Maryland State Planning Grant (SPG)

Final Report – Goal 4

Develop and Assess the Impact of

Options to Expand Insurance Coverage

Submitted to:
The Maryland Department of Health and Mental Hygiene (DHMH)

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Contents

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1. Introduction

Analysis of 2002 and 2003 Current Population Surveys (CPS) shows that 12.8% of Maryland's population lacks health insurance coverage. This number conceals considerable variation among age and income groups. Among those under age 19, the uninsurance rate is 9.8%; for adults age 19 to 64, it is 16.5%. Low-income adults have the greatest risk of being uninsured. The non-insurance rate in Maryland is 38% for adults below the federal poverty line (FPL), 23% for those from 1 to 2 times the FPL, and 17% for those from 2 to 3 times the FPL.

Adults with incomes below 100% of the Federal Poverty Level (FPL) are perhaps the State's most intransigent uninsured population. Moreover, they have limited access to employer-based coverage, and are thought to be significantly sicker than the employer-based working insured population, making the use of existing employer-based actuarial databases and methods for developing cost estimates for this population difficult. Expansion of Medicaid represents the primary means of increasing coverage for this group.

Considerable legislative and public support exists for expanding coverage to various segments of the low-income adult population. One of the major goals of the Maryland State Planning Grant (SPG) has been to develop concrete and actuarially sound estimates on the cost of covering different segments of this population – in order to allow State leaders to make sound decisions with respect to coverage expansions. Accordingly, the Johns Hopkins Bloomberg School of Public Health (JHSPH) has developed models, analyzed data, and prepared estimates of coverage and costs associated with Medicaid insurance expansion.

Given that the policy making process is dynamic, it is important that key program assumptions can be modified and sound estimates can be generated quickly. To that end, we have designed these models so that assumptions and parameters can be changed, and alternative results quickly generated. The models estimate the impact of the proposed programs on the number of people eligible, employer offer rates, take-up rates, and program costs. These models also allow for key program elements, such as cost sharing requirements, to be modified and for new results to be generated.

The results are presented in this report under three principal scenarios. For each scenario, we have estimated take-up rates, crowd-out rates, and predicted utilization under insurance

expansion based on detailed analysis of utilization by individuals who are currently insured but match the uninsured in terms of socioeconomic and demographic characteristics and, where possible, health status. We have also estimated the effect of cost-sharing arrangements – on take-up, predicted utilization, and costs – as well as the effect of medical care inflation on future years' costs.

For each of the three scenarios, we have also separately presented the results for the 19 to 24 age group. As in the nation as a whole, young adults in Maryland have the highest risk of being uninsured. The 19-24 year old age group constitutes 9 percent of the non-elderly population in the State, but 19% of the uninsured. The risk of being uninsured for this age group, 27%, is similar to the national pattern, although the risk of having no health insurance among all other age groups is significantly lower in Maryland than the national average.

2. Scenarios to be Modeled

Appendix 1, "Description of Medicaid Expansion Options" describes in detail the two principal options that are modeled in this report. Both involve the expansion of Medicaid coverage to adults. Currently in Maryland, children in families with incomes up to 300% of FPL – approximately $54,300 for a family of four – are eligible for Medicaid coverage under the Maryland Children's Health Program (MCHP) and MCHP Premium Programs. However, coverage for adults is limited. Parents are covered only up to approximately 34% of the FPL. Adults without children are ineligible for Medicaid unless they are elderly, blind, or disabled. These terms of coverage are among the most restrictive in the nation.

Appendix 2, "Enrollment in Medicaid, MCHP, and Pharmacy Coverage – CY 2002 Average" shows a graphical portrayal of Maryland's current Medicaid coverage by poverty level. In Calendar Year (CY) 2002, 160,837 individuals below 34% of the FPL were enrolled in Medicaid. 14,002 pregnant women were covered up for pre-natal and delivery services, up to 250% of the FPL. Under the SOBRA expansion and the Maryland Children's Health Program (MCHP), Medicaid covered 247,856 additional children up to the age of 19 years. MCHP Premium – which covered children from 200% to 300% of the FPL – has since frozen its enrollment, and MCHP itself has been cut back from 200% to 185%. In addition, the Maryland Pharmacy Assistance Program (MPAP) provides partial pharmaceutical coverage to low-income adults up to 116% of the FPL.

Given Maryland's low coverage of low-income adults and relatively generous coverage of children, our options focus on expanding Medicaid coverage to adults. Under *Scenario 1*, we have prepared estimates for an expansion of Medicaid eligibility for all adults up to 100%, 116%, and 200% of the Federal Poverty Line (FPL), with no cost sharing – $0 premium, $0 deductible, and no co-pays – and the current Medicaid benefit package. *Scenario 2* follows the same assumptions, but modifies the benefits package to the current Medicaid package without hospitalization coverage. *Scenario 3* introduces cost sharing – expanding Medicaid for all adults to 100%, 116%, and 200% of FPL, with a $0 deductible, a 10% co-pay, and a premium of 2% of income. The benefits package for Scenario 3 is the current Medicaid package without hospitalization coverage. A comparison of the results of Scenarios 2 and 3 therefore allows for a direct estimate of the effects of cost sharing on both coverage and costs.

It is important to note that successful implementation of Scenarios 2 and 3 would require an "1115 Waiver" from the Federal Government. The Health Insurance Flexibility and Accountability and Flexibility Demonstration Initiative (HIFA) builds on Section 1115 of the Social Security Act by giving states the flexibility to adapt benefits packages, increase cost-sharing for Medicaid and SCHIP, and create public-private partnerships for the provision of health insurance coverage – all in exchange for expanding coverage to previously uncovered groups. Some states have also used 1115 waiver authority to expand coverage to parents and childless adults. With an 1115 waiver, the Federal Government would pay 50% of the costs of coverage under the new program.

3. Literature and Data Search

Prior to commencing the modeling process, we conducted a thorough review of literature related to the topic of expansion of public health insurance programs in the United States. Appendix 3, "Lessons Learned from the Literature" presents an overview of the results from this review – divided between: (1) Non-Medicaid Publicly Subsidized Insurance Programs; and (2) Medicaid Programs.

Reviewing both the published peer-reviewed and non-peer reviewed literature, we found several pertinent experiences of several previous state-level insurance reforms. Maine, through its *MaineCare* program, provided insurance for uninsured small businesses – defined as 15 or fewer employees. All employees were eligible to join, but subsidies for the employees' share were available only to those below 200% of the FPL. *MaineCare* includes comprehensive benefits (but no pharmacy benefit), a $5 co-pay per visit, and a $25 co-pay for an emergency room (ER) visit.

In the State of Washington, the *Basic Health Plan* provides heavily subsidized enrollment in Managed Care Organizations (MCOs) for residents below 200% of the FPL. There is a 12 month waiting period for enrollees with pre-existing conditions. The program does not provide mental health benefits; nor does it have physical and occupational therapy, pharmacy, or organ transplants benefits. There is a $5 co-pay per visit, with a $50 co-pay per admission and ER visit

In Tennessee, *TennCare* is a Section 1115 Medicaid expansion demonstration project implemented in 1994. It required enrollment in an MCO and was open to all residents up to 400% of the FPL. *TennCare* employs a sliding scale fee, but is free to residents below 100% of the FPL. New Jersey's *Health Access* program allows for a premium subsidy for families that have incomes below 250% of the FPL and that are not eligible for employer insurance. This subsidy allows buy-in to the state's individual health insurance market.

The Hawaii *QUEST* program also has a Section 1115 Medicaid waiver as an expansion demonstration project. Started in 1994, the program is open to non-disabled, non-elderly residents with incomes below 300% of the FPL. The program requires enrollment in a MCO and employs sliding scale premiums for enrollees with incomes between 133% and 300% of the FPL. There are nominal co-payments. *MinnesotaCare*, a state-funded insurance program created in

1992 serves uninsured families below 275% of the FPL. Participants must have been uninsured for at least four months without access to Employer-Sponsored Insurance (ESI). There are sliding scale premiums for enrollees with incomes above Medicaid eligibility levels.

The sections below summarize the most important results from the literature for our simulations in Maryland, organized by the corresponding parameters used in the simulations.

(1) Results for Take-Up (Participation) Rates

Take-up rates refer to the percentage of individuals who will accept a new insurance coverage offer when it is presented to them. In the literature, predicted take-up rates for public insurance programs increase with individuals' age, educational status, and income. A new public insurance program in Minnesota for adults up to 185% of the FPL resulted in a 3.3% increase in coverage for publicly-insured low-income adults up to 200% of the FPL. This entire increase, however, was due to public insurance crowding-out (replacing) private insurance (Kronick and Gilmer 2002).

The rate for public insurance take-up most commonly used in studies for population groups below 150% of the FPL is 55% to 60% (Glied et al 2002). Subsidized public coverage in the State of Washington up to 200% of the FPL resulted in a 4.1% increase in publicly-insured low-income adults, with just 20% of this increase due to private insurance crowd-out (Kronick and Gilmer 2002).

The level of premiums has a clear effect on take-up rates for Medicaid programs. In Tennessee, subsidizing Medicaid expansion for adults below 200% of the FPL resulted in a 13.1% increase in publicly-insured low-income adults, with 42% of the increase due crowd-out of private insurance (Kronick and Gilmer 2002). An expansion of Medicaid to those with incomes below 100% of the FPL resulted in an 8.6% increase in the number of publicly-insured low-income adults, with virtually no private insurance crowd-out (Kronick and Gilmer 2002).

In another documented test of the effect of premiums on take-up, decreasing the premium for low-income families from $50 to $25 resulted in a predicted increase of take-up rates from 6.8% to 11.0%; further decreasing the premium to $10 led to a take-up rate of 14.1% (Long and Marquis 2002). Analysis of prices for a standard

private insurance product in different market areas suggests a price elasticity (responsiveness) of -0.3 to -0.4 and an income elasticity of 0.15 in the non-group market (Marquis and Long 1995). Analysis of data from three states suggests that raising premium shares from 1% to 3% of family income decreases participation rates from 57% to 35% among uninsured; while raising premium shares to 5% of income lowers participation to 18% (Ku and Coughlin 1999 and 2000).

