts was also associated with an increase in coverage among those not actually bound by the mandate (those for whom no penalty for noncompliance would apply). We assume that this association was driven, in part, by a spillover effect of the mandate by those who either mistakenly assumed they were subject to a penalty, or who reacted to a new social norm to have coverage. People may make judgments about whether they will lose their mandate exemption in the future due to rising income during the course of a year. However, for those exempt from the mandate, the amount of additional disutility of being uninsured is far smaller than for those bound by the mandate.

Individual and Family Decisions. Once each coverage option (including being uninsured) for each individual and family has been valued, HIPSM can make

enrollment decisions among the coverage options available to each. For example, in our simulation of the ACA, a single adult can choose among the following:

- No insurance;

- Medicaid/CHIP (if eligible);

- ESI (if offered), may be in exchange or outside of exchange, depending upon employer decisions;

- Non-group
  - ◊ Exchange
    - ∗ Subsidized coverage (if eligible)
    - ∗ Benefit tiers: bronze, silver, gold, platinum
  - ◊ Outside the exchange
    - ∗ Benefit tiers: bronze, silver, gold, platinum

Coverage decisions for families are more complicated. HIPSM does not model all possible combinations, but the following are modeled:

- All family members either uninsured or enrolled in public coverage;

- Family policy purchased
  - ◊ ESI and non-group options as shown above
  - ◊ Some family members may enroll in Medicaid or CHIP

- One or two single policies purchased by adults
  - ◊ ESI and non-group options as shown above
  - ◊ The remainder of the family is either uninsured or enrolled in public coverage

Choice between exchange and non-exchange plans. This choice is governed by the same factors as the choice between exchange and non-exchange in the small group market discussed above.

As noted earlier, policy changes may change coverage options available to individuals and employers (e.g., exchanges are introduced, Medicaid eligibility rules change, employers change offer decisions, etc.) and the policy changes may also change the value of different options for different people (e.g., as subsidies are introduced, premiums change, small group definition changes, etc.). HIPSM takes all of these changes into account and allows coverage decisions, risk pools, and premiums to adjust as a consequence.

Limitations

While behavior within HIPSM is calibrated to the best empirical economic literature on employer and household responses to price changes and the availability of new coverage options, some behavioral decisions are more uncertain than others. The split between exchange and non-exchange enrollment in

small group coverage carries particular uncertainty. Although it is modeled here as if eligible employers are essentially neutral between exchange and non-exchange coverage at the same price, the actual decision by small employers will depend upon a number of unknowns. These include how small group plans will differentiate their offerings inside and outside the exchanges (states can require that the offerings be uniform, but this is not required by the ACA), whether states will make all regulatory rules in and out of the exchange uniform in this market, the effectiveness of the risk adjustment methodology, the role of brokers, and so on.

At this time, HIPSM does not model changes in employer contributions to workers' coverage or an employee choice option in the SHOP exchange. In addition, the simulations of health reform assume a fully effective risk adjustment system, while the actual system is likely to fall short of that ideal.

As the regulations associated with the ACA are being released on a rolling basis, some uncertainties about the final rules remain. To the extent that rules emerge that are different than expected, the results could be affected. One example is the final treatment of affordability computations, subsidy eligibility, and penalty exemptions for family members of workers with affordable employer-based insurance offers. Here we have simulated results using the interpretation of the Joint Committee on Taxation that affordability is based on single coverage.[35]

Endnotes

1) The MEPS-HC public use data files do not include state identifiers, thus the full national samples are used. As explained below, however, health care costs in HIPSM-NY are ultimately calibrated to hit New York state specific targets.

2) The American Community Survey (ACS) has a much larger sample, but lacks data such as firm size and many detailed income components used in the construction of the HIPSM pre-baseline data.

3) M. Sing, J. S. Banthin, T. M. Selden, C. A. Cowan, and S. P. Keehan, "Reconciling Medical Expenditure Estimates from the MEPS and NHEA, 2002," Health Care Financing Review 28 (Fall 2006): 25–40. Also, T. M. Selden and M. Sing, "Aligning the Medical Expenditure Panel Survey to Aggregate U.S. Benchmarks," Agency for Healthcare Research and Quality, Working Paper No. 08006, July 2008, http://gold.ahrq.gov/projectsearch/staff_summary.jsp?project=IM05209, accessed June 28, 2010.

4) Jack Hadley, John Holahan, Teresa Coughlin, and Dawn Miller, "Covering the Uninsured in 2008: Current Costs, Sources of Payment, and Incremental Costs," Health Affairs Web Exclusive, August 25, 2008.

5) Similar work in the past has helped UI estimate the costs of uninsurance in many states and nationally, and what savings would occur after health coverage reform. See for example: John Holahan, Randall R. Bovbjerg, and Jack Hadley, "Caring for the Uninsured in Massachusetts: What Does it Cost, Who Pays and What Would Full Coverage Add to Medical Spending?" (Boston, MA: Blue Cross Blue Shield of Massachusetts Foundation, November 16, 2004), http://bluecrossfoundation.org/Policy-and-Research/Initiatives/Roadmap to Coverage.aspx and http://www.urban.org/url.cfm?ID=1000981.

