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New Mexico Health Care Reform Fiscal Model: Detailed Analysis and Methodology

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Table of Contents

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Introduction

Federal health care reform law and the states' implementation of its mandates will have an enormous fiscal impact on health care costs and savings in both the public and private sectors. Any current and future projections about relative costs and savings necessarily will be fluid and dependent on the various choices and decisions that states make in implementing reform, as well as how various components of the delivery system—from the insurance markets to providers and consumers—respond to the reforms as they evolve.

Consequently, our goal in developing the health care reform fiscal modeling tool has been to create a dynamic micro-simulation model that can be updated so its projections are adapted and updated as data become available, conditions and factors change over time, and decisions are made by policymakers, employers, and consumers.

The fiscal modeling tool focuses on the new enrollments, costs, and savings related to health care reform. As such, the basic approach was to compare the new costs and savings associated with health care reform with a baseline assumption of what those costs and savings would have been in the absence of reform.

In reviewing this methods document, consider the following information:

- The fiscal modeling tool should be updated as actual data and decisions emerge.
- The fiscal modeling tool does not address the baseline budget, including possible short-term challenges in New Mexico's budget related to growth in Medicaid enrollment and other factors. Because these factors are independent of health care reform and are not an implication of the health care reform law itself, they are omitted from the modeling tool.

Overview of the New Mexico Health Care Reform Fiscal Model

The New Mexico health care reform fiscal model consists of three major component models that determine the impact of implementing the Affordable Care Act (ACA) on New Mexico's finances and economy: the population model, employment model, financial model, and economic impact model.

Population Model

The population model uses a projection of New Mexico's total population by age group and number of uninsured individuals (by age group and poverty status) to both estimate the number of people who will be eligible for Medicaid expansion and project the number of individuals who

are currently eligible but not enrolled in Medicaid, but who are likely to enroll with implementation of the health care reform law (the "woodwork effect"). It also projects the remaining number of uninsured people who are potential candidates for coverage in the insurance Exchange.

Employment Model

The employment model projects total employment and employer-sponsored insurance coverage in the state. The employment model contains three sub-models that are based on the available literature:

- Employer offer of insurance
- Employee take-up of insurance
- Direct purchase of insurance

Financial Model

The financial model generates summaries of expenditures and savings. These estimates are based on projections of the population and employment models, and detailed calculations based on the ACA and specific to New Mexico. The financial model will:

a. Identify categories of expenditures (e.g., Medicaid expansion and the woodwork effect) and savings from the State Children's Health Insurance Program (SCHIP), State Coverage Insurance (SCI), and drug rebates.

b. Project new expenditures and new federal funds that will flow into the state economy, such as subsidies paid to individuals with incomes between 133 and 400 percent of the federal poverty level (FPL) for purchasing health insurance coverage through the Exchange.

The three sub-models of the New Mexico health care reform fiscal model are explained in more detail below.

Detailed Description of the New Mexico Health Care Reform Fiscal Model

Population Model

Eligibility for Current Medicaid and SCI Programs

To determine the number of individuals who are eligible for the current Medicaid and SCI programs, we used the following methodology and data sources to estimate New Mexico population by age group, disability status, and FPL status:

1. The Census Bureau released the 2010 Census data for New Mexico's population by age group. The University of New Mexico Bureau of Business and Economic Research (BBER) provided population projections by age group through the year 2020. We used rates of growth implicit in the BBER population projections by age group to project New Mexico's population through 2020. Table 1 shows population projections in five-year increments.

Table 1. New Mexico Population Projections by Age Group

Age Groups	2005	2010	2015	2020
0 – 4	103,923	144,981	162,605	171,315
5 – 19	463,015	434,860	438,449	467,863
20 – 44	674,279	658,138	701,888	757,616
45 – 64	492,652	548,945	611,503	622,330
65+	235,425	272,255	328,411	401,488
Total	**1,969,293**	**2,059,179**	**2,242,856**	**2,420,612**

2. The U.S. Census Bureau publishes data from the American Community Survey (ACS) for New Mexico (U.S. Census Bureau, 2010). The ACS data for New Mexico provided estimates of population distribution by age group, disability, and FPL status. Tables 2 and 3 show the ACS data for 2009:

Table 2. New Mexico Disabled Population by Percentage of the Federal Poverty Level and Age, 2009

Percentage of Federal Poverty Level (FPL)	Age Groups			Total
	0 -20	21 - 64	65 and over	
Under 50%	2,738	10,812	3,228	16,778
50 - 99 %	5,080	20,154	14,259	39,493
100 - 124%	2,276	9,398	6,582	18,256
125 - 199%	5,324	25,179	21,491	51,994
200 - 299%	3,834	19,133	18,180	41,147
300 - 399%	2,630	15,411	14,477	32,518
400+ %	5,071	37,411	31,505	73,987
Total	**26,953**	**137,498**	**109,722**	**274,173**

Table 3. New Mexico Non-Disabled Population by Percentage of the Federal Poverty Level and Age, 2009

Percentage of the Federal Poverty Level (FPL)	Age Groups			Total
	0 -20	21 - 64	65 and over	
Under 50%	56,213	73,017	4,059	133,289
50 - 99 %	79,699	81,119	10,686	171,504
100 - 124%	37,330	48,743	6,355	92,428
125 - 199%	109,499	151,883	24,137	285,519
200 - 299%	105,191	174,335	30,842	310,368
300 - 399%	67,685	140,425	24,561	232,671
400+ %	115,371	340,898	53,450	509,719
Total	**570,988**	**1,010,420**	**154,090**	**1,735,498**
Total Disabled and Non-Disabled (Tables 2 and 3)	**597,941**	**1,147,918**	**263,812**	**2,009,671**

3. We then estimated an econometric model that forecasted New Mexico's unemployment rate as a function of the national unemployment rate. The R-squared[1] for the model is approximately 99 percent. The econometric model is a linear regression of New Mexico's unemployment rate as a function of the national unemployment rate. Monthly data for 2005 through 2010 were used for estimation of the econometric model.

4. Next, we used the long-term economic forecast published by the Congressional Budget Office (CBO), entitled "The Budget and Economic Outlook: Fiscal Years 2011 to 2021," which forecasts the national unemployment rate. Using the CBO's forecast and the estimated econometric model of the relationship between New Mexico's unemployment rate and that of the nation, we forecasted the New Mexico unemployment rate through 2020. Table 4 shows the United States' and New Mexico's unemployment rate projections through 2020.

Table 4. Unemployment Rate Projections for the United States and New Mexico, 2012-2020

Unemployment Rate	2012	2013	2014	2015	2016	2017	2018	2019	2020
United States	8.4%	7.6%	6.8%	5.9%	5.3%	5.3%	5.2%	5.2%	5.2%
New Mexico	7.1%	6.4%	5.7%	5.0%	4.5%	4.5%	4.4%	4.4%	4.4%

5. The population projection data were used in conjunction with the ACS data in Tables 2 and 3 to derive estimates of population by age group, disability, and poverty status for the 2010 to 2020 period. For this projection, we also utilized research demonstrating that changes in the

[1] R-squared shows the goodness of fit and level of accuracy of the estimated model. A perfect fit of the estimated model to the data will have an R-squared equal to 100 percent.

distribution of population by FPL status are related to the unemployment rate (Gruber & Levitt, 2002). Then, we derived estimates of projected population below 138 percent of the FPL, based on the number of people below 125 percent of the FPL, plus a proportion of the number of people between 125 and 199 percent of the FPL.

6. In the next step, we used actual Medicaid enrollment data to derive take-up rates for the population with disability and the population with no disability. We first projected Medicaid enrollment by disability status without health care reform in order to establish a baseline. Then, we derived projections of Medicaid enrollment by disability status, age group, and poverty status under current laws, in which changes in Medicaid enrollment primarily reflect changes in economic conditions and increases in New Mexico's overall population.

7. We also used actual enrollment in the SCI program to derive the take-up rate in this program and project SCI enrollment through the forecast period.

8. Subsequently, we assumed that, to implement health care reform in New Mexico, the state will employ conservative outreach programs to enroll currently eligible individuals who have not participated in the Medicaid program. To project the woodwork effect, we considered the increase in Medicaid enrollment in currently eligible individuals, beginning in 2014, based on health care reform effects such as Medicaid expansion, the individual mandate, and creation of the insurance Exchange. Based on an Urban Institute study (Holahan, Kenney, & Pelletier 2010), we assumed that individuals who enroll due to the woodwork effect would have better health status than existing Medicaid enrollees. In other words, take-up is related to health status (i.e., selection bias) (The Henry J. Kaiser Family Foundation, 2010), such that individuals who enroll due to the woodwork effect will be less disabled, and their health status will be better than Families and Children Medicaid enrollees. Consequently, we assumed that most eligible individuals with a disability will have enrolled in the Medicaid program by 2014, and that there will be minor increases in participation rates for people with disabilities in 2015 and 2016. We also assumed modest increases in participation rates for the population with no disability.

9. However, based on the waiting list data for the SCI program, We assumed that enrollment into the SCI program of childless adults and parents with incomes below 200 percent of the FPL will increase substantially in 2014, 2015, and 2016, as the Medicaid benefit package available to these individuals becomes more comprehensive and fulfills many of their unmet needs (Mathematica Policy Research, Inc., 2009). These projections were used as part of the enrollment projections for Medicaid expansion (up to 138 percent of the FPL).

10. For all groups of Medicaid-eligible individuals, we assumed that the increase in enrollment due to Medicaid expansion and the woodwork effect will be complete by 2017. The growth in these cohorts from 2017 to 2020 will reflect normal enrollment trends, in which changes in Medicaid enrollment reflect changes in economic conditions and the increase in the overall size of the eligible population based on population growth in New Mexico, by age group and FPL status. From the differences between these enrollment projections, we derived the

percentage of the currently eligible population that would enroll in the Medicaid program due to the woodwork effect.

11. Because childless adults and parents who are enrolled in SCI do not have full Medicaid coverage, these individuals will be considered part of the Medicaid expansion population beginning in January 2014. As such, this population's projected enrollment is included in the Medicaid expansion enrollment.

Eligibility for Medicaid Expansion

To derive the number of individuals who would be eligible for Medicaid expansion, we projected the uninsured population by age group and FPL status, as follows. Separate analyses were conducted for the Native American and Non-Native American populations in New Mexico.

1. The U.S. Census Bureau conducts the Current Population Survey (CPS), which was used to estimate the number of uninsured individuals in New Mexico by age group and income as a percentage of FPL status. We categorized the number of uninsured individuals into Native American and Non-Native American groups. Because of data limitations, the CPS breaks down the uninsured population by broad FPL income categories (Tables 5, 6, and 7). The data in these tables were used to derive Medicaid expansion population by income as a percentage of the FPL (i.e., up to 138 percent of the FPL), as described below.