Within Medicaid programs, price is also an important predictor of program participation, or take-up. Participation in Hawaii's QUEST program declined as the premiums, expressed as a percentage of income paid, increased. There was a take-up rate of 42% among those in the range 133% to 149% of the FPL, for whom premiums were 1.4% of income. However, the take-up rate was just of 3% among those in the 275 to 300% FPL range, for whom the premium level was 13.6% of income (Ku and Coughlin 1999 and 2000).

Price is not the only factor affecting insurance take-up; household and individual-level characteristics are also important. Long and Marquis (2002) found take-up rates of 9.2% for ages 19-24; 8.5% for ages 25-34; 15.0% for ages 35-44; and 30.9% for ages 45-64. The same study also showed that take-up rates were not significantly associated with individuals' level of education or health status, but that take-up does increase with income – from just 8.4% for those living at less than half of the poverty level to 15.2% for those with incomes between 150% and 200% of the FPL.

In addition to these take-up rates from the literature, we used previous analyses prepared by the Maryland Department of Health and Mental Hygiene (DHMH) for Medicaid expansion projections. The rates used in these analyses are reflected below in Table 1. In our simulations, we used rates reflecting both the national experiences, from the literature, and previous estimates used by DHMH in modeling exercises. In our simulations, we used take-up rates ranging from 15% from 90%, depending on the scenario and the group eligible (Table 2, below).

Table 1. Additional Results for Medicaid Take-Up Rates

Characteristic	Estimate	Source
Parents 0-150% FPL (no cost sharing)	90%	DHMH from Urban Institute data
Parents 151-200% FPL	75%	DHMH from Urban Institute data
Expansion with no cost sharing	66% to 74%	DHMH from Urban Institute data
Parents 0-150% FPL (no cost sharing)	60%	DHMH fiscal note HB762
Childless adults 0-150% FPL (no cost sharing)	35%	DHMH fiscal note HB762
Parents 0-150% FPL (cost sharing)	30%	DHMH fiscal note HB762
Childless adults 0-150% FPL (cost sharing)	30%	DHMH fiscal note HB762

(2) Results for Crowd-Out

Crowd-out refers to take-up in a public program by those who are already privately insured. The crowd-out rate is the percentage of individuals with private insurance who are eligible for a public program and who then switch to the public program. As crowd-out rates increase, the efficiency of public insurance – comparing costs to the net increase in coverage – decreases. Estimates from the literature suggest that for the privately insured the elasticity (responsiveness) of take-up to a new program offer is approximately 30% as high as the elasticity of take-up among the uninsured (Glied et al 2002).

Yazici and Kaestner (2000) studied Medicaid eligibility patterns in the late 1980s and early 1990s to determine the levels of private insurance crowd-out among children who joined Medicaid ranks. The results showed little crowd-out among children; only 18.9% of increases in Medicaid enrollment was due to crowd-out of private insurance.

It is clear from the literature that crowd-out from ESI to public insurance increases as expansions go higher up the income ladder. Dubay and Kenney (1997) conducted simulations of insurance expansion using the Urban Institute's Transfer Income Model, Version 2 (Trim2) – a micro-simulation model of tax and transfer programs employing data from the annual Current Population Surveys (CPS). Overall, in their model crowd-out of employer coverage accounted for 14% of growth in Medicaid coverage, but crowd-out varied significantly by income level. There was virtually no

crowding out for women with incomes below poverty level; but crowd-out accounts for 27% of the increase in Medicaid coverage for women with incomes 100-133% FPL, and for 59% of the increase in Medicaid coverage for women in the range 134-185% of the FPL. In our simulations we used crowd-out rates ranging from 5% to 25% for private group insurance, and from 10% to 50% for private non-group insurance (Table 3, below).

(3) Results for Utilization and Costs

Successfully modeling insurance expansion requires accurate prediction of the costs that will be incurred by those newly granted insurance. As explained in Sections 4(6) and 4(7) of this report, in our simulations we use predicted health expenditures from Maryland's HealthChoice Medicaid managed care program, adjusted for the anticipated relative health status of the newly-insured group. It is useful, however, to have a background understanding of the utilization and expenditure estimates used in other simulation exercises. Berk and Monheit (2001) found that median health expenditure for privately insured individuals in 1996 was $3,340, compared to $1,098 for the uninsured. For the 2003 fiscal year, the Maryland DHMH costed the Medicaid average annual program cost at $2,650 per parent.

Our own analysis of the State's Comprehensive Standard Health Benefit Plan (CSHBP) – available in the State's small group market – shows that this plan costs just $1,608 per individual, but that when this plan is adjusted for benefits that it lacks – including adding a waiver of deductibles and co-pays, mental health inpatient parity, smoking cessation, in-vitro fertilization, hearing aids, access to pharmaceuticals, and dental benefits – its cost rises to $2,938 per person in 2002 dollars.

The literature indicates that individuals' ethnicity is not statistically correlated with levels of utilization by newly-insured individuals. Findings by income level are mixed – some studies show increasing utilization for relatively well-off new enrollees. In documented studies educational status has not had significant statistical effects on levels of health care utilization by the newly-insured, while health status

has a clear negative association with utilization – sicker enrollees use more health care than healthier ones (Kilbreth et al 1998).

Another important question is whether expansion of insurance programs will lead to an expression of pent-up demand – that initial levels of utilization will be higher than normal as previously uninsured individuals use services that they wanted earlier but could not afford. Documentation of the Washington Basic Health Plan (BHP), a subsidized plan for residents below 200% of FPL with a 12-month waiting period for pre-existing conditions, showed no evidence of pent-up demand or adverse selection among new enrollees (Kilbreth et al 1998). The health status of BHP enrollees was not significantly different than other MCO enrollees, and health service use patterns were not statistically different from other enrollees. Similarly, an analysis MaineCare – a program for small businesses that subsidizes the premiums for employees below 200% of the FPL – found that utilization of new enrollees was similar to that of a comparison group enrolled in same MCO. In other words, in both Washington and Maine there was no evidence of pent-up demand associated with expansion of insurance (Kilbreth et al 1998).

4. Data Sources

We used many different data sources for the analysis involved in the simulations, including the following:

- The March 2002 and March 2003 Current Population Survey (CPS) for Maryland – to measure current population insurance status (see Appendix 4 for CPS results for Maryland).
- Medicaid program enrollment data – to verify and correct current insurance status. We found that the Medicaid program enrollment data and the CPS did not provided consistent estimates of Medicaid enrollment in the State – the Medicaid program data estimates were more than twice as high as the CPS estimates. In order to accommodate these differences, we took one-third of the difference in Medicaid enrollment between the two sources, and subtracted this amount from the CPS estimate of the uninsured – on the grounds that the CPS undercount of Medicaid enrollment signifies in part an overcount of the uninsured – see Section 5(2), below.
- Background literature – for participation rates, crowd-out rates, effects of premiums and co-pays (see Section 3 of this report).
- Rate-setting actuarial analysis of Medicaid expenditures and costs – for projected expenditures with Medicaid benefits package. This analysis is conducted by the University of Maryland at Baltimore County (UMBC) on behalf of DHMH.
- Analysis of the costs of the Comprehensive Standard Health Benefit Package (the small group market benefits package), conducted by Mercer.
- The Maryland Health Care Commission (MHCC) annual report on health expenditures – for the percentage of health care spending that goes towards hospital care.
- The Medical Expenditure Panel Survey (MEPS) – for health expenditures and for the ratio of health expenditures based on relative health status of different groups (see Table 4).
- Fiscal note HB762 – for the estimated one-time costs of Medicaid insurance expansion with full benefits, and for administrative costs.

- The Maryland Costs of Non-Insurance report, prepared under the HRSA grant – for estimates of revenue offsets to the State based on fewer uninsured.

5. Steps in the Modeling Process

We define 14 separate steps to complete the simulations of health insurance expansion. These steps are documented in detail below. The corresponding quantitative analysis can be found in Appendices 5, 6, and 7 – corresponding to Scenarios 1, 2, and 3, respectively.

(1) Define Expansion Scenarios and Set Parameters for the Expansion

The first step in the simulation process is to clearly define the parameters for the expansion. It is important these parameters be explicitly defined, and not left to assumptions. We have modeled three different scenarios, with the following assumptions and parameters.

Scenario 1 is expansion of Medicaid eligibility for all adults up to 100%, 116%, and 200% of the federal poverty line, with no cost sharing – $0 premium, $0 deductible, and no co-pays – and the current Medicaid benefit package. *Scenario 2* follows the same assumptions, but modifies the benefits package to the current Medicaid package without hospitalization coverage. *Scenario 3* maintains this benefits package and introduces cost sharing – expanding Medicaid for all adults to 100%, 116%, and 200% of FPL, with a $0 deductible, a 10% co-pay, and a premium of 2% of income.

The 116% FPL cut-off is not arbitrary but corresponds to the eligibility cut-off for the Maryland Pharmacy Assistance Program (MPAP). This cut-off level has been used in order to facilitate comparisons with MPAP data, and to model an expansion that combines Medicaid and MPAP benefits and populations.

(2) Establish Baseline Numbers for Target Population

As described in Section 4, we used the Current Population Survey (CPS) to establish the baseline population numbers by insurance status in the State of Maryland, and then compared these numbers to DHMH estimates of the number of Medicaid enrollees as a consistency check. Throughout our work, we have limited our analysis to individuals under age 65, under the assumption that older individuals are covered by the Medicare insurance system.

The CPS showed a two year average of 169,116 uninsured residents below 100% of the FPL during calendar years 2001 and 2002 (see Appendix 4). The equivalent cumulative number of uninsured residents below 116% and 200% of the FPL, respectively, were, 203,830 and 336,980. Of these individuals (using the below 100% FPL cut-off), 22% are under age 19; 9% are parents whose children are already covered under the Medicaid or MCHP Program; 5% are parents whose children are eligible for this program but are not covered; and the remainder – 63% – are non-parent adults.