6) Our computation of moral hazard throughout the model is based on analysis by Actuarial Research Corporation.

7) Center for Consumer Information and Insurance Oversight. "Essential Health Benefits Bulletin," December 16, 2011. Available at: http://cciio.cms.gov/resources/files/Files2/12162011/essential_health_benefits_bulletin.pdf

8) The bulk of project work for the state of New York was done in 2011. HIPSM will be updated to 2012 in future work.

9) John Holahan and Bowen Garrett, "Rising Unemployment, Medicaid and the Uninsured" (Washington, DC: The Urban Institute, 2009).

10) M. Heberlein, T. Brooks, S. Artiga, and J. Stephens, "Holding steady, looking ahead: annual findings of a 50-state survey of eligibility rules, enrollment and renewal procedures, and cost sharing practices in Medicaid and CHIP, 2010–2011" (Washington, DC: Kaiser Commission on Medicaid and the Uninsured, 2011).

11) J. Passel and P. Taylor, "Unauthorized immigrants and their U.S.-born children" (Washington, DC: Pew Hispanic Center, 2010).

12) Worker wages adjust to reflect changes in decisions employers make about their contributions to employer-based insurance. Consistent with the economic literature, HIPSM employers "pass-back" their costs for employer-based coverage to workers in the form of reduced wages.

13) To be specific, we predict who would have bought a non-group health insurance policy last period had the policies effective this period been in effect last period.

14) If the expansion results in higher-than-average-cost people leaving the non-group market, the updated premiums will be lower. Lower premiums then induce more people into the non-group market, and the premiums may increase if the new enrollees are of higher than average cost. The adjustment process will go on until an equilibrium has been reached.

15) We built in an inertia factor that can be switched on to slow down changes in offering decisions.

16) We also built in an inertia factor that can be switched on to slow down wage-offset adjustments.

17) Jonathan Gruber, "The Incidence of Mandated Maternity Benefits," The American Economic Review 84(3) (1994): 622–41.

18) For example, a married couple with children who are all under 19 is considered a health insurance unit. Prior to implementation of the ACA in 2010, only adult children who were full-time students between the ages of 18 and 23 could obtain private health insurance through a parent's policy. Today, adult children under age 26 can obtain coverage as dependents, regardless of student status. Because the CPS is a household survey, only those dependents living in the home are included; consequently, HIPSM's health insurance units only include children living in the home.

19) Roger Feldman and Bryan Dowd, "A new estimate of the welfare loss of excess health insurance," The American Economic Review 81(1) (1991): 297–301.

20) Daniel Zabinski, Thomas M. Selden, John F. Moeller, and Jessica S. Banthin, "Medical savings accounts: microsimulation results from a model with adverse selection," Journal of Health Economics 18 (1999) 195–218.

21) Sherry Glied, "Health insurance expansions and the content of coverage: Is something better than nothing?" Forum for Health Economics & Policy 6 (2003): Article 4.

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23) Pierre-Andre Chiappori and Monica Paiella, "Relative Risk Aversion is Constant: Evidence from Panel Data," Discussion Paper No. 5 (Naples, Italy: University of Naples, Department of Economic Studies, 2008).

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25) Glied, 2003.

26) Zabinsky, Selden, Moeller, and Banthin, 1999.

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29) Linda Blumberg, Len M. Nichols, and Jessica S. Banthin, "Worker Decisions to Purchase Health Insurance," International Journal of Health Care Finance and Economics 1 (2001); L. Nichols, L. Blumberg, P. Cooper, and J. Vistnes, "Employer Decisions to Offer Health Insurance: Evidence from the MEPS-IC Data," Paper presented to American Economic Association meetings, New Orleans, LA, 2001; J. Gruber and M. Lettau, "How Elastic Is the Firm's Demand for Health Insurance?" Journal of Public Economics 88 (2004): 1273–93.

30) Congressional Budget Office, "The Price Sensitivity of Demand for Nongroup Health Insurance," Background paper (Washington, DC: Congressional Budget Office, August 2005).

31) See, for example, Bowen Garrett, John Holahan, Allison Cook, Irene Headen, and Aaron Lucas, "The Coverage and Cost Impacts of Expanding Medicaid" (Washington, DC: The Urban Institute, 2009), http://www.kff.org/medicaid/upload/7901.pdf.

32) D. M. Cutler and J. Gruber, "Does public insurance crowd out private insurance?" The Quarterly Journal of Economics 111: 391–430.

33) Sharon K. Long, Allison Cook, and Karen Stockley, "Access to Health Care in Massachusetts: Estimates from the 2008 Massachusetts Health Insurance Survey" (Washington, DC: The Urban Institute, 2010), http://www.urban.org/url.cfm?ID=1001403.

34) Behavior in HIPSM is modeled using an expected utility framework. This "penalty" is thus the disutility of not complying with the law.

35) Joint Committee on Taxation, "Technical Explanation of the Revenue Provisions of the 'Reconciliation Act of 2010, as Amended,' in Combination with the Patient Protection and Affordable Care Act" (JCX-18-10, March 21, 2010).