Table 5. Total Number of Uninsured Individuals by Percentage of the Federal Poverty Level, 2009

Age Groups	Percentage of the Federal Poverty Level (FPL)					Total
	Below 100%	100% to 199%	200% to 299%	300% to 399%	400% +	
0 to 17	40,194	13,955	8,663	5,108	3,104	**71,024**
18 - 64	112,566	92,753	63,652	28,339	51,391	**348,704**
65+	2,544	2,633	872	899	1,574	**8,521**
Total	**155,304**	**109,341**	**73,187**	**34,346**	**56,069**	**428,249**

Source: U.S. Census Bureau. Current Population Survey

Table 6. Total Number of Uninsured Native Americans by Percentage of the Federal Poverty Level, 2009

Age Groups	Percentage of the Federal Poverty Level (FPL)					Total
	Below 100%	100% to 199%	200% to 299%	300% to 399%	400% +	
0 to 17	8,729	2,128	2,761	0	1,159	**14,777**
18 - 64	26,848	21,062	13,688	10,439	4,797	**76,834**
65+	0	839	0	899	994	**2,732**
Total	**35,577**	**24,029**	**16,449**	**11,338**	**6,950**	**94,343**

Source: U.S. Census Bureau. Current Population Survey

Table 7. Total Number of Uninsured Non-Native Americans by Percentage of the Federal Poverty Level, 2009

Age Groups	Percentage of the Federal Poverty Level (FPL)					Total
	Below 100%	100% to 199%	200% to 299%	300% to 399%	400% +	
0 to 17	31,465	11,827	5,902	5,108	1,945	**56,247**
18 - 64	85,718	71,691	49,964	17,900	46,594	**271,867**
65+	2,544	1,794	872	0	580	**5,790**
Total	**119,727**	**85,312**	**56,738**	**23,008**	**49,119**	**333,904**

Source: U.S. Census Bureau. Current Population Survey

2. We divided the estimated number of uninsured people in each age group and FPL status category by the total population in the same age group to derive the percentage of individuals in each age group who are uninsured and living below certain FPL levels. To project the uninsured population, as described above, we first used the estimated econometric model for forecasting New Mexico's unemployment rate as a function of the national unemployment rate. We used the long-term economic forecast published by the CBO, which projected the national unemployment rate through 2020.

3. Then, we used an analysis prepared by Jonathan Gruber of the Massachusetts Institute of Technology and the National Bureau of Economic Research (NBER) and Larry Levitt of the Henry J. Kaiser Family Foundation (Gruber & Levitt, 2002) which estimates the percentage point change in the uninsured rate for each percentage point change in the unemployment rate, using alternative statistical approaches. The results range from 0.43 to 0.57. We used a midpoint estimate between the respective approaches of 0.50 for analysis of the effects of changes in the unemployment rate on the number of uninsured individuals. The statistical model shows that, as the unemployment rate increases, the number of people with employer-sponsored insurance falls, and the number of people with public coverage (e.g., Medicaid)

rises, although not enough to fully absorb the impact of the decline in employer coverage. This dynamic helps to explain the rapid growth in Medicaid enrollment in recent years, which primarily has been caused by the economic recession. This method also addresses the so-called "crowd-out effect" or "substitution effect," whereby people formerly covered by employer-sponsored insurance enroll in Medicaid and the New Mexico's State Children Health Insurance Program (SCHIP).

4. We projected that with the economic recovery; increases in employment would likely be in the retail and service sectors, which are less likely to offer insurance coverage to their employees. To predict the number of uninsured individuals by age group and FPL status that will be eligible for coverage under Medicaid expansion, population projections were multiplied by the percentage of people in each age group who are predicted to be uninsured and below certain FPL levels. This estimate provided projections of the uninsured population by age group and FPL status for 2010 through 2020.

5. In subsequent steps, we used the percentage of New Mexico's population that has U.S. citizenship to derive the number of people who would be eligible for Medicaid expansion. Then, we used participation rates by FPL status to project the number of people, by disability and FPL status, who would enroll in Medicaid expansion. For the Native American population, we took into account the fact that all individuals in this group are U.S. citizens. Furthermore, because Native Americans are exempt from the individual mandate, we used a lower Medicaid take-up rate for Native American individuals with incomes below 138 percent of the FPL.

The information above describes the population model databases used to project the costs of implementing federal health care reform in New Mexico.

Employment Model

The sources of most of the data used for the employment model are the New Mexico Department of Workforce Solutions (DWFS) and the U.S. Bureau of Labor Statistics. As mentioned above, the employment model projects total employment and employer-sponsored insurance coverage in the state of New Mexico.

To project total employment through 2020, we used population projections for people ages 21 to 64. Then, using projections of labor force participation rates, we estimated the New Mexico civilian labor force through the year 2020. In the next step, we applied projections of New Mexico's unemployment rates, using the econometric model described above, to estimate total civilian employment in New Mexico through 2020. Subsequently, we subtracted employment by government and educational institutions to derive projections of employment by private firms.

The U.S. Bureau of Labor Statistics publishes data from the Quarterly Census of Employment and Wages program, which was used to estimate New Mexico's 2010 employment by firms in

three categories: those with less than 50 employees, 50 to 100 employees, and more than 100 employees.

We conducted an extensive review of literature on employers' decisions to offer health care insurance, employees' decisions to take up their employers' offers of insurance, and direct purchase of insurance, which is mainly used to project the take-up of insurance through the health insurance Exchange (Blumberg, Nichols, & Banthin, 2001; Hadley & Reschovsky, 2002; Gruber & Lettaub, 2004; Gruber & Washington, 2005; Liu & Chollet, 2006; Heim & Lurie, 2009). A summary of the literature is included in Appendix A of this report.

The three sub-models of the employment model that were used to project the numbers of people with health care coverage through employer-sponsored insurance (ESI) and direct purchase of insurance are: employer offer of insurance, employee take-up of insurance, and direct purchase of insurance. Variables that affect these sub-models include state unemployment rate, price of medical care, ESI premiums, employee premiums, employer penalty under the ACA for individuals not enrolled, percentage of premium costs covered by employer, state income tax rate, average workers' income, and percentage of workers in firms of different sizes (i.e., less than 50, 50-100, and more than 100 employees).

Employer Offer of Insurance

The Medical Expenditure Panel Survey, Insurance Component (MEPS-IC)[2] provides estimates of the percentage of New Mexico firms of different sizes that offered health care coverage to their employees in 2009. We used these estimates to calibrate the econometric model that projects the number of employers that will offer insurance coverage to their employees -- with and without federal health care reform -- through 2020. The baseline model shows a decline in the percentage of some firms that offer health care insurance without federal reform. This decline reflects the assumption that the country's economic recovery will mostly occur through expansion of employers in the retail and service sectors, which are unlikely to offer health care insurance coverage to their employees. Under federal health care reform, the percentage of employers that offers health insurance to employees shows a slightly greater decline than that in the baseline (without health care reform). This phenomenon primarily reflects the effects of variables that influence employers' decisions to offer health care coverage to their employees. For example, some employers may decide to pay penalties to the federal government and stop offering insurance coverage to their employees.

Employee Take-up of Insurance

The MEPS data described above also report the percentage of employees that take up their employers' offer of health care coverage. As described above, econometric models project the

[2] The federal Agency for Healthcare Research and Quality (AHRQ) sponsors the various components of MEPS.

employees' take-up of insurance through 2020 for firms of different sizes. Because of the ACA's individual mandate, it is expected that the employees' take-up rate will increase in 2014 and the subsequent years after implementation of federal health care reform.

By multiplying the projected numbers of employees in different-sized firms (i.e., less than 50, 50 to 100, and more than 100 employees) by the corresponding percentages of firms that offer health care insurance coverage to their employees and the percentages of employees who take up insurance, we forecasted the numbers of employees, by different-sized firms, who will have ESI coverage. Then, we multiplied the number of employees with ESI coverage by their average family size to project the total number of people with ESI coverage. Based on Current Population Surveys (U.S. Census Bureau, March 2009 and March 2010), in 2009 there were 787,000 people with ESI coverage in New Mexico. This number was used to calibrate the models that projected the number of people with ESI through 2020.

Direct Purchase of Insurance

To estimate the number of people who directly purchase insurance coverage, first we estimated the number of employed individuals without ESI coverage, by subtracting the total number of employees that take up insurance coverage from the projected total number of employees of private firms. Then the number of employed individuals without ESI coverage was multiplied by the projected probability of direct purchase of insurance coverage, which is generated by an econometric model, to project the number of people who would directly purchase insurance coverage through the Exchange.

Financial model Output Spreadsheet

In the following section of this methods document, we explain the specific components of estimates in each row of the financial model output spreadsheet, which summarizes the expenditures, costs, and savings of implementing the ACA in New Mexico. The numbers in the following sections correspond to the categories and rows in the financial model output spreadsheet.

I. Impact on State's Budget

A. New Costs

A.1. Cost of Medicaid Expansion

One of the sources consulted for estimating the size of the new Medicaid enrollment in New Mexico, including Medicaid expansion and the Medicaid "woodwork effect," was a report produced by the Henry J. Kaiser Family Foundation and authored by researchers of the Urban Institute (Holahan & Headen, 2010).

To derive the number of individuals who would become eligible for Medicaid expansion in 2014, we conducted the following analysis for the Native American and non-Native American populations separately:

First, the estimated numbers of uninsured people aged 21 to 64 years by disability status who are under 139 percent of the FPL were examined. For the Medicaid expansion population, adults whose incomes are below 139 percent of the FPL were included. Then we multiplied the number of people in each FPL category by the percentage of people who are U.S. citizens[3] to derive the estimated number of people who would be eligible for Medicaid expansion.

Next, the resulting numbers were multiplied by Medicaid take-up rates to project the number of new enrollees. We assumed a Medicaid take-up rate of 62 percent for people with incomes under 50 percent of the FPL, and 52 percent for people with incomes between 50 and 133 percent of the FPL. We have consulted studies by King, Slifkin, and Holmes (2009) and Selden, Banthin, and Cohen (1998) regarding Medicaid take-up rates. Under the ACA, Native American individuals do not have an individual mandate and are not required to obtain health care coverage. Therefore, we assumed that their take-up rates were approximately 20 percentage points below the take-up rates of other people. Based on recent evidence from health care reform in Massachusetts, only minimal effects of crowd-out of private insurance coverage were included beyond the economic and unemployment factors to avoid double counting the effects of crowd-out of ESI (Long & Stockley, 2010).

We used the following formula to derive the costs of the Medicaid program with Medicaid expansion for each year of the 2014 to 2020 period.