As a consistency check, we compared the CPS numbers for Medicaid enrollment using the same FPL cut-offs to the numbers of Medicaid enrollees maintained by the DHMH Medicaid program. To do this, we had to make approximations of the poverty level of individuals participating under different Medicaid eligibility criteria. At the completion of the comparison, surprisingly, the numbers were not at all compatible. The CPS number for Medicaid enrollees in the State of Maryland below 100% FPL is 121,859, compared to DHMH program data of 240,720. At other income levels, the numbers were similarly discordant – at 116% FPL, 134,075 for the CPS compared to 287,596 for DHMH program data; and at 200% FPL, 169,559 compared to 419,507.

In order to accommodate these differences, we took one-third of the difference in Medicaid enrollment between the two sources, and subtracted this amount from the CPS estimate of the uninsured – on the grounds that the CPS undercount of Medicaid enrollment signifies in part an overcount of the uninsured. The resulting numbers of uninsured, in all three scenarios, are: 129,496 below 100% of the FPL; 152,656 below 116%; and 253,664 below 200%.

(3) Estimate Take-Up (Participation) Rates for Those Previously Uninsured

There are at least four approaches detailed in the literature for modeling take-up rates:

(1) Elasticity approach – applies estimates from the literature for take-up rates relative to price.

(2) Regression approach – a regression estimate of the probability of insurance take-up based on individual characteristics.

(3) Matrix approach – applies group specific (income, age) take-up rates based on estimates from the literature.
(4) Reservation price approach – identifies the highest price at which different individuals will purchase insurance.

We adopt approach (3) – the matrix approach – which applies participation rates for specific groups based on estimates from the literature. Take-up rates found in the literature are detailed in Section 3(1) of this report and are summarized in Appendix 3.

As a result of this exercise, we set take-up rates for the three scenarios as detailed in Table 2, below. These rates are compatible with those in the literature, and also with previous DHMH experience as described in Section 3(1) of this report. Rates are highest in Scenario 1 – which has the full Medicaid benefits package and no cost-sharing arrangements, and get progressively lower as the package is reduced (Scenarios 2 and 3) and cost-sharing is added (Scenario 3).

Table 2. Take-Up Rates Used for Specific Groups

	Scenario 1	Scenario 2	Scenario 3
Under age 19	30%	18%	15%
Parents whose kids are already covered	90%	54%	45%
Parents whose kids are eligible but not covered	30%	18%	15%
Non-parent adults	40%	24%	20%

Within each scenario, rates are highest for parents whose children are already covered under the MCHP Program and who are newly offered insurance. Since these parents have already gone to the effort to enroll their children, it is highly likely that they will also enroll themselves when offered Medicaid coverage. Parents whose children are eligible for MCHP but are not enrolled, on the other hand, have a much less lower probability of enrolling. Participation rates for non-parent adults and for children who are currently eligible but not enrolled are also both relatively low.

(4) Estimate Crowd-Out – Individuals who already have Private Coverage who Enroll

As with program participation (take-up) rates, we used an extensive survey of the literature to determine applicable rates for crowd-out – the rate at which individuals with private coverage would participate in the new public insurance program offer.

Table 3. Crowd-Out Rates

	Scenario 1	Scenario 2	Scenario 3
Private group insurance			
Up to 100% FPL	12.5%	6.3%	5%
Up to 116% FPL	12.5%	6.3%	5%
Up to 200% FPL	25%	12.5%	10%
Private non-group insurance			
Up to 100% FPL	25%	12.5%	10%
Up to 116% FPL	25%	12.5%	10%
Up to 200% FPL	50%	25.0%	20%

(5) Estimate the Negative Effects of Premiums on Enrollment

Once the level and numbers of new participants in the insurance program have been determined – both from previously uninsured groups (take-up) and previously insured groups (crowd-out), the next step is to estimate the negative effect that imposing premiums would have on both types of participation. Only one of our scenarios – Scenario 3 – includes a premium, set to 2% of income. Based on our literature review, we estimate a linear relationship between the premium level and Medicaid participation rates. A premium of 1% of income would reduce participation by 16%; a 2% premium would reduce participation by 33%; 3% by 49%; and a premium set at 4% of income would lower program participation by 63% compared to no premium at all. In Scenario 3, we apply the 2% premium and its

corresponding reduction in take-up rates and crowd-out (See Appendices 5, 6, and 7 for detailed results).

(6) Estimate Increased Expenditures for Those Accepting Newly-Offered Insurance

We used three different approaches to calculate how much it would cost to insure new population groups under Medicaid. The first is based on analysis of the State's Comprehensive Standard Health Benefit Plan (CSHBP). After adding a waiver of deductibles and co-pays, mental health inpatient parity, smoking cessation, in-vitro fertilization, hearing aids, access to pharmaceuticals, and dental benefits – its cost rises to $2,938 per person in 2002 dollars. Our analysis of the Medical Expenditure Panel Survey (MEPS) produces a very similar figure – $2,767 per new enrollee. Finally, we use predicted health expenditures from Maryland's HealthChoice Medicaid managed care program. These numbers are $1,682 for enrollees under the age of 19, and $3,117 for adults.

These different methods of calculating expenditures produce compatible results. For the simulations, we used the predicted expenditures from Maryland's HealthChoice Medicaid managed care program – on the grounds that these are the most directly pertinent levels of expenditures for new enrollees. However, since new enrollees are likely to have different health needs than current ones, we then correct the expected levels of expenditure for health status – in Section 5(7).

(7) Correct Expenditures for Health Status

In order to correct expected health expenditures for differences in health status, we use the ratio of new enrollee's health status to health status of those already in the program. Using the MEPS, we constructed a table (Table 4, below) showing the ratios of health expenditures among enrollees in different types of insurance and at different levels of income. We then compared the ratio of the incoming insurees into our Medicaid insurance expansion – using the correct weighted proportions from employer coverage, non-group coverage, and the uninsured – to the ratio for existing Medicaid enrollees under the principal (Temporary Assistance for Needy Families – TANF) eligibility criteria.

Table 4. Table of Health Status Ratios

Health Status Indices, Adults						
Income level	**Employer Coverage**	**Private Non-Group Coverage**	**Medicaid SSI**	**Medicaid TANF**	**Uninsured**	**Total**
All	0.92	0.93	2.08	1.32	1.07	1.00
<100% FPL	1.10	0.96	2.11	1.31	1.16	1.28
100-200% FPL	1.04	0.98	2.05	1.39	1.06	1.12
200-400% FPL	0.95	0.93	1.84	1.26	1.02	0.98
>400% FPL	0.86	0.85	1.81	1.37	0.94	0.87

Source: MEPS

The resulting ratio of expected health expenditures for new insurees – compared to Medicaid TANF enrollees – is 0.866 for new enrollees below 100% of the FPL, 0.863 for those below 116%, and 0.855 for those below 200% of the FPL. In other words, the incoming population groups are expected to be less expensive to insure than the current profile of the Medicaid TANF population, which is, on average, poorer than the newly eligible group. Within each expansion scenario, we reduced expected expenditures using the corresponding ratios for each income group.

(8) Estimate Negative Effects of Co-Pays on Utilization

Implementing co-payments reduces the level of utilization of health services, and subsequently health expenditures as well. Using estimates from the literature, we project that a 10% level of co-payments would reduce overall utilization and program expenditures by 4%, and a 20% co-payment would reduce utilization by 8%. In our simulations, only Scenario 3 carries a co-payment, of 10%.

(9) Estimate Annual Costs of Insurance Expansion

Step 9 is a straightforward multiplication of total new enrollees by the projected program cost per enrollee. The result is an estimate of the annual costs to the State Medicaid program associated with the eligibility expansion.

(10) Estimate Administrative Costs

There are two types of administrative costs associated with the potential Medicaid expansions. One is the one-time cost associated with adding infrastructure and capacity in order to handle additional enrollees. We have set this amount at $431,340 for all scenarios, based on previous DHMH estimates of the costs of expansion in HB 762. The second type of administrative cost is the recurrent overhead that comes with additional claims and additional enrollees. We have set the level of recurrent administrative costs at 5% for all scenarios, based again on DHMH estimates, in this case from proposed legislation (HB762).

(11) Incorporate Medical Inflation Estimates

Medical inflation is a major cost driver and important to include in cost projections. Based on data from the Center for Medicaid and Medicare Services (CMS), we have used a medical inflation rate of 6.5% for all scenarios. We have adjusted all costs to Fiscal Year 2005 – as the anticipated start of the program anticipation.

(12) Estimate Total Annual Costs

Step 12 involves increasing the annual program costs associated with expansion to account for administrative costs and medical inflation.

(13) Estimate Revenues and Offsets

From the perspective of the State Medicaid Program, the single biggest savings associated with the expansion comes from federal matching funds. We assume that 50% of the new program costs will be recovered from matching funds – which may require obtaining a waiver from the federal government. In Scenario 3, there are also

premiums and co-payments included in the expansion, both of which generate revenue. To calculate these, we have assumed that the average income of families below 100% of the FPL is $4,000 per person, and that revenues from co-payments will be subject to 10% administrative costs associated with their collection. We did not account for the fact that – in the absence of a specific exemption – 50% of revenues would need to be redirected to the Federal Government.

Another potentially significant source of savings comes from the reduction in the rate of uninsurance itself. Under the HRSA State Planning Grant, we have also conducted a detailed study of the costs associated with a lack of health insurance coverage in the State, entitled "The Costs of Not Having Health Insurance in the State of Maryland." This report shows clearly where potential savings might accrue were insurance coverage to be expanded. For the purposes of the simulations, we have used the perspective of the State as a payer and have conservatively estimated the savings to State public health and mental health programs. Within each scenario, we calculated the number of new enrollees, the decrease in the uninsurance rate, and the corresponding savings to the State. These numbers are not concrete, and the actual savings may vary.