> Costs of Medicaid expansion in year i =
>
> (Number of new Medicaid enrollees from Medicaid expansion in year i)
> Multiplied by
> (Average health care costs per Medicaid enrollee in year i)

To project the average health care cost per Medicaid enrollee, New Mexico's managed care capitation rates, by age group for the base year (FY 2010) were used. For the projected new Medicaid-eligible individuals with and without a disability, we used weighted average capitation rates, plus fee-for-service wraparound costs, derived from payments to MCOs for these Medicaid enrollees. On a weighted average basis, New Mexico's actual per member per year cost for Families and Children Medicaid enrollees was $4,138. The per member per year cost for the cohort of individuals with disability was $17,995 in FY 2011.

[3] The percentage estimate of citizenship status is based on ACS data. For the Native American population, we used 100 percent U.S. citizenship.

Next, we trended these per capita costs into each of the future fiscal years. The Centers for Medicare & Medicaid Services (CMS) published *National Health Expenditure Projections 2009-2019*, which includes forecasts of the "medical price deflator" and other health care expenditures, which were used to project the costs associated with implementing health care reform in New Mexico for the period of 2010 to 2019 (Centers for Medicare and Medicaid Services, 2009). We used the medical price deflator to trend the base year (2010) capitation rates to 2014 and subsequent years to reflect the projected increase in medical costs (on a per capita basis) during the period. As shown in the formula above, by multiplying the projected number of new Medicaid enrollees from Medicaid expansion in each year by the corresponding projections of health care costs, by disability status, the total costs of Medicaid expansion in each year were projected.

To estimate the state's share of Medicaid expansion costs, we multiplied the annual total costs of Medicaid expansion by 1 minus the Federal Medical Assistance Percentage (FMAP) rate for Medicaid expansion. The FMAP rate for Medicaid expansion enrollees will be 100 percent in federal fiscal year (FFY) 2014 through FFY 2016; it will decrease to 95 percent in FFY 2017, 94 percent in FFY 2018, 93 percent in FFY 2019, and 90 percent in FFY 2020 and subsequent years. Because the FFY is October 1 through September 30, and the state fiscal year is July 1 through June 30, the FMAP rates were adjusted to convert FFYs to state fiscal years by weighting FMAPs for consecutive federal fiscal years.

Based on these methods and our data sources, as of March 14, 2012, the estimated cost of Medicaid expansion (excluding SCI program enrollees) for FY 2014 through FY 2020 is $111 million. This figure is reflected as the midpoint cost on the financial model output spreadsheet.

A.2. Estimating Costs of the Medicaid Woodwork Effect

Previously published research demonstrates that knowledge gaps among parents partially explain why children of low-income families remain without health insurance. For example, one study (Kenney, Haley, & Tebay, 2003) showed that nearly 30 percent of low-income parents had not heard of SCHIP, and 40 percent did not understand that their children could be eligible for health care coverage, even if they were not enrolled in welfare. Additionally, an estimated 7 percent of uninsured children lack coverage because their parents do not think that they need it (Hill, Stockdale, Evert, & Gifford, 2006).

We estimated the costs of the Medicaid "woodwork effect" using the same methodology that was used for Medicaid expansion, as described above. We included the uninsured population in the 0-20 and 21-64 age categories as potential new enrollees. Based on ACS data, we assumed that 93 percent of the uninsured individuals are U.S. citizens.

We assumed that New Mexico will seek to enroll a relatively high percentage of the currently eligible population and projected a woodwork effect enrollment of 17,562 individuals at the point of full implementation of health care reform in 2020. As of March 14, 2012, the estimated

cost of the Medicaid woodwork effect for FY 2014 through FY 2020 is $119 million. This figure is reflected as the midpoint cost on the financial model output spreadsheet.

A.3. Medicaid and the New Mexico State Children's Health Insurance Program Administration

To estimate the increased cost of Medicaid and SCHIP administration, we added the projected total expenditure of Medicaid expansion—including SCI program expenditures—to the projected total expenditures of the Medicaid woodwork effect and multiplied it by the estimated administrative cost percentage of 5 percent, which is a historic average administrative (overhead) cost. Overhead costs finance not only the outreach, enrollment, and eligibility determinations related to the substantial increase in Medicaid enrollment, but also the various programmatic oversight activities. The FMAP, i.e., the percentage that the federal government pays toward Medicaid costs, for the vast majority of administrative activities is 50 percent. Thus, we assumed that the state's additional administrative costs are 50 percent of the total (gross) administrative costs.

To develop the necessary eligibility systems with which to comply with the eligibility determination requirements of the ACA, we included $2 million in additional administrative costs in FY 2012, $4 million in FY 2013, and $4 million in FY 2014, for a total of $10 million in state funds. According to CMS, the federal government will match state funds with a 90 percent federal funds participation rate, resulting in $100 million total funds for eligibility system development or upgrade. As of March 14, 2012, the estimated cost of Medicaid and SCHIP administration for FY 2014 through FY 2020 is $112 million. This figure is reflected as the midpoint cost on the financial model output spreadsheet.

A.4. Reductions in Medicaid Disproportionate Share Hospital Payments

Spending less than 3 percent of its total Medicaid expenditures on Medicaid disproportionate share (DSH) payments, New Mexico is considered a low DSH state. The health care reform law will reduce federal DSH allotments to states based on reductions in state-specific uninsured rates over time. When a low DSH state's uninsured population rate decreases by at least 45 percent compared with its 2009 uninsured rate, its federal DSH allotment will be reduced by 25 percent. Subsequently, reduction in the state's DSH allotment will depend on a decrease in the state's uninsured rate compared with a base five-year period. For FY 2013 and beyond, in no case will a state's DSH allotment be less than 50 percent of its FY 2012 DSH allotment, increased by the percentage change in inflation.

We applied the 25 percent reduction to the federal DSH payments in FY 2015 when, after the increase in Medicaid and health insurance Exchange enrollment starting in January 2014, many of the uninsured individuals will have health care coverage. Because a large proportion of the uninsured individuals in New Mexico will have insurance coverage by the end of FY 2015, either through Medicaid or the health insurance Exchange, there will be minimal reductions in the uninsured population rate in FY 2016 and beyond.

According to the ACA, in FY 2016 through 2020, the reduction in DSH payments will equal 27.5 percent of the prior year's reduced DSH allotment, multiplied by the percentage reduction in the number of uninsured individuals. Hence, additional reductions in the number of uninsured individuals results in additional reductions in the DSH allotment. Therefore, we project that the effective rate of reduction in DSH payments for FY 2016 through FY 2020 will be 25 percent of the projected total DSH payments in 2014, increasing to 27 percent in FY 2015, and 28 percent in FY 2016 through FY 2020.

To project DSH payments in the absence of health care reform, we used CMS projections of changes in hospital expenditures through 2020. To project reductions in federal DSH payments, we based our estimates on actual state fiscal year (SFY) 2010 federal DSH payments to New Mexico, which were approximately $21 million. To estimate the DSH payment reductions, we applied the rates of reduction to the projected DSH payments in each fiscal year. As of March 14, 2012, the estimated cost of the reduction in federal payments for Medicaid DSH for FY 2014 through FY 2020 is $78 million. This figure is reflected as the midpoint cost on the financial model output spreadsheet.

A.5. Insurance Exchange Administrative Costs

Administrative costs will be incurred in operating the new insurance Exchange. The federal government will fund 100 percent of these costs through December 31, 2014. Subsequently, federal funds end, and the Exchange must be self-sustaining through user fees, assessment on carriers, and/or state general funds. The magnitudes of these costs are largely unknown and unknowable at the present time, until the specific functions and design of the Exchange are created. For the purposes of this model, we used a reasonable administrative assumption of $4 million per year, for a total of $22 million for the FY 2015 through FY 2020 period. This section of the financial model should be updated as decisions are made and data become available. This figure is reflected as the midpoint cost on the financial model output spreadsheet.

A.6. State Employee/Retiree Health Insurance

The state of New Mexico will incur new costs as an employer and provider of health care insurance to retired state employees. Based on our contacts with the state General Services Department, Risk Management Division (GSD/RMD) and a review of the 2011 Report of the Legislative Finance Committee to the Fiftieth legislature, we estimated the total cost of the employees/retirees insurance coverage. In addition, the GSD/RMD requested an increase in funding of approximately 2 percent for expenses related to federal health care reform. These cost increases account for such factors as the cost of extending dependent coverage to age 26 and related administrative costs. We estimated that the cost will be $75 million through FY 2020. This figure represents the midpoint cost estimate.

A.7. Administrative Costs for Other State Agencies

The marginal increase in administrative costs at agencies such as the Division of Insurance at the New Mexico Public Regulation Commission, and the costs of state outreach activities are largely unknown and unknowable at the present time. For the purposes of this model, we simply used a reasonable assumption of $2 million per year for these new marginal costs. This estimate should be updated as decisions are made and data become available. We estimated that the total cost will be $18 million through FY 2020. This figure is reflected as the midpoint cost on the financial model output spreadsheet.

B. Programmatic Savings

Savings that will result from enhanced FMAP rates and other factors are shown as negative costs in the financial model output spreadsheet. These savings are described below.

B.1. Enhanced Title XXI (SCHIP) Match Rate

Average monthly enrollment in SCHIP was 10,001 in FY 2009. In FY 2010 it was 9,793, and it was approximately 8,215 in the first half of FY 2011. Similar decreases in SCHIP enrollment have occurred in other states. We believe that, because of the recent economic recession, the family incomes of some of the previous SCHIP enrollees have dropped below Medicaid eligibility thresholds, making the whole family eligible for enrollment in the Medicaid program. This has led to a decline in SCHIP enrollment in recent months. For forecasting purposes, we assumed that, with economic recovery, monthly SCHIP enrollment will gradually increase to 10,000 and remain at that level throughout the forecast period.

We estimated combined expenditures in SCHIP to be $22.5 million in FY 2011. Using changes in the medical price deflator, we projected the average cost per enrollee, as well as the total cost of SCHIP through FY 2020. The FMAP rate for SCHIP is currently 78.55 percent. Based on this rate, we projected the state's cost for SCHIP in the absence of health care reform through FY 2020 in order to establish a baseline.

Next, we determined the enhanced FMAP rate for each fiscal year. Under the health care reform law, states will receive a 23 percent increase in the match rate for SCHIP, up to a maximum of 100 percent, for FFY 2016 through FFY 2019. Because of the difference between state and federal fiscal years, the 23 percent increase in the FMAP rate would increase the FY 2016 FMAP rate to 96.10 percent and the FY 2017 through FY 2019 rate to 100 percent. The average FMAP rate for FY 2020 will be 84.6 percent. Using these FMAP rates, the state's SCHIP costs under health care reform were estimated. Differences between the state's SCHIP costs with and without health care reform determined the state's cost savings in each year. As of March 14, 2012, the estimated savings of the enhanced Title XXI federal match rate for FY 2016 through FY 2020 is $27 million. This figure is reflected as the midpoint cost on the financial model output spreadsheet.

Estimating Cost Savings of the SCI Program

The current SCI program includes both childless adults and parents who currently receive a limited health care benefits package. After implementation of Medicaid expansion in January 2014, SCI enrollees with incomes up to 138 percent of the FPL will be considered part of the Medicaid expansion population. They will be enrolled in Medicaid and receive the full Medicaid benefit package, and the state will receive enhanced FMAP rates for their entire benefits. Therefore, the transition of current SCI enrollees with incomes up to 138 percent of the FPL into the Medicaid expansion program will generate projected *savings*. Furthermore, SCI enrollees with incomes between 138 and 200 percent of the FPL will receive subsidized insurance coverage through the Exchange, and the state expenditures for their coverage will end, generating additional *savings* for the state. Cost savings estimates for the SCI program are described in sections B.2 through B.4 below.

B.2. Transfer of SCI Childless Adults with Incomes below 139 Percent of the FPL to Medicaid Expansion

The cost of SCI childless adult enrollees below 139 percent of the FPL who are currently matched at the FMAP rates of 69.4 percent will be matched at the enhanced Medicaid expansion FMAP levels beginning January 2014. As explained above, the FMAP for Medicaid expansion enrollees will be 100 percent in FFY 2014 through FFY 2016; it will decrease to 95 percent in FFY 2017, 94 percent in FFY 2018, 93 percent in FFY 2019, and 90 percent in FFY 2020 and subsequent years.

To reiterate, SCI program cost savings emanate from enhanced FMAP rates under the health care reform law. Currently, 30.6 percent of SCI expenditures for childless adults are funded by the state of New Mexico. To forecast savings related to childless adult enrollees currently in the SCI program, the number of SCI childless adult enrollees were projected based on the number of adults with incomes below 138 percent of the FPL, as described before. Then current SCI capitation rates were projected through the year 2020 using the medical price deflator from CMS, as if federal health care reform did not occur. We multiplied the projected number of childless adult SCI enrollees with incomes below 138 percent of the FPL through 2020 by the projected annual capitation rates for the limited benefits package in SCI to estimate the baseline costs in the absence of health care reform, against which the effects of the new federal health care reform law will be measured.

Next, to estimate the cost of SCI childless adult enrollees under health care reform, we multiplied the projected number of SCI childless adult enrollees with incomes below 138 percent of the FPL by the projected full-benefit annual capitation payments. We derived this number from the SCI capitation rates, including the fee-for-service wraparound costs. Then total cost projections were multiplied by 1 minus the FMAP rates under the health care reform law to derive the SCI program cost for childless adults under health care reform. The difference between SCI program costs based on health care reform and the SCI program costs for childless

adults without health care reform, with the related differential FMAPs, represents the cost savings to New Mexico related to childless adults enrolled in the baseline SCI program.

As of March 14, 2012, the estimated state savings from transferring SCI childless adults with incomes below 139 percent of the FPL to Medicaid expansion program for FY 2014 through FY 2020 is $249 million. This figure is reflected as the midpoint cost on the financial model output spreadsheet.

B.3. Transfer of SCI Parents with Family Incomes below 139 Percent of the FPL from Title XXI to Title XIX (Medicaid Expansion)

Beginning in 2014, SCI parents with incomes below 139 percent of the FPL will be transferred from Title XXI funding to Title XIX (Medicaid expansion). We assumed that the current (FY 2011) FMAP for Title XXI in New Mexico of 78.85 percent will remain constant through FY 2020.

This transfer will decrease the state's costs due to the change from the Title XXI FMAP rate of 78.55 percent in the absence of health care reform to the Medicaid expansion FMAP rates, which, as explained above, are higher than 90 percent. To forecast the additional savings to New Mexico from this change in FMAP rates, the number of SCI parents with family incomes below 139 percent of the FPL was estimated based on actual FY 2011 enrollment data. Next, we calculated the average per member per year capitation payment rate for SCI enrollees. We then applied trend factors based on changes in the medical price deflator to estimate the average annual cost per enrollee for FY 2014 through FY 2020. To forecast the total expenditures for this population, the projected numbers of SCI parents with incomes below 139 percent of the FPL were multiplied by the projected average annual cost per enrollee. To estimate state expenditures from the transfer of these Title XXI enrollees to the Medicaid expansion program, we multiplied their projected annual expenditures in FY 2014 through FY 2020 by 1 minus the FMAP rate for Medicaid expansion. As of March 14, 2012, the estimated state savings from transferring SCI parents with family incomes below 139 percent of the FPL from Title XXI to Medicaid expansion for FY 2014 through FY 2020 is $103 million. This figure is reflected as the midpoint cost on the financial model output spreadsheet.

B.4. Transfer of SCI Enrollees with Incomes between 139% and 200% of the FPL to Insurance Exchange

Beginning in 2014, SCI enrollees with incomes between 139 percent and 200 percent of the FPL will receive federally subsidized coverage through the insurance Exchange program. Therefore, the state's share of expenditures for these SCI enrollees will be saved. In FY 2011, the average monthly enrollment of SCI enrollees with incomes between 139 percent and 200 percent of the FPL was 2,741 people. To estimate the amount of state savings for these individuals, we first projected their enrollment in the absence of health care reform through 2020. Then, we multiplied their enrollment by their estimated health care costs, to derive the projected total health care costs of these enrollees through 2020. The estimated state expenditures for these

individuals in the absence of health care reform were derived by subtracting federal payments from the total health care costs of these enrollees. This constituted the estimated state savings from avoided costs of SCI enrollees with incomes between 139 percent and 200 percent of the FPL.

As of March 14, 2012, the estimated state savings from transferring SCI enrollees with incomes between 139 percent and 200 percent of the FPL to the insurance Exchange program for FY 2014 through FY 2020 is $36 million. This figure is reflected as the midpoint cost on the financial model output spreadsheet.

B.5. Extension of Pharmacy Drug Rebates to MCOs

Unlike other components of health care reform, changes in pharmaceutical drug rebates became effective in 2010. Under the health care reform law, generic (multi-source) drug rebates are a minimum of 13 percent of the average manufacturer's price, 2 percent of which goes to CMS. For brand name drugs, the manufacturers' drug rebate increases from a minimum of 15.1 percent to a minimum of 23.1 percent; the entire 8 percent increase is transferred to the federal government, and the state is not permitted to retain any of the rebates in this range.

We analyzed New Mexico's drug expenditures and rebate data. The drug rebates in the fee-for-service program constituted approximately 10 percent of total pharmacy expenditures. Assuming that brand name drugs constitute two-thirds of total drug expenditures, the drug rebates for brand name drugs would total approximately 15 percent. Hence we concluded that there will be no change in the fee-for-service pharmacy rebates. Consequently, the increase in the drug rebates percentage to 23.1 percent, with the entire 8 percent increase in rebates to be returned to CMS, would be cost neutral to the state of New Mexico. Therefore, there is no entry in the financial model output spreadsheet for these changes in the fee-for-service drug rebates.

The health care reform law equalizes drug rebates between managed care and fee-for-service programs. To estimate savings from the extension of pharmacy rebates to managed care enrollees, first the annual drug cost per managed care program enrollee were projected by trending the base year (FY 2010) average drug cost per enrollee by the CMS projected changes in prescription drug costs. The CMS National Health Expenditure Projections report includes forecasts of changes in prescription drug costs.

The total managed care expenditures for pharmaceutical drugs were projected by multiplying the predicted number of managed care program enrollees by the average annual costs of pharmaceutical drugs per enrollee. A publication by the Agency for Health Care Research and Quality (Stagnitti, 2006) shows trends in expenditures for generic and brand name drugs. We used this study to break down MCO expenditures for pharmaceutical drugs into expenditures for generic and brand name drugs.

According to a report prepared for the Association for Community Affiliated Plans by the Lewin Group, entitled "Analysis of Dual Eligible Pharmacy Costs under Medicaid and Medicare Part

D," Medicaid MCOs receive an approximate 6 percent discount on brand name drugs and no discount on generic (multi-source) drugs (Association for Community Affiliated Plans, 2008). Based on these percentages, we projected the amount that the state will pay MCOs in the form of higher capitation rates. Net savings from extending the drug rebates to MCOs were estimated by subtracting the payments that would be due to MCOs from the estimated total drug rebates for managed care enrollees,

Although MCOs receive discounts from their pharmacy benefit managers (PBMs), the state's rebate collection without health care reform would be zero, as drug manufacturers were not required to provide rebates for managed care enrollees. Based on the state's weighted share of expenditures for Medicaid, SCHIP, and Family Planning enrollees, the state's share of drug rebates is estimated to be approximately 25 percent of the net total drug rebates. We used this percentage to project the state's rebate collections under the health care reform law for FY 2010 through FY 2020. As of March 14, 2012, based on our methodology and data sources, the estimated state savings of extending drug rebates to MCOs for FY 2011 through FY 2020 is $64 million. This figure is reflected as the midpoint cost on the financial model output spreadsheet.

B.6. Medicaid Breast and Cervical Cancer (BCC) Converts to Insurance

The Medicaid program currently provides health care services to certain women for breast and cervical cancer (BCC) screening and treatment. The BCC program provides an appropriate standard of care for BCC screening and diagnostic services to eligible low-income women. Women diagnosed with breast or cervical cancer or a precancerous condition can apply for Medicaid through the BCC program to help cover the costs of treatment. The FMAP rate for the BCC program eligibility group is equal to the enhanced FMAP used in SCHIP.

Once health care reform is implemented, individuals in the current BCC program will be enrolled in a comprehensive health insurance program, including the programs described elsewhere in this document. At that time, the BCC program will be terminated. This will generate state savings equal to the projected expenditure for the current BCC program. The expenditure for the BCC program in FY 2010 was approximately $8 million. The average cost per enrollee was predicted using the CMS projection of the medical price deflator. We projected the number of enrollees as a constant percentage of New Mexico's total population, assuming a one-half year reduction in FY 2014, because the major coverage expansion starts in January 2014, six months after the beginning of FY 2014. The aggregate state savings for the forecast period is $16 million. This figure is reflected as the midpoint cost on the financial model output spreadsheet.

State's Overall Total Costs

Based on the aforementioned costs and savings estimates, we predict additional state costs in FY 2012 and FY 2013, followed by cost savings emanating from enhanced FMAPs in FY 2014 through FY 2017, to be followed by additional state costs in FY 2018 through FY 2020. Overall, we estimate that implementation of the ACA in New Mexico will cost approximately $40 million

between FY 2012 through FY 2020. This estimate excludes baseline programs that predated Health Reform and were not altered by health reform. The New Mexico Human Services Department Medical Assistance Division estimates the general fund cost increase in the baseline programs for FY 2014 through FY 2020 to be $270 million. For policymakers, the sum of the cost to the general fund of implementing the ACA in New Mexico ($40 million) plus the cost of the baseline program ($270 million) through FY 2020 totals $310 million.