(14) Calculate the Net Cost of Expansion to the State

As a final step in the simulations, we calculated the net cost of expansion, again from the perspective of the State. The net costs are equal to revenues and offsets (Step 13) subtracted from the total annual costs of expansion (Step 12).

6. Results

For each scenario, we present summary results below in Table 5 (Scenario 1), Table 6 (Scenario 2), and Table 7 (Scenario 3). In directly comparing the results from the different scenarios, it is helpful to recall the scope of each expansion scenario. Scenario 1 is expansion of Medicaid eligibility for adults up to 100%, 116%, and 200% of the federal poverty line, with no cost sharing – $0 premium, $0 deductible, and no co-pays – and the current Medicaid benefit package. Scenario 2 follows the same assumptions, but modifies the benefits package to the current Medicaid package without hospitalization coverage. Scenario 3 maintains this benefits package and introduces cost sharing – expanding Medicaid for adults to 100%, 116%, and 200% of FPL, with a $0 deductible, a 10% co-pay, and a premium of 2% of income.

The number of new enrollees decreases from Scenario 1 to Scenario 2 to Scenario 3. Comparing the 100% FPL eligibility cut-offs for all three scenarios, Scenario 1 would bring in 54,140 new Medicaid enrollees not previously insured – a 7.8% reduction in the uninsurance rate in Maryland. The corresponding reductions in uninsurance in Scenarios 2 and 3 are, respectively, 4.7% and 3.9%. However, the cost of insurance expansion under the latter two scenarios is considerably cheaper since they do not include hospitalization coverage and Scenario 3 includes premiums and co-payments. Again comparing the 100% cut-off, Scenario 1 costs the State a net amount of $1,107 per new Medicaid enrollee, compared to $715 in Scenario 2, and $461 in Scenario 3. In each scenario, the cost per previously uninsured enrollee is considerably higher, since some new insurees previously held private insurance – the crowd-out phenomenon.

Table 5. Results of Expansion Scenario 1

	Poverty Level		
	100%	**116%**	**200%**
Total cost of expansion FY '05 ($ M)	$209	$247	$530
Less Federal match ($ M)	($98)	($116)	($249)
Less savings to State programs	($24)	($29)	($48)
Net cost of expansion to State FY '05 ($ M)	$86.8	$102.7	$233.9
New Medicaid enrollees previously insured	24,225	29,384	95,837
New Medicaid enrollees previously uninsured	54,140	63,759	106,094
Total new Medicaid enrollees	78,364	93,143	201,931
% reduction in uninsured	7.8%	9.2%	15.3%
Net State cost / previously uninsured enrollee	$1,603	$1,610	$2,205
Net State cost per total new enrollee	$1,107	$1,102	$1,158

Table 6. Results of Expansion Scenario 2

	Poverty Level		
	100%	**116%**	**200%**
Total cost of expansion FY '05 ($ M)	$87	$103	$217
Less Federal match ($ M)	($41)	($48)	($102)
Less savings to State programs	($15)	($17)	($29)
Net cost of expansion to State FY '05 ($ M)	$31.9	$37.8	$86.9
New Medicaid enrollees previously insured	12,112	14,692	47,919
New Medicaid enrollees previously uninsured	32,484	38,255	63,657
Total new Medicaid enrollees	44,596	52,947	111,575
% reduction in uninsured (partial coverage)	4.7%	5.5%	9.2%
Net State cost / previously uninsured enrollee	$982	$989	$1,365
Net State cost per total new enrollee	$715	$715	$779

Table 7. Results of Expansion Scenario 3

	Poverty Level		
	100%	**116%**	**200%**
Total cost of expansion FY '05 ($ M)	$69	$82	$171
Less Federal match ($ M)	($30)	($36)	($70)
Less savings to State programs	($12)	($14)	($24)
Less revenues from cost sharing	($10)	($12)	($34)
Net cost of expansion to State FY '05 ($ M)	$16.9	$19.7	$42.9
New Medicaid enrollees previously insured	9,690	11,754	38,335
New Medicaid enrollees previously uninsured	27,070	31,879	53,047
Total new Medicaid enrollees	36,760	43,633	91,382
% reduction in uninsured (partial coverage)	3.9%	4.6%	7.7%
Net State cost / previously uninsured enrollee	$626	$618	$808
Net State cost per total new enrollee	$461	$452	$469

For each of the three scenarios, we have also separately calculated the results for the 19 to 24 age group (Table 8 through Table 10, below). As in the nation as a whole, young adults in Maryland have the highest risk of being uninsured. The 19-24 year old age group constitutes 9 percent of the non-elderly population in the State, but 19% of the uninsured. The risk of being uninsured for this age group, 27%, is similar to the national pattern, although the risk of having no health insurance among all other age groups is significantly lower in Maryland than the national average. The results show modest gains in insurance among this age group. In Scenario 1, going up to 200% FPL, 39,653 young adults would be enrolled – 23,801 (60%) of whom would have been previously uninsured. This would represent a 42.7% decrease in uninsurance among the age group, which currently has an estimated 55,737 uninsured individuals.

Table 8. Results of Expansion Scenario 1, Ages 19-24

	Poverty Level		
	100%	**116%**	**200%**
Total cost of expansion FY '05 ($ M)	$38	$49	$118
Less Federal match ($ M)	($17)	($22)	($53)
Less savings to State programs	($4)	($6)	($11)
Net cost of expansion to State FY '05 ($ M)	$16.8	$21.7	$54.3
New Medicaid enrollees previously insured	3,117	4,089	15,852
New Medicaid enrollees previously uninsured	9,607	12,358	23,801
Total new Medicaid enrollees	12,724	16,447	39,653
% reduction in uninsured	1.4%	1.8%	3.4%
Net State cost / previously uninsured enrollee	$1,749	$1,752	$2,281
Net State cost per total new enrollee	$1,321	$1,316	$1,369

Table 9. Results of Expansion Scenario 2, Ages 19-24

	Poverty Level		
	100%	**116%**	**200%**
Total cost of expansion FY '05 ($ M)	$16	$21	$49
Less Federal match ($ M)	($7)	($9)	($22)
Less savings to State programs	($3)	($3)	($6)
Net cost of expansion to State FY '05 ($ M)	$6.4	$8.2	$20.5
New Medicaid enrollees previously insured	1,559	2,045	7,926
New Medicaid enrollees previously uninsured	5,764	7,415	14,281
Total new Medicaid enrollees	7,323	9,459	22,207
% reduction in uninsured	0.8%	1.1%	2.1%
Net State cost / previously uninsured enrollee	$1,111	$1,112	$1,436
Net State cost per total new enrollee	$875	$872	$924

Table 10. Results of Expansion Scenario 3, Ages 19-24

	Poverty Level		
	100%	**116%**	**200%**
Total cost of expansion FY '05 ($ M)	$9	$11	$26
Less Federal match ($ M)	($4)	($5)	($12)
Less savings to State programs	($2)	($3)	($5)
Net cost of expansion to State FY '05 ($ M)	$2.5	$3.3	$8.8
New Medicaid enrollees previously insured	1,247	1,636	6,341
New Medicaid enrollees previously uninsured	4,803	6,179	11,901
Total new Medicaid enrollees	6,050	7,814	18,241
% reduction in uninsured	0.7%	0.9%	1.7%
Net State cost / previously uninsured enrollee	$530	$534	$742
Net State cost per total new enrollee	$421	$422	$484

7. Conclusions

There are several important conclusions that follow from the modeling exercises. The first is simply that the modeling itself is feasible, and can produce results that are useful and helpful for policy-making. At several key points in the modeling process – such as expected expenditures for new enrollees – the different data sources used produce very similar estimates, leading to a high degree of confidence in the results. A related conclusion is that these modeling exercises, rooted in estimates in the literature and using the most recent data available from Maryland – should continue to be used as different insurance expansion options are discussed, debated, and proposed in the State. Other conclusions are as follows:

- There is one methodological point to which the results are quite sensitive. The baseline numbers of the uninsured at specific income levels are taken from the CPS results for Maryland. However, when the CPS results from the number of Medicaid beneficiaries at the same income levels are compared with DHMH Medicaid program enrollment data, the differences are striking. For example, at 100% of the FPL, the CPS suggests that there are 121,859 Medicaid enrollees in the State, compared to program data, which show that there are 240,720 (see Appendices 5, 6, and 7).

- While every state has a difference in CPS counts of Medicaid enrollees compared to program data, the difference in Maryland is the largest in the U.S. It is possible that this difference means that the CPS is overestimating the number of uninsured since it appears to be systematically underestimating the number of Medicaid enrollees. This would be the case if Medicaid enrollees were erroneously reporting themselves to be uninsured. We have dealt with this issue by reallocating one-third of the CPS uninsured count to Medicaid. While this approach brings Maryland in line with other states in terms of the relationship between CPS and Medicaid program numbers, it is not scientific. We recommend that in the future DHMH conduct a study to determine why the discrepancy between the two data sources is so large.

- The simulations presented here assume that Maryland could obtain a Federal match an adapted benefits package – in this case, a package without hospital care and with premiums and copayments. Obtaining a waiver from CMS for the Federal match is not guaranteed.

- The simulations demonstrate that the total reduction in the number of uninsured resulting from a Medicaid expansion is not large. Even when the most generous option – Scenario 1, with the current benefits package, no copayments, and no premiums – is extended to 200% of the FPL, the total number of new insurees brought into the program that were not previously insured is 106,094 – just 15.3% of Maryland's total uninsured population.

- As a result, making substantial further reductions in the uninsurance rate would require going beyond the Medicaid program, and the attraction of a potential Federal match that it brings.

- The cost of the expansion – measured in terms of cost per previously uninsured enrollee – is inflated by crowd-out. The crowd-out becomes significantly worse as the insurance expansion goes to higher levels of income. At 200% of FPL, nearly as many individuals are coming into the program from previously insured status (95,837 in Scenario 1) as from uninsured status (106,094). This crowd-out clearly detracts from the intended impact of the expansion.