II. Additional Impact on Hospitals and Physicians

The following two items do not affect the state government and are not included in the financial model item descriptions presented above.

A. Reduction in Uncompensated Hospital Care

To estimate the effects of implementing the ACA on uncompensated hospital care (UC), the reported 2009 amount of $425.5 million in UC was used to derive the average amount of uncompensated hospital care provided per uninsured individual in New Mexico. Then, we projected the total UC amount by multiplying the amount per uninsured individual by the number of uninsured individuals with and without health care reform through FY 2020. The difference between these amounts provided the estimated reduction in UC. As of March 14, 2012, based on our methodology and data sources, the estimated amount of reduction in uncompensated care for FY 2014 through FY 2020 is approximately $2.64 billion. This figure is reflected as the midpoint cost on the financial model output spreadsheet.

B. Increasing Medicaid Primary Care Physician Fees to 100 Percent of Medicare

Under the health care reform law, the federal government will pay for increasing Medicaid payment rates for Evaluation and Management (E&M) and immunization administration services provided by primary care physicians (PCPs, defined as physicians specializing in family medicine, general internal medicine, and pediatric medicine) to 100 percent of the Medicare payment rates for calendar years (CYs) 2013 and 2014. For services furnished on or after January 1, 2013, and before January 1, 2015, states will receive 100 percent federal financing for increasing PCP payment rates from the rates in effect on July 1, 2009. The increase will be for both fee-for-service and managed care services.

We developed a physician fee payment model to determine the amount of increase in New Mexico's Medicaid reimbursement rates for PCPs. CYs 2013 and 2014 fall into three separate state fiscal years, FY 2013, FY 2014, and FY 2015. To estimate the total increase in payments for the three fiscal years, the physician fee payment model was used to determine how much it would cost to increase PCP fees to 100 percent of Medicare fees. Based on the physician fee payment model, after accounting for utilization and enrollment increases between the base year and the fee increase fiscal year, it would cost $13 million to increase

physician fees for E&M and immunization administration procedures to 100 percent of Medicare fees in FY 2013. The increase in payments to PCPs would be approximately $30 million in FY 2014 and $16 million in FY 2015, for total payments of $59 million. This figure is reflected as the midpoint cost on the financial model output spreadsheet.

The total direct increase in payments to physicians and hospitals for FY 2014 through FY 2020 is estimated to be $2.7 billion.

III. Total Impact on Providers from Additional Health Care Expenditures

Results of this section of the model are used as input for the IMPLAN model to evaluate and quantify the impact of implementing the ACA on the state economy. To estimate the total impact of additional health care expenditures on various providers due to implementation of the ACA in New Mexico, we first projected the total increase in health care expenditures (including federal payments) related to all of the detailed items described above. Then, we examined various data sources for a breakdown of total health care expenditures into broad categories of providers (see Appendix B for details). Based on these sources, data in Table 8 were used to allocate the total new health care expenditures by type of provider. We assumed that these percentages would remain constant through the forecast period.

Table 8. Allocation of Health Care Expenditures to Providers

Type of Expenditure	Percent Allocation
Total, All Professional Services	16%
Total, Hospital Services	70%
Total Pharmacy	8%
Other Health Services	6%
Total	**100.0%**

Based on these percentage allocations, the total impact on providers due to the implementation of the ACA in New Mexico were estimated, as described below.

A. All Professional Services

We estimated the total increase in payments for professional services, including those provided by physicians, dentists, and other health care professionals such as nurse practitioners. Based on these methods and our data sources, as of March 14, 2012, the projected total additional expenditures for all professional services for FY 2014 through FY 2020 is approximately $1.0 billion. This amount includes additional expenditures for increasing Medicaid PCP fees to 100 percent of Medicare fees. This figure is reflected as the midpoint of expenditures on the financial model output spreadsheet.

B. Additional Expenditures for Hospital Services

We also estimated the total increase in payments for hospitals services. Based on our methods and data sources, the projected total additional expenditures for hospital services for FY 2014 through FY 2020 is approximately $6.7 billion. This amount includes estimated reductions in uncompensated hospital care.

C. Total Pharmacy and Other Health Services

Similarly, we estimated the total increase in payments for pharmacy and other health services, such as laboratory tests and health clinic visits. Based on our methods and data sources, as of March 14, 2012, the projected FY 2014 to FY 2020 total additional expenditures for pharmaceutical drugs and services is $0.5 billion. Additional expenditures for other health services are projected to be $0.4 billion.

The projected total additional expenditure for all providers described in items III.A through III.D in the financial model output spreadsheet for the FY 2014 to FY 2020 period is approximately $8.6 billion.

The reason that additional health care expenditures are substantially higher with the health care reform law is that there will be a substantial increase in federal subsidies and tax credits, which will be channeled to the providers and flow through the New Mexico economy.

IV. Impact on Employers, Employees, and the New Mexico Economy

A. Federal Assessment of Employers

Under the ACA, employers with fewer than 50 employees will be exempt from penalties for not providing health insurance coverage to their employees. However, the ACA will assess penalties to employers with 50 or more employees that do not offer coverage. It will assess employers with 50 or more employees, who receive premium tax credit, a penalty of $2,000 per employee, excluding the first 30 employees.

The law also requires employers that offer insurance coverage to provide a voucher to employees with incomes less than 400 percent of FPL, whose shares of the premium exceed 8 percent but are less than 9.8 percent of their incomes and who choose to enroll in a plan in the state insurance Exchange. Employers providing vouchers will not be subject to penalties for employees who receive premium credits in the insurance Exchange.

We predicted the amount of assessment per employee using the increase in medical cost inflation, as estimated by CMS. We also assumed that 50 percent of employers with 50 to 99 employees and 20 percent of employers with 100 or more employees will either pay the assessments and not provide insurance coverage, or will provide a free choice voucher to their employees (these assumptions can be changed in the “input data” spreadsheet). Based

on these assumptions, the estimated total assessment of penalties to employers between FY 2014 to FY 2020 is $848 million.

B. Total Federal Subsidy Payments (Tax Credits) for Individuals

We predicted the number of individuals who will purchase insurance coverage through the insurance Exchange by their income as a percentage of the FPL. According to the ACA, the amount that individuals with incomes less than 400 percent of the FPL will pay for purchasing insurance coverage is capped based on a sliding scale of income, as shown in Table 9.

Table 9. Maximum Payment from Individuals as a Percentage of Income

Income as a Percentage of the FPL	Maximum Payment as a Percentage of Income
Up to 133%	2.00%
134% to 150%	4.00%
151% to 200%	6.30%
201% to 250%	8.05%
251% to 400%	9.50%

We used the maximum percentages corresponding to each income tier to project the amounts of federal income tax credits that individuals will receive to purchase insurance coverage through the Exchange. Based on our methods and data sources, as of March 14, 2012, the projected FY 2014 to FY 2020 total federal subsidies in the form of tax credits is $2.8 million.

C. Impact on the New Mexico Economy

The health care reform financial model estimates the new spending created in the New Mexico health care industry following implementation of the ACA. In response to New Mexico's request for further analysis of the impact of the new spending on the state's economy, we used IMPLAN economic modeling software to generate estimates of how spending in one economic sector flows through other sectors to generate further economic activity. IMPLAN uses a standard mathematical economic technique called an input-output model[4] to calculate changes in economic activity. The model uses standardized data on how various industries transact with other industries for goods and services, that is, how the output of one industry becomes input to each of the other industries, adding to the final demand for consumption. The model also takes into account the taxing of these transactions by the local, state, and federal governments. Furthermore, it determines the gross outputs of

[4] The Input-Output model was developed by Wassily Leontief (1941).

different industries that are required for a given increase in the final demand of one sector — the health care sector in this context.

The model measures the impact of new spending in three ways: direct, indirect, and induced spending. *Direct spending* relates to newly purchased goods and services, such as health care services produced by medical practices, hospitals, pharmacies, and other ancillary health services (e.g., diagnostic labs and medical equipment suppliers) to meet increased demand. *Indirect spending* results when the producers of health services hire more staff, purchase equipment, and construct new facilities in which to supply direct services. This action in turn causes construction companies and medical suppliers to hire more staff, expand their own facilities, and increase capital equipment purchases. Finally, *induced spending* occurs when individuals who are compensated for their provision of direct or indirect services then purchase goods and services for personal consumption, such as new durable goods (e.g., housing and automobiles) and or non-durable goods and services (e.g., entertainment expenses).

The IMPLAN model uses data on the proportions of new spending flowing through direct, indirect, and induced spending to estimate the ratio of additional spending to the initial spending inputs. This ratio is usually greater than 1.0 and is often referred to as an economic multiplier. The effects of the economic multiplier were included in the financial model, to estimate the total impact of health care reform on the state's economy.

V. Enrollment Projections

Enrollment projections are captured on a separate spreadsheet, entitled Enrollment Projections with Health Care Reform.

A. Insurance Coverage Status of the New Mexico Population

Section A of the Enrollment Projections with Health Care Reform spreadsheet shows the insurance coverage status of the population of New Mexico through FY 2020, by major source of coverage, including the uninsured.

B. Medicaid Enrollment

Section B presents a summary of Medicaid enrollment with and without health care reform, including the Medicaid uptake rate with health care reform. Row B.2, entitled Total Increase in Medicaid, shows the sum of Medicaid expansion and Medicaid woodwork effect enrollees (rows D.1 and D.2).

C. Exchange Enrollment

Section C depicts the number of individuals who would obtain health insurance coverage through the Exchange. This section also shows potential Exchange enrollment (U.S. citizens eligible for coverage, but not enrolled), both including and excluding Native Americans.

D. Health Care Reform Components

Section D presents the components of health care reform:

D.1. Medicaid Expansion

Row D.1 includes new expansion enrollees plus SCI program enrollees who will transition to Medicaid expansion.

D.2. Medicaid Woodwork Effect

The numbers in row D.2 are explained in section I.A.2 above, in which Medicaid's woodwork effect is explained.

D.3. Exchange (133-200% FPL) with Subsidy

All of the exchange enrollment projections are based on the Employment model, which is based on econometric sub-models. The numbers in row D.3 reflect individuals with incomes between 133 and 200 percent of FPL, who would receive federal subsidies (tax credits) to purchase coverage through the insurance Exchange.

D.4. Exchange (200-400% FPL) with Subsidy

The numbers in row D.4 are also based on the Employment model. They reflect individuals with incomes between 200 and 400 percent of FPL, who would receive federal subsidies (tax credits) to purchase coverage through the insurance Exchange.

D.5. Exchange (Above 400% FPL) without Subsidy

The numbers in row D.5 are also based on the Employment model and represent individuals with incomes above 400 percent of FPL, who would purchase coverage through the insurance exchange without using a federal subsidy. The model projects that, by FY 2020, approximately 26,000 people will purchase coverage through the Exchange without receiving subsidies.

D.6. Small Business Health Options Program (SHOP)

Row D.6 shows the projection of insurance coverage by small businesses that purchase coverage for their employees through the health insurance Exchange.

D.7. Change in Coverage by Employers

As described above in the Employment Model section, with the implementation of health care reform, some employers (e.g., those with more than 50 employees) may decide to pay penalties to the federal government rather than provide insurance coverage to their employees. Recent studies by Mercer, The Henry J. Kaiser Family Foundation, and the Congressional Budget Office predict some decline in ESI after implementation of health care reform. Accordingly, the employer sub-model predicts a decline in the percentage of firms that offer health insurance coverage to their employees. In part, this projected decline reflects the fact that the national economic recovery will likely occur through expansion of employers in the retail and service sectors, which have a lower tendency to offer insurance coverage, and will be accelerated by the availability of coverage through the public sector. However, the employee take-up of insurance is projected to increase with the ACA's individual mandate.

Overall, as total private employment increases under the ACA by approximately 100,000 people through FY 2020, total ESI coverage is projected to increase by approximately 50,000 people by FY 2020.

Total New Coverage

This row shows the sum of rows D.1 through D.7, described above.

E. Uninsured

This section shows the number of uninsured with and without health care reform, and their percentages of the total New Mexico population. It also shows U.S. citizens and non-citizens who will remain uninsured after implementation of health care reform.

F. Native Americans (NA)

This section shows the total population of Native Americans (NA) and their insurance coverage through Medicaid, including current Medicaid, Medicaid expansion, and the woodwork effects. It also shows the estimated number of Native American individuals who will be enrolled in the Medicare program, as well as the remaining uninsured Native Americans.

VI. Basic Health Program

The ACA gives states the option to establish a Basic Health Program (BHP) for individuals with low income who are not eligible for Medicaid (ACA §1331). The New Mexico Human Services Department (HSD) requested that the fiscal modeling tool account for and evaluate the creation of a BHP in New Mexico. This section of the report provides an overview of the ACA requirements for BHPs, a summary of the methodological approaches used to model the BHP, and a brief summary of implementation issues for the state of New Mexico.

ACA Requirements

Overview

The ACA offers states the flexibility to design and tailor programs to meet the needs of their residents. One example of this flexibility is the BHP option, which allows states to contract with health plans to offer an insurance product to individuals with low income who do not qualify for Medicaid (ACA §1331 (a)). Under the BHP, the federal government pays the state 95 percent of the premium tax credits and cost-sharing subsidies that it would have provided to those individuals in the Exchange each fiscal year (ACA §1331 (d)). If provision of health care coverage in the BHP is more cost-effective than the Exchange, such that the BHP has surplus operating funds, then the surplus funds must only be used to reduce premiums and cost sharing for enrollees or to provide additional benefits (ACA §1331 (d)). If the state chooses to implement the BHP option, eligible individuals may not obtain coverage through the Exchange (ACA §1331 (e)).

Eligibility

Individuals must meet all of the following criteria to qualify for the BHP (ACA §1331 (e)):

- Not eligible for Medicaid
- Adult with household income between 133 and 200 percent of the FPL or lawful alien with income below 133 percent of the FPL who does not qualify for Medicaid because of citizenship status
- Not offered ESI that meets the ACA's minimum essential benefits and affordability criteria
- Under the age of 65 years

Plan Design

The ACA provides broad guidance on the plan design of the BHP, stating that the BHP must cover "essential health benefits" (ACA §1331 (a)). The ACA directs the Secretary of the U.S. Department of Health and Human Services (HHS) to define essential health benefits. On

December 16, 2011, the HHS issued a bulletin on essential health benefits that explained that states can select from any of the following four types of benchmark plans to establish their own essential benefits:

1. The largest plan in any of the three largest small group insurance products in the state's small group market (by enrollment)
2. Any of the largest three state employee health benefits plans (by enrollment)
3. Any of the largest three national Federal Employees Health Benefit Plan (FEHBP) options (by enrollment)
4. The largest insured commercial non-Medicaid Health Maintenance Organization operating in the state

This guidance provides states with substantial flexibility in designing the essential health benefits.

The ACA further requires states to contract with MCOs or other plans with as many of the features of managed care as possible (ACA §1331 (a)). These plans must have a medical loss ratio of at least 85 percent (ACA §1331 (b)), meaning that 85 percent of the revenues of a plan must go toward providing health care services and improving the quality of care for enrollees. The remaining 15 percent of revenues may be spent on administrative and overhead costs, or considered profit. The BHP medical loss ratio is higher than the 80 percent ratio required for the MCOs that provide coverage for the small group and individual market in the Exchange.

Out-of-Pocket Spending

For out-of-pocket spending, premiums may not exceed what the individual would have paid in the Exchange if he or she had enrolled in the second lowest cost silver plan. Further, cost sharing may not exceed what is required in the Exchange under the platinum plan (10 percent of annual income) for individuals with incomes up to 150 percent of the FPL, or the gold plan (20 percent of annual income) for individuals between 150 and 200 percent of the FPL.

Federal Calculation of Premium Subsidies

The federal premium subsidy is not meant to cover the full premium amount; there is an individual financial responsibility that is capped based on income levels. Table 10 presents the estimated maximum premium payments of individuals who would qualify for subsidies in the exchange. These estimates assume a household size of one. The maximum annual and monthly premium payments were estimated using the premium percentages per income level, as defined in §1331(a) and §1401(a) of the ACA. The BHP may require enrollees to pay premiums up to this level.

Table 10. Maximum Premium Payments in the Exchange, by FPL

Percentage of the FPL	Annual Income*	Maximum Annual Premium Payment	Maximum Monthly Premium Payment
100%	$10,890	$218	$18
133%	$14,484	$290	$24
150%	$16,335	$653	$54
200%	$21,780	$1,372	$114
250%	$27,225	$2,192	$183
300%	$32,670	$3,104	$259
400%	$43,560	$4,138	$345

* Based on the 2011 HHS Federal Poverty Guidelines for a household of one.

These premiums are expected to increase after 2014 because the ACA does not allow premium subsidies to increase faster than income, and income typically increases at a slower rate than premiums. Therefore, these enrollees will likely experience an annual increase in the percentage of income spent on premiums. Furthermore, because the federal BHP payments are based on subsidies in the Exchange that are tied to the market costs, the way in which the state operates its Exchange will affect the BHP payments. It is also expected that federal BHP payments will decrease over time compared with health care costs (Dorn, 2011).

Federal Calculation of Cost-Sharing Subsidies

Cost-sharing subsidies are payments the federal government would make to offset the additional copayments of low-income enrollees in the Exchange. These subsidies are passed on to states to operate the BHPs, although states receive 95 percent of the amount intended to offset the increased costs that would have been incurred by plans operating in the Exchange.

Like any federal program, Congress may choose to reduce the scope of cost-sharing subsidies that are provided under state BHPs. In fact, the cost-sharing subsidies have already been targeted by the federal government as a source of deficit reduction by the Budget Control Act (BCA) of 2011. Under that legislation, the cost-sharing subsidies will be reduced (Redhead, 2011).

Methodology for Estimating Costs of Implementing a BHP

To analyze the costs of implementing a BHP in New Mexico, we identified the number of adults with household incomes between 138 and 200 percent of the FPL who are expected to otherwise enroll in the Exchange. The estimates are based on the Population model and Employment model, described above. Using the same assumptions for take up of insurance coverage, we estimated that approximately 45,000 individuals will enroll in a BHP in New Mexico in FY 2015, after the ramp-up in enrollment is complete.

Some analysts assume that states can provide BHP coverage at a lower cost than the Exchange, because they can use existing Medicaid delivery systems and provider reimbursement rates, which are lower than provider payments from commercial insurance carriers (Girod,

Meerschaert, & Muller, 2011). Also, according to the Urban Institute, federal BHP payments will exceed Medicaid costs in many states. They estimate that the average federal BHP payment will be 29 percent higher than the average cost of covering these adults through Medicaid (Dorn, 2011). Another Urban Institute study (Dorn, Buettgens, & Carroll, 2011) estimate that the average cost of BHPs are lower than the average market costs for the Exchange in many states, assuming that "health care costs per capita are lower for BHP-eligible adults than for other adults in the individual market, primarily because lower-income working adults tend to be younger than other workers."

However, we believe that income is related to health status, i.e., on average, people with higher income have better health status, and vice versa. Therefore, based on this assumption and analysis of New Mexico SCI and state employees' data, we have concluded that the average costs of BHP enrollees will be higher than the average costs of Exchange enrollees, who have higher income.

We assumed that the average cost per BHP enrollee in New Mexico would be similar to the SCI cost of approximately $5,570 in FY 2012. Based on state employees' cost data, including 15 percent administrative costs, we estimated that cost of coverage in the Exchange will be equivalent to $4,543 in FY 2012. Then the average cost per enrollee was projected using the CMS projections of change in the medical price deflator.

Next, the potential federal premium subsidy payments per individual in the BHP by FPL status for FY 2014 through FY 2020 were estimated as the difference between the estimated annual total costs per enrollee and maximum premium payments (see Table 10). A caveat for this estimate is that it was assumed that the risk-adjusted federal premium payment per individual in the BHP will not capture the complete costs of coverage through the BHP.

We also assumed that each individual would be continuously enrolled each year. With these assumptions, federal payments for BHP and premium payments by enrollees will fall short of the state's expenditures on the program, which results in additional state implementation costs of approximately $200 million through FY 2020, excluding administrative costs.

Furthermore, as mentioned above, according to the ACA, the state must use any surplus funds to reduce enrollees' premiums and cost sharing or to expand their benefits. Therefore, from a financial point of view, even if our assumptions are not correct and the state can provide health services to BHP enrollees at a lower cost than the Exchange, or the federal payments to a BHP do cover all of the expenses of enrollees and their corresponding administrative costs, causing revenues of the BHP to exceed its expenses, establishing a BHP in New Mexico would eventually become cost neutral for the state.

Exchange Size and Risk

In addition to the financial impact, the feasibility of establishing a BHP also depends on factors such as the remaining number of individuals with income between 200 to 400 percent of FPL

who would enroll in the state insurance Exchange. Based on our enrollment projections, establishing a BHP in New Mexico will reduce the number of enrollees in the state insurance Exchange by approximately 45 percent. Therefore, we believe that implementing a BHP will negatively affect the size of the risk pool in the insurance Exchange.