Appendix 1 – Description of Medicaid Expansion Options

(From Eliot Wicks, PhD, and Jack Meyer, PhD, of the Economic and Social Institute)

(1) Extending Medicaid Coverage to Parents

The Approach

Maryland's current Medicaid program provides coverage to families with incomes up to approximately 40 percent of the federal poverty level (approximately $6,864 for a family of four). Children in families with incomes up to 300% of federal poverty level ($54,300 for a family of four) are eligible for coverage under the Maryland Children's Health Program (MCHP) and MCHP Premium Programs (Maryland's SCHIP Program). Approximately three of four enrollees receive coverage through HealthChoice, the state's managed care program. While the state's coverage of children is quite generous relative to other states – only two states have higher income requirements for children – public coverage for adults, unless they are pregnant women, is among the most restrictive in the nation. Coverage for single adults and childless couples of any income level is quite limited. Adults without children cannot receive Medicaid coverage unless they are aged, blind or disabled.

Federal law allows states the option to cover parents in low-income families under Medicaid or under a SCHIP waiver. Maryland could expand coverage to parents as an optional Medicaid coverage group. Expanding coverage under a SCHIP waiver is not an option because Maryland has exceeded its federal allotment under MCHP. However, it is important to note that optional Medicaid coverage cannot be used to cover single adults, childless couples, or non-custodial parents (that is, adults who are not parents of a minor child).

Several states have covered parents under optional Medicaid coverage or SCHIP waivers. For example, the HUSKY program in Connecticut covers parents in families with incomes under 150% of the federal poverty level using this option. Maine has also expanded coverage to 150% of FPL under a similar provision. Other states, including New Jersey, California, Rhode Island and Wisconsin, among others, have used SCHIP waivers to expand coverage to parents of CHIP enrolled children.

Advantages

- The federal government would pay 50% of the cost of coverage. What scenario is this? MA expansion only?
- Use of existing system eliminates the need to establish new program administration.
- Offering coverage to parents may increase enrollment of eligible children. In addition, relevant literature indicates that children of parents with health care coverage are more likely to receive appropriate primary and preventive care than children of parents without health care coverage.
- Does not require a lengthy and complex federal approval process.

Disadvantages

- Costs – the State does not have financing for additional programs.
- To the extent that Medicaid program retains any "welfare" stigma, the new program would similarly be stigmatized.
- The Medicaid expansion rules do not allow states to impose any "crowd-out" provisions. Individuals could choose to drop private employer-based insurance. At higher income levels, there is an increased likelihood that individuals will drop employer-based coverage in favor of Medicaid coverage.

Financing

The federal share of Maryland's Medicaid funding is 50%. The State would finance the other 50% share.

Target Population

Parents of children in families with incomes up to 300% of the federal poverty level.

(2) Extending Coverage to Parents and Childless Adults with a 1115 or HIFA Waiver

The Approach

The Health Insurance Flexibility and Accountability and Flexibility Demonstration Initiative (HIFA) builds on Section 1115 of the Social Security Act by giving states further flexibility to streamline benefits packages, increase cost-sharing for Medicaid and CHIP optional and

expansion populations and create public-private partnerships for the provision of health insurance coverage, all in exchange for expanding coverage to previously uncovered groups. HIFA allows states to: impose enrollment limits on either an expenditure or per-capita basis; re-design the benefits package for expansion and optional populations; more easily expand coverage to single adults and couples; initiate increased cost-sharing requirements, particularly for optional and expansion populations; and pursue broad-based, statewide public-private partnerships with Employer Sponsored Insurance. In addition, some states have also used 1115 waiver authority to expand coverage to parents and childless adults.

To date, Arizona, California, Illinois, Maine and New Mexico have received HIFA waivers to expand coverage to additional children, single adults, childless couples, and parents of CHIP and Medicaid children. All of these states have financed their programs through unspent CHIP monies or Disproportionate Share Hospital (DSH) funding, neither of which are options for Maryland. Utah recently expanded Medicaid eligibility for adults using 1115 waiver authority. CMS has been liberal in its determinations of budget neutrality and allowed states to offer a reduced benefit package or increased cost sharing to a group that a state could have covered as an optional group and apply those savings to an expansion group. This means that it is possible for Maryland to use the HIFA authority to expand coverage to optional groups such as parents, using the savings from a reduced benefit package to meet the budget neutrality requirements for the expansion to non-parents. While the HIFA authority helps Maryland to meet the federal budget neutrality test of a potential expansion, such an expansion would still require a significant (state) general fund increase to pay for the new parents and non-parents, even for a greatly scaled down program. Legislation in Maryland introduced during the 2004 General Assembly (HB1271) to direct the Department to pursue a Medicaid expansion to parents and childless adults up to 150% of federal poverty level.

Advantages

- Increases the likelihood that Maryland can receive federal matching funds.
- Use of existing system eliminates the need to establish new program administration, although there would be start up and one time operational costs.
- Allows Maryland options in controlling state spending on health care services for expanded populations through a number of different vehicles, namely: cost-sharing, enrollment closures and the limitation of benefits and services.
- Gives flexibility to expand to childless adults in addition to parents.

Disadvantages

- Costs.
- Other states that have used the HIFA waiver authority to expand coverage have used unspent SCHIP or DSH funding. These options are not available for Maryland.
- Research indicates that cost-sharing can have a significant impact on take-up rates, particularly among those with lower incomes.
- To the extent that CHIP and Medicaid retain any "welfare" stigma, the new program would similarly be stigmatized.
- Potential for crowd-out – the availability of heavily subsidized family coverage for a significant number of working single adults, couples and working parents – may create greater incentives for employers and workers to drop existing private coverage.
- Administering different benefits packages and cost-sharing provisions adds to administrative complexity and cost.

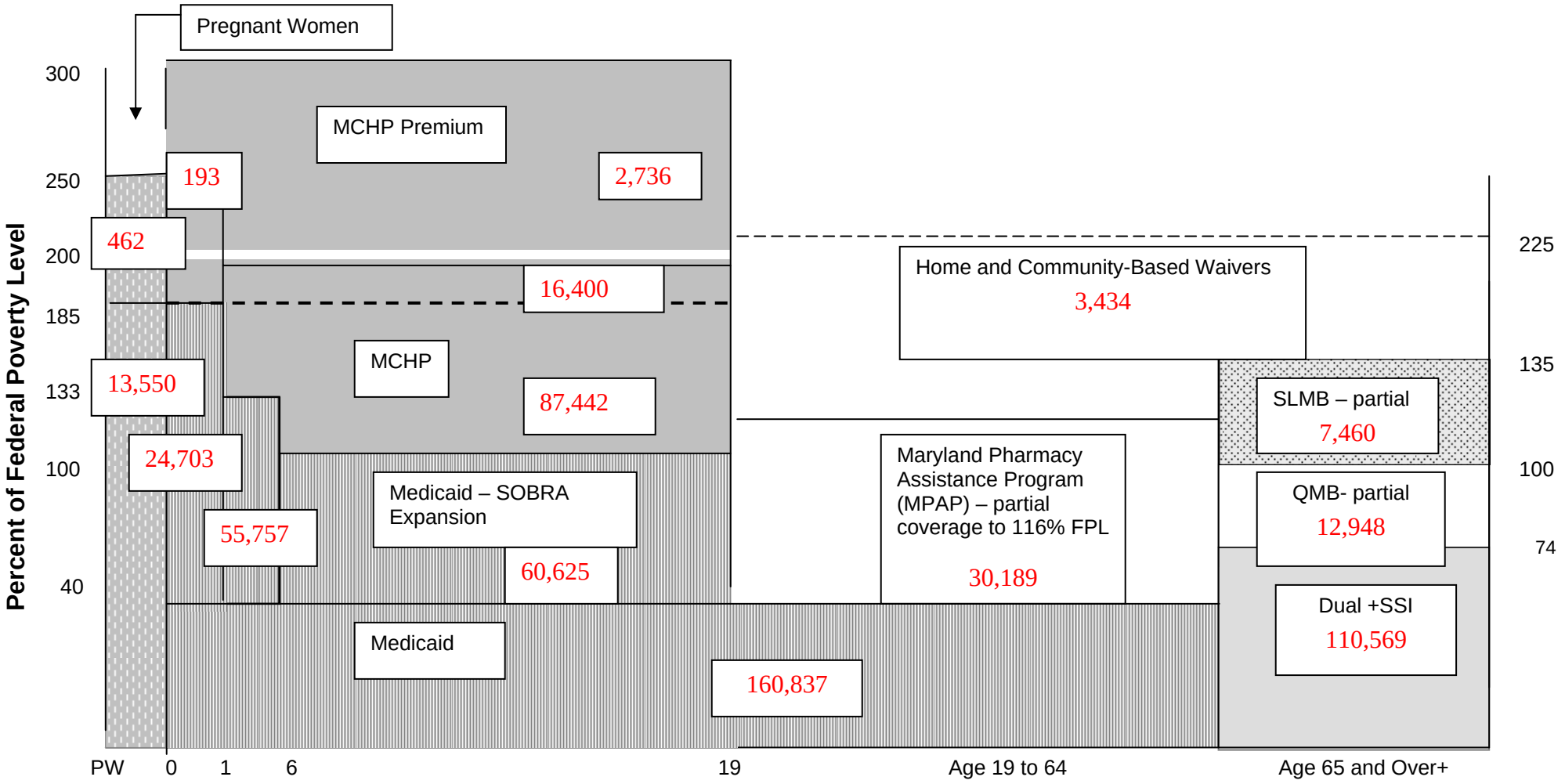
Financing

The states that have received HIFA waivers have financed their coverage expansion through the use of unspent SCHIP or DSH monies. Neither of these options is open to Maryland. Thus the state would have to finance any coverage expansion through a reallocation of existing Medicaid and SCHIP dollars. To remain within the state's budget neutrality cap, Maryland would have to generate savings through benefits package revision and cost-sharing provisions among existing expansion or optional populations. However, Maryland would receive a 50 percent match on Medicaid enrollees.

Target Population

The target populations are low-income childless adults and Medicaid and MCHP parents.

Appendix 2 – Enrollment in Medicaid, MCHP, and Pharmacy Coverage – CY 2002 Average



Poverty Level:
2 persons =$11,840
4 persons = $18,100

Note: This chart is for illustrative purposes only. Each coverage group has specific eligibility and some asset requirements, which are not shown.

Appendix 3 – Lessons Learned from the Literature

(1) Findings from Expansion of Non-Medicaid Publicly Subsidized Insurance Programs

Parameter	Take-up	Utilization/Costs	Crowd-Out
Age	▪ Predicted take-up rates increase with age; among 19-24-y.o's: 9.2%; among 25-34-y.o's: 8.5%; among 35-44 year olds: 15.0%; among 45-64-y.o's: 30.9% (Long and Marquis, 2002)		
Race		▪ Neither Washington Basic Health Plan or MaineCare program found significant effects of race on health care utilization of newly insured (Kilbreth et al, 1998)	
Income	▪ Predicted take-up rates increase with income: among those 0-49% poverty: 8.4%; among 50-99% poverty: 11.0%; among 100-149% poverty: 14.3%; among 150-200% poverty: 15.2% (Long and Marquis, 2002)	▪ Being below poverty line and between 100-200% FPL decreases rate of service use among enrollees in Washington Basic Health Plan; however, no income effect on utilization found for MaineCare enrollees (Kilbreth et al, 1998)	

Parameter	Take-up	Utilization/Costs	Crowd-Out
Education	▪ Not significantly related to take-up (Long and Marquis, 2002)	▪ Neither Washington Basic Health Plan or MaineCare program found significant effects of education on health care utilization of newly insured (Kilbreth et al, 1998)	
Health Status	▪ Not significantly related to take-up (Long and Marquis, 2002)	▪ Newly insured members in Washington Basic Health Program and MaineCare with high-risk conditions had high risk of health services utilization (Kilbreth et al, 1998)	
Price	▪ Decreasing the premium for low-income families from $50 to $25 results in a predicted increase of take-up rates from 6.8% to 11.0%; further decreasing the premium to $10 resulted in take-up rate of 14.1% (Long and Marquis, 2002) ▪ Analysis of data from 3 states suggests that raising premium shares from 1% to 3% of family income decreases participation rates from 57% to 35% among uninsured; raising premium shares to 5% of income lowers participation to 18% (Ku and Coughlin, 1999/2000)		▪ Increases in take-up due to decreases in price due to people switching from Medicaid to publicly subsidized program and, people moving from uninsured status to subsidized program (Long and Marquis, 2002)

Parameter	Take-up	Utilization/Costs	Crowd-Out
Overall	▪ New public insurance program in Minnesota for adults up to 185% FPL resulted in an 3.3% increase in publicly insured low-income adults (<200% FPL), but all of this was due to public insurance crowd out (Kronick and Gilmer, 2002) ▪ Subsidized public coverage for Washingtonian <200% FPL resulted in a 4.1% increase in publicly insured low-income adults, with 20% of increase due to private insurance crowd-out (Kronick and Gilmer, 2002) ▪ Take-up probability for public insurance most commonly used in studies for population below 150% FPL is 55-60% (Glied et al 2002)	▪ The Washington Basic Health Plan, a subsidized plan for any resident below 200% FPL (w/a 12-month wait for pre-existing conditions), showed no evidence of pent-up demand or adverse selection among new enrollees (Kilbreth et al, 1998): o Health status of BHP enrollees not sig. different than other MCO enrollees o Health service use patterns v. not statistically diff. than other MCO enrollees (in fact, lower use of ER) o No evidence of pent-up demand ▪ Analysis of MaineCare, a program for small businesses that subsidizes the premiums for employees <200% FPL, found that utilization of new program enrollees similar to that of comparison group enrolled in same MCO; no evidence of pent-up demand (Kilbreth et al, 1998)	▪ Among adults below 100% poverty level, a 10% program penetration resulted in a 4.7% increase in publicly insured adults, 19% due to private insurance crowd-out; Among adults at 100-200% FPL, 10% program penetration yielded a 9.3% increase in public coverage, 45% of which is due to crowd out of private coverage– however, wide confidence intervals, uncertainty (Kronick and Gilmer, 2002)

(2) Findings from Expansion of Medicaid Programs

Parameter	Take-up	Crowd-Out
Price	▪ Participation in Hawaii's QUEST program declined as % of income paid to premium rose (take-up rate of 42% among those 133-149% FPL, for whom premium as a % of income was 1.4%; take-up rate of 3% among those 275-300% FPL, for whom premium was 13.6% income (Ku and Coughlin, 1999 and 2000)	
Overall	▪ Subsidized Medicaid expansion to adults in Tennessee < 200% FPL resulted in a 13.1% increase in publicly insured low-income adults, with 42% of the increase due to private insurance crowd out (Kronick and Gilmer, 2002) ▪ An expansion of Medicaid to those with incomes below 100% FPL resulted in an 8.6% increase in publicly insured low-income adults, with virtually no private insurance crowd-out (Kronick and Gilmer, 2002) ▪ Take-up probability for public insurance most commonly used in studies for population below 150% FPL is 55-60% (Glied et al 2002)	▪ Crowd-out of ESI a bigger problem with higher-income groups (crowd-out accounted for 14% of overall increase in Medicaid enrollment; almost no crowd-out among women <100% FPL; 27% among women 100-135% FPL; and 59% of increase among women 134-185% FPL (Dubay and Kenney, 1997) ▪ Approx. 20% of increased enrollment in Medicaid due to program expansions in the late 80s/early 90s due to crowding out of private insurance (Yazici and Kaestner, 2000) ▪ Among adults below 100% poverty level, a 10% program penetration resulted in a 4.7% increase in publicly insured adults, 19% due to private insurance crowd-out; Among adults at 100-200% FPL, 10% program penetration yielded a 9.3% increase in public coverage, 45% of which is due to crowd out of private coverage – however, wide confidence intervals, uncertainty (Kronick and Gilmer, 2002) ▪ Estimates from the literature suggest that for the privately insured, the elasticity of take-up of a new program is approx. 30% as high as for the uninsured (Glied et al 2002)

Appendix 4. Current Population Survey – Results for Maryland

Table 11. Maryland – Insurance Status, 2001-2002, Total Population

% of Poverty Line	Total Individuals	Insured						Uninsured	
		ESI - self	ESI - dependent	Medicare	Medicaid	Military	Individual	Number	Percent
Below 50%	200,460	11,417	21,324	30,623	40,395	1,990	17,080	77,630	38.7%
50-99%	215,369	19,536	16,353	62,358	48,497	2,856	19,313	46,457	21.6%
100-149%	313,304	40,825	50,624	76,393	41,535	3,583	22,756	77,589	24.8%
150-199%	346,294	66,554	87,354	73,628	14,162	3,194	20,442	80,961	23.4%
200-299%	769,102	213,111	233,050	116,630	31,639	3,051	28,524	143,097	18.6%
300-399%	363,114	119,170	114,474	61,224	11,265	1,315	26,221	29,446	8.1%
400% or more	3,184,148	1,275,076	1,245,596	244,189	22,777	34,565	125,592	236,353	7.4%
Total	**5,391,793**	**1,745,688**	**1,768,774**	**665,045**	**210,269**	**50,555**	**259,928**	**691,533**	**12.8%**

Source: Average of the March 2002 and March 2003 CPS.

Table 12. Maryland – Insurance Status, 2001-2002, Under Age 19

% of Poverty Line	Total Individuals	Insured						Uninsured	
		ESI - self	ESI - dependent	Medicare	Medicaid	Military	Individual	Number	Percent
Below 50%	71,451	593	18,422		26,009		4,776	21,651	30.3%
50-99%	61,091	1,550	12,268	4,900	28,505		8,032	5,835	9.6%
100-149%	101,345		38,116		30,611	1,642	10,388	20,589	20.3%
150-199%	99,789	1,696	63,033		11,227		5,136	18,697	18.7%
200-299%	240,784	1,652	168,386	1,684	27,265	769	12,704	28,324	11.8%
300-399%	101,557	736	80,007		5,069		8,103	7,642	7.5%
400% or more	811,705	7,745	684,893	1,982	16,355	14,622	43,511	42,598	5.2%
Total	**1,487,722**	**13,973**	**1,065,124**	**8,566**	**145,042**	**17,033**	**92,649**	**145,336**	**9.8%**

Source: Average of the March 2002 and March 2003 CPS.

Table 13. Maryland – Insurance Status, 2001-2002, Ages 19-64

% of Poverty Line	Total Individuals	Insured						Uninsured	
		ESI - self	ESI - dependent	Medicare	Medicaid	Military	Individual	Number	Percent
Below 50%	112,688	10,824	2,903	14,301	14,386	1,990	12,304	55,979	49.7%
50-99%	108,333	17,985	4,085	11,992	19,992	2,856	11,281	40,141	37.1%
100-149%	139,216	39,342	12,508	5,132	10,923	1,941	12,369	57,000	40.9%
150-199%	174,298	63,737	24,320	3,203	2,274	3,194	15,306	62,264	35.7%
200-299%	416,028	208,803	64,664	7,101	3,768	2,282	15,145	114,267	27.5%
300-399%	202,370	117,413	34,467	4,262	6,196	851	17,377	21,804	10.8%
400% or more	2,133,260	1,251,608	557,139	25,989	5,846	19,943	82,081	190,654	8.9%
Total	**3,286,193**	**1,709,712**	**700,085**	**71,981**	**63,385**	**33,058**	**165,863**	**542,109**	**16.5%**

Source: Average of the March 2002 and March 2003 CPS.