Conclusion

Because the main purpose of establishing the Exchange is to increase competition among insurance carriers to provide lower cost coverage, establishing the BHP would reduce the pool of potential Exchange enrollees to such a level that multiple carriers would not have sufficient incentives to offer insurance coverage in the Exchange. This might eventually lead to only one or two insurance carriers offering coverage in the Exchange, which could eliminate competition among carriers.

The ACA does not mandate a date for implementation of a BHP, as it does for the insurance Exchange. States are free to implement a BHP at a timetable of their choice. Therefore, an alternative for the state of New Mexico is to postpone making any decisions about establishing a BHP until FY 2015 or a later year, when sufficient information about the pool of insurance Exchange enrollees and the characteristics of individuals with income between 138 to 200 percent of the FPL becomes available. At that time, if it is determined that following the establishment of a BHP, a sufficient number of individuals would remain in the Exchange to make it feasible for several insurance carriers to offer coverage in the Exchange, then the state can reevaluate the feasibility of establishing a BHP.

Appendix A. Summary of Literature Review on Employment-Based Insurance

In developing the fiscal model, we reviewed literature related to worker responsiveness to premiums and out-of-pocket costs, the premium elasticity of the demand for health insurance, and health insurance take-up rates. This appendix provides a detailed summary of the four key articles reviewed:

- Blumberg, L. J., Nichols, L. M., & Banthin, J. S. (2002). Worker decisions to purchase health insurance. *International Journal of Health Care Finance and Economics, 1*, 305-325.
- Hadley, J., & Reschovsky, J. D. (2002, June). Small firms' demand for health insurance: The decision to offer insurance. *Inquiry*, *39*(2), 118-137.
- Heim, B. T., & Lurie, I. Z. (2009). Do increased premium subsidies affect how much health insurance is purchased? Evidence from the self-employed. *Journal of Health Economics, 28*(6), 1197-1210.
- Liu, S., & Chollet, D. (2006, March 24). *Price and income elasticity of the demand for health insurance and health care services: A critical review of the literature*. Washington, DC: Mathematica Policy Research. Retrieved from http://www.mathematica-mpr.com/publications/pdfs/priceincome.pdf

Blumberg, Nichols, & Banthin Article

Study Objective

This study measured the responsiveness of workers to premium prices. It addressed whether workers respond to out-of-pocket costs or to the total premium and how income and health status affect employee responses to premiums.

Data and Methods

The authors used the 1996 Medical Expenditure Panel Survey Household Component (MEPS-HC) and Insurance Component (MEPS-IC) linked data. This data set offers substantial advantages because it contains employer information on workers who do and do not receive offers of employer-sponsored insurance (ESI), whether the worker accepts or declines the offer, and information on the total and out-of-pocket premiums for up to four plan choices.

The study used three methodological approaches. The first was a pure approach using a probit model that estimated the probability of taking up an insurance offer (i.e., whether or not the worker accepts the offer). This model controlled for age, race/ethnicity, gender, marital status,

presence of children, whether the spouse has an offer, highest education level, fair or poor general or mental health or an activity limitation of some kind, the presence of a serious medical condition (at least one from a specific list), whether the worker is full-time, whether the worker is white collar, whether the worker lives in a metropolitan statistical area region, whether any children in the household are eligible for Medicaid, and income.

The second methodology was an imputed approach that used an imputation process to assign premiums to all workers. First, the authors estimated the probability of taking up an ESI offer for all workers who had the offer. In addition to explanatory variables used in the first approach, they also included establishment size, union, industry (including public administration), and whether the firm had multiple locations. This equation yields estimates of take-up probability and values of the density function of take-up that reflect the "selection" probability of being a taking-up worker. Second, they estimated the dollar premium of individuals who took up the ESI offer. Third, the authors estimated the probability of taking up an ESI offer by using the imputed premiums.

Findings

- ESI take-up elasticities were low: -0.0026 for single workers, -0.0324 for family candidates with single premium, and -0.0443 for family candidates with family premium.
- Single workers were less responsive to premium prices than family candidates.
- Although the linked sample is not completely representative of workers, the linked sample alone produced estimates of price elasticity that are indistinguishable from those adjusted for potential non-response bias.
- Elasticities with imputed premiums were higher than they were under the direct estimation approach, but still quite low.
- Workers were more responsive to out-of-pocket premiums than to total premiums.

Hadley & Reschovsky Article

Study Objective

This study estimated the premium elasticity of demand for health insurance for small firms (i.e., responsiveness of offer of insurance coverage to premium variations). The study also examined how this elasticity varies across firms with different characteristics.

Data and Methods

The authors used data from the 1997 Robert Wood Johnson Foundation Employer Health Insurance Survey (Community Tracking Study) and other sources. The Community Tracking Study Household Survey and Insurance Follow Back Survey were linked and used to create new variables, including availability of public insurance, health care through safety net, the price of

non-group insurance, average worker income, workers' family health status, local market concentration, each household survey respondent's insurance coverage, and hospital cost.

The Insurance Survey sampled 11,613 small, private firms, and the Household Survey sampled 54,000 individuals. Both samples were drawn as representatives of 60 randomly selected local health care markets, defined as Metropolitan Statistical Areas or groups of nonmetropolitan counties.

The authors made three theoretical assumptions:

1. Firms will offer insurance if their employees' collective reservation price is greater than the price at which the employer can make insurance available.
2. Employees will compare expected utilities across discrete insurance choices and select ESI if its expected utility is greater than the other options.
3. Firms offer insurance when the demand price just equals (or exceeds) the supply price.

The authors used three equations and sensitivity analyses. Noting that premiums are not observed for firms that do not offer insurance, the authors used the two-stage Heckman procedure (reduced-form probit offer equation and selection-corrected premium equation) to account for the fact that premiums are observed only for establishments that offer insurance. The reduced-form offer model (probit regression) estimated the predicted probability of offering insurance. After adjusting for selection bias, the premium model (log-transformed ordinary least square) estimated the selection-corrected premium. Two equations were estimated jointly using maximum likelihood estimation. Then, the selection-corrected ESI premium was plugged into the structural offer equation as an instrument variable. The third equation estimated the predicted probability of offering insurance. Additionally, the study re-estimated the structural offer equation using interaction variables to allow the premium coefficient to vary by establishment size, the percentage of workers who receive low wages, and the estimated average family income per worker.

Findings

- Adjusting for selection bias, the predicted average single monthly premium for firms that did not offer insurance was greater than the predicted monthly premium for firms that did offer insurance.
- The correlation between the reduced-form offer and the premium equations was negative and statistically significant (p = .01). The negative correlation suggests that firms that do not offer insurance face higher premiums than firms that do offer insurance, and that the unobservable factors influencing both the offer decision and the premium are correlated between the two equations.
- In the structural offer equation, the premium for ESI was negative and highly significant, but moderate in magnitude. The corresponding elasticity, -0.54, suggests that a 10 percent

decrease in the average monthly premium is predicted to increase the probability of offering insurance by approximately 5.4 percent.

- In general, firms' responsiveness to changes in premiums varied by firm characteristics. The smallest establishments (those with less than 10 employees) had the lowest offer rate, faced the highest average premium, and were most responsive to a reduction in premium, with an elasticity estimate of 2.63.
- Establishments with a high proportion (> 75 percent) of low-wage workers or low average income per worker showed higher price elasticities, ranging from -0.88 to -1.18.

Heim & Lurie Article

Study Objective

This study examined amendments made to the 1986 Tax Reform Act (TRA86), which increased the deductibility of health insurance premiums from 60 percent in 1999 to 70 percent in 2002, and to 100 percent in 2003 for the self-employed. Using a panel of tax returns, the authors investigated how these changes affected the probability of taking-up health insurance and the level of health insurance purchased. The following research questions guided the study:

- Does a change in the after-tax price of health insurance relative to medical expenditures affect the probability of purchasing health insurance?
- Does a change in the after-tax price of insurance affect the quantity of health insurance purchased?

Data and Methods

The authors used a six-year panel of data for any taxpayer sampled in 1999 who filed a return over the five subsequent years. The authors drew a stratified random sample of taxpayers in 1999 and included tax returns from any member of this sample over the next five years. More than 65,000 taxpayers were observed in the sample across all six years. The final sample for the take-up specification included 14,354 individuals, and the sample for the amount specification contained 1,692 individuals.

The authors used two estimation strategies introduced by Gruber and Poterba: a linear probability model for all observations and a linear fixed effect model conditional on observations for those who purchased health insurance. Dependent variables included the fraction of returns claiming self-employed health insurance deductions and the amount of self-employed health insurance deductions. Independent variables included relative price, age squared, number of children on the tax return, income, filing status, and year. Out of those independent variables, the main covariate of interest was the after-tax price of health care. The relative price was defined as the after-tax price of purchasing health care through an insurance plan relative to the after-tax price of purchasing health care directly if uninsured, expressed as a ratio.

Findings

Heim and Lurie found evidence that a decline in the after-tax price of health insurance for the self-employed increases the likelihood of taking up health insurance and the amount of health insurance purchased.

- In the take-up specification, they found an overall elasticity of approximately -0.3 (statistically significant). A decrease in the price of insurance led to a higher coverage take-up rate, with an estimated elasticity of −0.316. It was noted elasticity was higher for single taxpayers compared to married couples.
- In the amount specification, the authors found a highly significant elasticity of approximately -0.7 for self-employed taxpayers.

In conclusion, the study results suggested that changing the price of health insurance through a deduction had moderate effects on both the number of self-employed taxpayers purchasing health insurance and the amount of insurance purchased.

Liu & Chollet Article

Study Objective

Elasticity of demand is defined as "a measure of consumer response to a change in the price of a product, the price of related products, or personal income" (Liu & Chollet, 2006). Generally, the demand for health insurance and health care services is not sensitive to changes in price (price-inelastic), and variation in the estimated elasticities is large. This study reviewed more than 80 studies on estimates of the elasticity of demand for health insurance and health care services, summarized the key findings from these studies, and identified methodological challenges and gaps in the literature.

Findings on Elasticity of Demand for Health Insurance

The authors found that the literature on the elasticity of the demand for health insurance indicates a range of elasticity estimates, including:

- Estimates of the price elasticity of employer offers of health insurance range from -0.14 to -5.8, but most of them approximate around -0.6. Small firms are less likely to offer insurance, and their price elasticity of demand is greater than that of larger firms.
- Among workers who are offered insurance by their employers, the price elasticity of take-up is relatively low, with most estimates falling below -0.1.
- Depending on how many alternative insurance options are presented to an employee, the price elasticity of demand among insured workers for any one option may be relatively large, but its absolute value is still less than 0.1.