Table 14. Maryland – Insurance Status, 2001-2002, Ages 65+

% of Poverty Line	Total Individuals	Insured						Uninsured	
		ESI - self	ESI - dependent	Medicare	Medicaid	Military	Individual	Number	Percent
Below 50%	16,322			16,322					
50-99%	45,945			45,465				481	1.0%
100-149%	72,744	1,483		71,261					
150-199%	72,207	1,121		70,425	661				
200-299%	112,289	2,656		107,845	606		675	506	0.5%
300-399%	59,188	1,021		56,962		464	741		
400% or more	239,183	15,723	3,565	216,218	575			3,101	1.3%
Total	**617,878**	**22,004**	**3,565**	**584,499**	**1,843**	**464**	**1,416**	**4,088**	**0.7%**

Source: Average of the March 2002 and March 2003 CPS.

Appendix 5. Results of Scenario 1

(1) Parameters:

Medicaid for all **adults** to 100%, 116%, and 200% of FPL, with $0 premium, $0 deductible, no co-pays, and current Medicaid as benefit package.

	---------- Poverty Level ----------		
	100% FPL	**116% FPL**	**200% FPL**
(2) Establish baseline for target population			
From CPS - Number of Uninsured Below FPL Cut-off:			
Under age 19	37,786	46,427	76,730
Age 19 to 24, of which:	21,762	28,364	55,737
Age 19	2,100	3,290	8,436
Age 20	3,992	5,082	9,552
Age 21	5,685	7,281	13,848
Age 22	2,461	3,827	9,730
Age 23	6,728	7,706	11,357
Age 24	797	1,178	2,813
Age 25 to 64	109,568	129,038	204,513
Total	**169,116**	**203,830**	**336,980**
From CPS - Uninsured below FPL cut-off by eligibility category:			
Under age 19	37,786	46,427	76,730
Age 19 to 64:			
Parents whose kids are already covered	15,517	19,515	35,819
Parents whose kids are eligible but not covered	9,224	15,143	40,877
Non-parent adults	106,589	122,743	183,553
Total	**169,116**	**203,829**	**336,980**
Adjust for CPS undercount - relative to Medicaid data:			
Medicaid Enrollment below FPL cut-off - CPS	121,859	134,075	169,559
Medicaid Enrollment below FPL cut-off - Program data (see Attachment 2)	240,720	287,596	419,507
Difference	118,861	153,521	249,948
Take 1/3 of these from the uninsured (% reduction)	23%	25%	25%

Resulting Number of Uninsured below FPL cut-off, by eligibility category:			
Under age 19	28,934	34,771	57,759
Age 19 to 64:			
Parents whose kids are already covered	11,882	14,616	26,963
Parents whose kids are eligible but not covered	7,063	11,341	30,771
Non-parent adults	81,617	91,927	138,171
Total	**129,496**	**152,656**	**253,664**

(3) Estimate take-up (participation) rate for those previously uninsured

Under age 19	30%	30%	30%
Parents whose kids are already covered	90%	90%	90%
Parents whose kids are eligible but not covered	30%	30%	30%
Non-parent adults	40%	40%	40%
Resulting Number Enrolling in Medicaid:			
Under age 19	8,680	10,431	17,328
Age 19 to 64:			
Parents whose kids are already covered	10,694	13,154	24,267
Parents whose kids are eligible but not covered	2,119	3,402	9,231
Non-parent adults	32,647	36,771	55,268
Total - new enrollees	**54,140**	**63,759**	**106,094**

(4) Crowd-out -- individuals who already have coverage who enroll

Private group insurance crowd-out (see attachment)	12.5%	12.5%	25.0%
Private non-group insurance crowd-out	25.0%	25.0%	50.0%
Number of individuals below FPL cut-off with private group insurance	94,348	132,648	278,957
Number with private group insurance taking new Medicaid coverage	11,794	16,581	69,739
Number of individuals below FPL cut-off with non-group insurance	49,725	51,212	52,196
Number with non-group insurance taking new Medicaid coverage	12,431	12,803	26,098
Total - privately insured taking Medicaid	**24,225**	**29,384**	**95,837**

Total enrollment - new and already insured:			
< age 19	**12,564**	**15,239**	**32,980**
age 19-64	**65,800**	**77,904**	**168,951**
Total	**78,364**	**93,143**	**201,931**
Crowd out	**24,225**	**29,384**	**95,837**

(5) Effect of premiums

Premiums as a % of Income	**---- % Decrease in Participation Rate ---**		
No premium ----------> 0	**0**	**0**	**0**
1	16	16	16
2	33	33	33
3	49	49	49
4	63	63	63

Total enrollment after premium - new and already insured:			
< age 19	**12,564**	**15,239**	**32,980**
age 19-64	**65,800**	**77,904**	**168,951**
Total	**78,364**	**93,143**	**201,931**

(6) Estimate increased expenditures for those accepting newly-offered insurance

Predicted expenditures - based on CSHBP	$2,938	$2,938	$2,938
Predicted expenditures - Medicaid data age <19 †	$1,682	$1,682	$1,682
Predicted expenditures - Medicaid data age <19-64 †	$3,117	$3,117	$3,117
Predicted health expenditures - based on MEPS	$2,767	$2,767	$2,767

† Calculated as weighted average of actual rates for non-disabled Medicaid enrollees in the age group.

(7)	**Correct expenditures for health status (ratio of new enrollee's health status to health status of those**			
	Ratio of new insurees to Medicaid TANF (MEPS)	0.866	0.863	0.855
	Predicted expenditures - Medicaid data age <19	$1,457	$1,452	$1,439
	Predicted expenditures - Medicaid data age <19-64	$2,699	$2,690	$2,665

(8) Estimate effects of co-pays

	Copayment Level (%)	**------- Percentage Decrease in Expeditures -----**		
No copays ----------> 0	**0**	**0**	**0**	**0**
	10	4	4	4
	20	8	8	8
Expenditures after copay:				
Predicted expenditures - Medicaid data age <19		$1,457	$1,452	$1,439
Predicted expenditures - Medicaid data age <19-64		$2,699	$2,690	$2,665

(9)	**Estimate annual costs of insurance expansion (total enrollment * predicted expenditures)**			
	Annual costs to Medicaid Program	$195,920,779	$231,684,198	$497,699,558
(10)	**Estimate administrative costs**			
	Expansion one time costs (FY '05)	$431,340	$431,340	$431,340
	Administrative costs - percent annually (HB762)	5%	5%	5%
	Administrative costs - amount annually	$9,796,039	$11,584,210	$24,884,978
(11)	**Incorporate medical inflation estimates**			
	General medical inflation (from CMS website)	6.5%	6.5%	6.5%
(12)	**Estimate total annual costs**			
	FY '05 costs to Medicaid	$209,086,969	$247,175,011	$530,481,369

(13) Estimate revenues and offsets			
Federal match (assume 50% of medical costs)	$97,960,389	$115,842,099	$248,849,779
Revenues from premiums	$0	$0	$0
Revenues from copays	$0	$0	$0
Savings to State public health and mental health programs:			
Current State spending	$310,949,902	$310,949,902	$310,949,902
% reduction in uninsured	7.8%	9.2%	15.3%
Savings	$24,344,041	$28,669,341	$47,705,548
Total revenues and offsets	$122,304,430	$144,511,440	$296,555,328
(14) Net cost of expansion to State	**$86,782,539**	**$102,663,571**	**$233,926,042**

Appendix 6. Results of Scenario 2

(1) Parameters:

Medicaid for all adults to 100%, 116%, and 200% of FPL, with $0 premium, $0 deductible, no co-pays, and current Medicaid as benefit package **without hospitalization coverage.**

	Poverty Level		
	100% FPL	**116% FPL**	**200% FPL**
(2) Establish baseline for target population			
From CPS - Number of Uninsured Below FPL Cut-off:			
Under age 19	37,786	46,427	76,730
Age 19 to 24, of which:	21,762	28,364	55,737
Age 19	2,100	3,290	8,436
Age 20	3,992	5,082	9,552
Age 21	5,685	7,281	13,848
Age 22	2,461	3,827	9,730
Age 23	6,728	7,706	11,357
Age 24	797	1,178	2,813
Age 25 to 64	109,568	129,038	204,513
Total	**169,116**	**203,830**	**336,980**
From CPS - Uninsured below FPL cut-off by eligibility category:			
Under age 19	37,786	46,427	76,730
Age 19 to 64:			
Parents whose kids are already covered	15,517	19,515	35,819
Parents whose kids are eligible but not covered	9,224	15,143	40,877
Non-parent adults	106,589	122,743	183,553
Total	**169,116**	**203,829**	**336,980**
Adjust for CPS undercount - relative to Medicaid data:			
Medicaid Enrollment below FPL cut-off - CPS	121,859	134,075	169,559
Medicaid Enrollment below FPL cut-off - Program data (see Attachment 2)	240,720	287,596	419,507
Difference	118,861	153,521	249,948
Take 1/3 of these from the uninsured (% reduction)	23%	25%	25%

Resulting Number of Uninsured below FPL cut-off, by eligibility category:			
Under age 19	28,934	34,771	57,759
Age 19 to 64:			
Parents whose kids are already covered	11,882	14,616	26,963
Parents whose kids are eligible but not covered	7,063	11,341	30,771
Non-parent adults	81,617	91,927	138,171
Total	**129,496**	**152,656**	**253,664**

(3) Estimate take-up (participation) rate for those previously uninsured

Under age 19	18.0%	18.0%	18.0%
Parents whose kids are already covered	54.0%	54.0%	54.0%
Parents whose kids are eligible but not covered	18.0%	18.0%	18.0%
Non-parent adults	24.0%	24.0%	24.0%

Resulting Number Enrolling in Medicaid:			
Under age 19	5,208	6,259	10,397
Age 19 to 64:			
Parents whose kids are already covered	6,416	7,892	14,560
Parents whose kids are eligible but not covered	1,271	2,041	5,539
Non-parent adults	19,588	22,063	33,161
Total - new enrollees	**32,484**	**38,255**	**63,657**

(4) Crowd-out -- individuals who already have coverage who enroll

Private group insurance crowd-out (see attachment)	6.3%	6.3%	12.5%
Private non-group insurance crowd-out	12.5%	12.5%	25.0%
Number of individuals below FPL cut-off with private group insurance	94,348	132,648	278,957
Number with private group insurance taking new Medicaid coverage	5,897	8,290	34,870
Number of individuals below FPL cut-off with non-group insurance	49,725	51,212	52,196
Number with non-group insurance taking new Medicaid coverage	6,216	6,402	13,049
Total - privately insured taking Medicaid	**12,112**	**14,692**	**47,919**

Total enrollment - new and already insured:			
< age 19	**7,150**	**8,663**	**18,223**
age 19-64	**37,446**	**44,285**	**93,352**
Total	**44,596**	**52,947**	**111,575**

(5) Effect of premiums

	Premiums as a % of Income	**----- Percentage Decrease in Participation Rate -----**		
**No premium ----------> **	**0**	**0**	**0**	**0**
	1	16	16	16
	2	33	33	33
	3	49	49	49
	4	63	63	63

Total enrollment after premium - new and already insured:			
< age 19	**7,150**	**8,663**	**18,223**
age 19-64	**37,446**	**44,285**	**93,352**
Total	**44,596**	**52,947**	**111,575**

(6) Estimate increased expenditures for those accepting newly-offered insurance

Predicted expenditures - Medicaid data age <19	$1,245	$1,245	$1,245
Predicted expenditures - Medicaid data age <19-64	$2,307	$2,307	$2,307

(7) Correct expenditures for health status (ratio of new enrollee's health status to health status of those

Ratio of new insurees to Small Group market (MEPS)	0.856	0.856	0.856
Predicted expenditures (Mercer) age <19	$1,066	$1,066	$1,066
Predicted expenditures (Mercer) age <19-64	$1,974	$1,974	$1,974

(8) Estimate effects of co-pays

	Copayment Level (%)	------- Percentage Decrease in Expeditures -----		
**No copays ----------> **	**0**	**0**	**0**	**0**
	10	4	4	4
	20	8	8	8
Expenditures after copay:				
Predicted expenditures - Medicaid data age <19		$1,066	$1,066	$1,066
Predicted expenditures - Medicaid data age <19-64		$1,974	$1,974	$1,974

(9) Estimate annual costs of insurance expansion (total enrollment * predicted expenditures)			
Annual costs to Medicaid Program	$81,554,298	$96,668,612	$203,737,101
(10) Estimate administrative costs			
Expansion one time costs (FY '05)	$431,340	$431,340	$431,340
Administrative costs - percent annually (HB762)	5%	5%	5%
Administrative costs - amount annually	$4,077,715	$4,833,431	$10,186,855
(11) Incorporate medical inflation estimates			
General medical inflation (from CMS website)	6.5%	6.5%	6.5%
(12) Estimate total annual costs			
FY '05 costs to Medicaid	$87,286,668	$103,383,412	$217,411,352
(13) Estimate revenues and offsets			
Federal match (assume 50% of medical costs)	$40,777,149	$48,334,306	$101,868,550
Revenues from premiums	$0	$0	$0
Revenues from copays	$0	$0	$0
Savings to State public health and mental health programs:			
Current State spending	$310,949,902	$310,949,902	$310,949,902
% reduction in uninsured	4.7%	5.5%	9.2%
Savings	$14,606,425	$17,201,605	$28,623,329
Total revenues and offsets	$55,383,574	$65,535,911	$130,491,879
(14) Net cost of expansion to State	**$31,903,094**	**$37,847,501**	**$86,919,473**

Appendix 7. Results of Scenario 3

(1) Parameters:

Medicaid for all adults to 100%, 116%, and 200% of FPL, $0 deductible, with **10% co-pay and premium of 2% of income**, and current Medicaid as benefit package **without hospitalization coverage.**

	Poverty Level		
	100% FPL	**116% FPL**	**200% FPL**
(2) Establish baseline for target population			
From CPS - Number of Uninsured Below FPL Cut-off:			
Under age 19	37,786	46,427	76,730
Age 19 to 24, of which:	21,762	28,364	55,737
Age 19	2,100	3,290	8,436
Age 20	3,992	5,082	9,552
Age 21	5,685	7,281	13,848
Age 22	2,461	3,827	9,730
Age 23	6,728	7,706	11,357
Age 24	797	1,178	2,813
Age 25 to 64	109,568	129,038	204,513
Total	**169,116**	**203,830**	**336,980**
From CPS - Uninsured below FPL cut-off by eligibility category:			
Under age 19	37,786	46,427	76,730
Age 19 to 64:			
Parents whose kids are already covered	15,517	19,515	35,819
Parents whose kids are eligible but not covered	9,224	15,143	40,877
Non-parent adults	106,589	122,743	183,553
Total	**169,116**	**203,829**	**336,980**
Adjust for CPS undercount - relative to Medicaid data:			
Medicaid Enrollment below FPL cut-off - CPS	121,859	134,075	169,559
Medicaid Enrollment below FPL cut-off - Program data (see Attachment 2)	240,720	287,596	419,507
Difference	118,861	153,521	249,948
Take 1/3 of these from the uninsured (% reduction)	23%	25%	25%

Resulting Number of Uninsured below FPL cut-off, by eligibility category:			
Under age 19	28,934	34,771	57,759
Age 19 to 64:			
Parents whose kids are already covered	11,882	14,616	26,963
Parents whose kids are eligible but not covered	7,063	11,341	30,771
Non-parent adults	81,617	91,927	138,171
Total	**129,496**	**152,656**	**253,664**

(3) Estimate take-up (participation) rate for those previously uninsured

Under age 19	15.0%	15.0%	15.0%
Parents whose kids are already covered	45.0%	45.0%	45.0%
Parents whose kids are eligible but not covered	15.0%	15.0%	15.0%
Non-parent adults	20.0%	20.0%	20.0%
Resulting Number Enrolling in Medicaid:			
Under age 19	4,340	5,216	8,664
Age 19 to 64:			
Parents whose kids are already covered	5,347	6,577	12,133
Parents whose kids are eligible but not covered	1,059	1,701	4,616
Non-parent adults	16,323	18,385	27,634
Total - new enrollees	**27,070**	**31,879**	**53,047**

(4) Crowd-out -- individuals who already have coverage who enroll

Private group insurance crowd-out (see attachment)	5.0%	5.0%	10.0%
Private non-group insurance crowd-out	10.0%	10.0%	20.0%
Number of individuals below FPL cut-off with private group insurance	94,348	132,648	278,957
Number with private group insurance taking new Medicaid coverage	4,717	6,632	27,896
Number of individuals below FPL cut-off with non-group insurance	49,725	51,212	52,196
Number with non-group insurance taking new Medicaid coverage	4,972	5,121	10,439
Total - privately insured taking Medicaid	**9,690**	**11,754**	**38,335**

Total enrollment - new and already insured:			
< age 19	**5,894**	**7,139**	**14,925**
age 19-64	**30,866**	**36,494**	**76,457**
Total	**36,760**	**43,633**	**91,382**

(5) Effect of premiums

	% of Income	**----- Percentage Decrease in Participation Rate -----**		
	0	0	0	0
	1	16	16	16
**2% premium ----------> **	**2**	33	33	33
	3	49	49	49
	4	63	63	63

Total enrollment after premium - new and already insured:			
< age 19	**3,949**	**4,783**	**10,000**
age 19-64	**20,680**	**24,451**	**51,226**
Total	**24,629**	**29,234**	**61,226**

(6) Estimate increased expenditures for those accepting newly-offered insurance

Predicted expenditures - Medicaid data age <19	$1,245	$1,245	$1,245
Predicted expenditures - Medicaid data age <19-64	$2,307	$2,307	$2,307

(7) Correct expenditures for health status (ratio of new enrollee's health status to health status of those

Ratio of new insurees to Small Group market (MEPS)	0.856	0.856	0.856
Predicted expenditures (Mercer) age <19	$1,066	$1,066	$1,066
Predicted expenditures (Mercer) age <19-64	$1,974	$1,974	$1,974

(8) Estimate effects of co-pays

	Copayment Level (%)	------- Percentage Decrease in Expeditures -----		
	0	0	0	0
**10% copay ----------> **	**10**	**4**	**4**	**4**
	20	8	8	8
Expenditures after copay:				
Predicted expenditures - Medicaid data age <19		$1,023	$1,023	$1,023
Predicted expenditures - Medicaid data age <19-64		$1,895	$1,895	$1,895

(9) Estimate annual costs of insurance expansion (total enrollment * predicted expenditures)

Annual costs to Medicaid Program	$64,534,633	$76,476,524	$160,189,687

(10) Estimate administrative costs

Expansion one time costs (FY '05)	$431,340	$431,340	$431,340
Administrative costs - percent annually (HB762)	5%	5%	5%
Administrative costs - amount annually	$3,226,732	$3,823,826	$8,009,484

(11) Incorporate medical inflation estimates

General medical inflation (from CMS website)	6.5%	6.5%	6.5%

(12) Estimate total annual costs

FY '05 costs to Medicaid	$69,160,724	$81,878,838	$171,033,357

(13) Estimate revenues and offsets

Federal match (assume 50% of medical costs)	$30,296,997	$35,525,335	$70,298,692
Revenues from premiums (average income < 100% FPL = $4,000 per person)	$3,940,639	$5,425,854	$19,592,302
Revenues from copays (copay = 10%; revenue = 9% of total costs after 10% admin costs)	$5,808,117	$6,882,887	$14,417,072
Savings to State public health and mental health programs:			
Current State spending	$310,949,902	$310,949,902	$310,949,902
% reduction in uninsured	3.9%	4.6%	7.7%
Savings	$12,172,020	$14,334,670	$23,852,774
Total revenues and offsets	$52,217,773	$62,168,747	$128,160,841

(14) Net cost of expansion to State	**$16,942,951**	**$19,710,092**	**$42,872,516**

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