- In the non-group market, estimates of the price elasticity of demand usually range from -0.2 to -0.6.
- A few studies suggest that elderly beneficiaries are less responsive than nonelderly consumers to the price of insurance.
- Limited evidence implies that lower-income consumers are more price sensitive than higher-income consumers.
- There is no evidence to suggest that employers as a whole are less likely to offer coverage when a greater proportion of their employees or dependents are eligible for Medicaid, although small, low-wage employers may be less likely to do so.

The few observational studies estimating the income elasticity of demand consistently indicate that the demand for health insurance is inelastic with respect to differences in consumer income. These studies typically report that the income elasticity of demand for health insurance is less than 0.1.

Findings on Elasticity of Demand for Health Care Services

The authors found that recent research estimates that the demand for insured health services is price-inelastic. Most estimates of the price elasticity of demand for health care services in general (or total spending) are approximately -0.2. Estimated price elasticities differ by type of service, but the differences are not generally significant. Key findings include:

- Insured consumers may decrease their overall health spending by 2 percent in response to a 10 percent increase in the price of health care (net of insurance coverage). Price-induced changes in demand have been attributed more to changes in the probability of using any care than to changes in the amount of care used once it is accessed.
- Low-income consumers are more sensitive to changes in the price of care. Consequently, they may be more likely to experience adverse consequences from higher cost sharing.

Recent studies have found that there are service-specific differences in the price elasticity of demand, for example:

- Estimates of the price elasticity of the demand for prescription drugs are usually in the range of -0.1 to -0.6. The introduction of multi-tier formularies reduces drug expenditures. However, direct-to-consumer advertising may significantly reduce the price elasticity of demand for at least some prescription drugs.
- Compared with the demand for inpatient services, the demand for outpatient services may be more price-sensitive. However, the evidence suggests that greater use of inpatient care is consistently associated with greater use of outpatient care.

- The limited evidence suggests that the demand for mental health care, dental services, and long-term care services among insured consumers may be more price elastic than the demand for other types of care.

Estimates of the income elasticity of demand for health care services based on observational studies consistently range from 0.0 to 0.2, suggesting that consumers do not use more health care as their income rises. However, some studies that have estimated income elasticity by using time-series or aggregated state- or country-level data have produced higher estimates of income elasticity—in the range of 0.2 to 1.5.

Methodological Challenges

The authors note that there are methodological challenges in estimating the elasticity of demand for health insurance or health care services, including:

- Price is unobservable for people who do not have insurance or do not use health care services. Many researchers use a Heckman two-stage procedure (first estimating the probability of firms offering insurance and then the price) to impute the unobserved price offered to those who decline coverage. However, it is critical to select explanatory variables that should be included in the imputation of unobserved price. Moreover, using imputed premiums for group coverage provided larger elasticity estimates with respect to employees' take-up of coverage.
- Price may be endogenous to factors that are correlated with demand. It is difficult to specify a model that adequately controls for these factors in estimating the elasticity of demand. In most observational studies, researchers have developed complex statistical models, including instrumental variables estimations that deal with endogenous outcome variable. An instrumental variable must be correlated with the endogenous variable itself (in this case, price), but uncorrelated with the outcome variable (i.e., demand), except through the endogenous variable. However, it is extremely difficult to find those instruments. In contrast, studies with a natural experimental design usually carry little risk of endogeneity. Specifically for panel data, researchers can use a difference-in-difference method to compare pre- and post-treatment periods and control for any time trend as well as any permanent average difference between the treatment and control group. Difference-in-difference estimation assumes that a parallel trend would have occurred for the treatment and control groups in the absence of the treatment, all else being equal. It yields a biased estimate of demand elasticity if this assumption fails.
- Unobserved factors of demand can cause underspecified models and yield biased estimates of demand. The most common source of data used to estimate elasticity is the Current Population Survey (CPS). This survey includes multiple years of data and a large number of observations in each year. However, most of the population sample changes from year to year. Furthermore, the CPS offers information only about whether household members are covered, not information about the cost or design of their coverage. However, the Medical Expenditure Panel Survey (MEPS) does provide panel data,

although it contains a much smaller sample than CPS. MEPS includes information about employees' insurance options and coverage (such as premiums and coinsurance rates), as well as personal information (such as income and assets, health status, and health care utilization and expenditures). Many researchers have tried to link CPS across years or statistically match CPS to MEPS to create data sets adequate to their research needs.

- Research information about provider-induced demand or supply-side behavioral changes in response to price changes is very limited. No studies have considered supply-side factors in their models.

Gaps in the Literature

The authors described numerous of gaps in the literature on estimating and applying elasticity estimates, including:

- Because observations on the options available to consumers or time-variant behavior are lacking, an omitted variable bias, or endogeneity bias, in estimating elasticity occurs.
- Many statistical models have been used to address methodological challenges due to limited data. At the same time, there is ongoing demand to link multiple sources of data to estimate consumer response in complex markets over time.
- There are few analyses of the potential demand for high-deductible insurance products by the general public or the change in their use of care once enrolled.
- Consumer responses to improved coverage for mental health, long-term care, and other types of care – such as preventive services or specific types of prescription drugs – merits further research to support improvements in the design of public and private coverage.

Appendix B. Financial model Crosswalk to the Economic Impact Model

The New Mexico health care reform financial model estimates new expenditures in the health care sector due to implementation of the federal Affordable Care Act (ACA). The IMPLAN economic input-output model takes output from the financial model, in aggregate dollars, as input with which to estimate the potential impact of health care spending on the New Mexico economy. The financial model predicts spending in a number of segments of the health care sector. However, the IMPLAN model uses health care spending in related industry categories, chiefly: physician services, hospital care, pharmaceutical drugs, and diagnostic services. Therefore, the outputs of the New Mexico financial model are mapped to the IMPLAN industry categories to enable IMPLAN to estimate the broader economic impacts of changes in health care spending.

To facilitate the mapping of health care spending categories, we consulted several sources to estimate the shares of health care spending for newly insured individuals in New Mexico, including the CMS-64 reports. New Mexico Medicaid spending reported in the CMS-64 is defined for separate types of providers paid in the fee-for-service (FFS) system, whereas managed care organization (MCO) expenditures are grouped into a single category. Without any other data available for New Mexico, we assumed that MCOs paid each group of providers in the same proportion as the FFS system. MCO expenditures were allocated to each of the provider groups (i.e., physician, hospital, etc.) to calculate the total proportions of New Mexico Medicaid spending per provider group.

In addition to the CMS-64 data, Hilltop used a number of other sources. Maryland's Medicaid MCOs make periodic Health Finance Management Reports (HFMRs) to the state that provide more detailed allocations of health care expenditures by the provider types that render services to MCO enrollees. Because there is no direct source of information regarding the pattern of MCO spending in New Mexico, the Maryland MCO data supplied a basis for comparison. The Centers for Medicare & Medicaid Services (CMS) provided another source of data in its National Health Expenditure (NHE) accounts, which permit a comparison of the model estimates with nationwide health care spending by provider type. In addition, the Milliman Medical Index from the actuarial consulting firm Milliman provided a source for estimates of spending by provider group for families covered under employment-based insurance.

Table B.1 outlines the estimated shares of total health care spending for each provider type from each of the data sources presented. The final column represents an estimate of predicted shares of new spending used for the New Mexico model, based on the relative proportions of spending determined from the available data sources. These percentages are used to allocate estimates of total new health care expenditures by provider type, which are then used as input to the IMPLAN model.

Table B.1. Expenditures by Provider Type as a Percentage of Total Health Care Expenditures

Provider	Milliman	CMS NHE	Maryland HFMR	NM Medicaid CMS-64	Used for Financial model
Physician	32.6%	28.4%	22.8%	4.6%	
Dentist	N/A	5.8%	0.3%	1.2%	
Other Professions	N/A	3.8%	N/A	3.8%	
Total, All Professional Services	**32.6%**	**37.9%**	**23.1%**	**9.6%**	**16.0%**
Inpatient Hospital	31.3%	41.1%	38.9%	45.8%	
Outpatient Hospital	17.6%	N/A	22.6%	12.6%	
Prepaid Inpatient Health Plan	N/A	N/A	N/A	23.7%	
Total, Hospital Services	**48.8%**	**41.1%**	**61.5%**	**82.1%**	**70.0%**
Total Pharmacy	**14.7%**	**13.4%**	**9.6%**	**2.5%**	**8.0%**
Total, Other Health Services	**3.8%**	**7.6%**	**5.8%**	**5.9%**	**6.0%**
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Appendix C. New Mexico State Employees Health Plan

We used the New Mexico state employee health plan data to estimate the costs of coverage in the health insurance Exchange. The New Mexico Human Services Department (HSD) provided the following enrollment, premium, and expenditure data for New Mexico's state employee health plan:

- Employee and dependent enrollment as of July 1, 2011, by health plan (Blue Cross Blue Shield, Lovelace, and Presbyterian), plan type (employee only, employee and spouse, employee and child, and family), and salary tier. Data were provided separately for "state" and "local public body" enrollment.[5]
- Overall FY 2010 health plan expenditures by health plan and pharmacy benefit manager
- The employee and state biweekly premium contribution schedule for FY 2012 by health plan and plan type

We estimated the average premium payments and health plan expenditures per New Mexico state employee (Table C.1). The analysis includes total health plan and pharmacy benefit manager expenditures, as well as the health plan and administrative premiums paid by enrollees and the state. The analysis includes expenditures and premiums for New Mexico's separate dental and vision plans.(Note: If we include expenditures and premiums for dental and vision benefits, the annual total premium costs per state employee are similar to the average costs per Medicaid Families and Children beneficiary.)

Table C.1. Premium Payments and Health Plan Expenditures per New Mexico State Employee Health Plan Enrollee

	Total $	Number of Enrollees (Employees + Dependents)	Average Cost/Enrollee
Health Coverage	$293,139,130	74,318	$3,944
Delta Dental	$ 20,161,719	78,497	$ 257
Vision	$ 2,974,742	66,565	$ 45
Health Plan Expenditures	$273,401,210	74,318	$3,679

Comparing New Mexico's state employee health plan benefit package and cost sharing to actuarial value estimates from Watson Wyatt Worldwide and the Congressional Research Service, Hilltop assumed the actuarial value of the New Mexico state employee health plan to be 87 percent (Peterson, 2009).

[5] Hilltop's analysis includes both state and local public body enrollment. The analysis assumes that the state salary tiers A-C correspond to the local public body tiers 1-3. The premium and expenditure data did not differentiate between state and local public body enrollment. Analysis assumes that the same premium schedule applies to both state and local public body enrollees and that the overall health expenditures included both types of enrollees.

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