The LEWIN GROUP
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Technical Assessment of Health Care Reform Proposals

Proof Report

Prepared for:

The Colorado Blue Ribbon Commission for Health Care Reform

Date: August 20, 2007

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EXECUTIVE SUMMARY

I. INTRODUCTION

The Lewin Group was engaged by the Colorado Blue Ribbon Commission for Health Reform to assist in developing and analyzing alternative proposals to expand health insurance coverage and reform the Colorado health care system. We began by developing a "baseline" projection of what health care coverage and costs will be in Colorado in 2008 under current law for major stakeholder groups, including governments, providers, employers and families. We then estimated the cost and coverage effects of several proposals to expand insurance coverage for major stakeholder groups in Colorado. In this report, we describe the health reform proposals analyzed in this study, present our estimates of program effects, and summarize the data and methods used in conducting the analysis.

A unique aspect of this study is that we worked with the authors of four distinct health reform proposals to specify program features and estimate their effects. Early in the project, we met with the authors of each of these proposals to specify the details of their plans to a level where it was possible to estimate their effects. Once specified, we used Lewin Group models to estimate the cost and coverage impacts of each proposal across various stakeholder groups, based upon the baseline health spending data developed in the project. After reviewing the results with each author, we assisted them in revising their plans to improve each proposal's effectiveness and correct for unintended consequences. We repeated this process about three times for each of the proposals until the authors were satisfied with their specifications.

The four proposals analyzed in this study include:

- **"Healthy Solutions for Colorado":** This proposal, authored by the Colorado Association of Health Underwriters, would expand eligibility for children under Child Health Plus to 250 percent of the FPL. Medicaid eligibility for parents would be increased to 100 percent of the FPL. In addition, the program provides a premium subsidy for private coverage to people living below 250 percent of the FPL that can be used either to purchase non-group coverage or to pay the worker share of the premium for employer provided coverage;
- **"Better Health Care for Colorado":** This proposal, authored by the Service Employees International Union (SEIU) and the Colorado Association of Public Employees (CAPE) would expand coverage under Medicaid/SCHIP programs to cover all children living below 300 percent of the FPL. It also provides subsidies for private coverage for parents through 250 percent of the FPL and childless adults through 225 percent of the FPL. After a period of time, eligibility levels for parents would be increased to 300 percent of the FPL. All residents of Colorado would be required to have health insurance;
- **"A Plan for Covering Coloradans":** This proposal, authored by the Committee for Colorado Health Care Solutions, would require employers to either provide coverage for their workers of pay a fee. The program expands coverage under the Medicaid/SCHIP programs to cover all parents and children living below 300 percent of the FPL, and childless adults living below 100 percent of the FPL. It also establishes a purchasing pool where individuals can purchase coverage with a premium that is subsidized on a sliding-scale, with income for people living below 400 percent of the FPL. All residents of Colorado would be required to have health insurance;

- **"Colorado Health Services Plan (CHSP)":** This proposal, authored by the Health Care for All Coalition and the Colorado Nurses Association, would be a single-payer program covering all Colorado residents. Coverage for the Medicare and Medicaid populations would be folded into the statewide program. Employers would no longer cover their workers for the services covered under the CHSP. The program would be funded with an employer payroll tax and an increase in personal income taxes;

Our analysis is based on a combination of economic and actuarial models. We developed estimates of the cost of the benefits packages specified by the authors for each of the four proposals. We then used the Lewin Group Health Benefits Simulations Model (HBSM) to estimate the number of people affected and program costs, using the actuarial estimates as inputs. HBSM is a "micro-simulation" model of the U.S. health care system designed to simulate the impact of initiatives to expand insurance coverage on various stakeholder groups at the state and federal levels. We updated the model to use Colorado-specific health coverage and spending data available from public and private sources in the state.

For illustrative purposes, we assume that federal and state laws are changed to permit the implementation of these programs as proposed. Because all of these proposals would increase state government spending, we assume that state law is revised to permit implementation of the various revenue raising measures proposed by the authors. We also assume that the federal government will provide the various waivers and exemptions from federal law required to implement these plans. These include:

- **ERISA exemption for Colorado:** We assume that the employer contribution requirement under "A Plan for Covering Coloradan" would not be pre-empted by ERISA if challenged in court. Alternatively, we assume that Congress acts to exempt Colorado from ERISA for purposes of the program in Colorado;
- **Medicaid Waivers:** The "Better Health Care for Colorado" proposal and the "healthy Solutions for Colorado Plan" require a Section 1115 Demonstration waiver to cover expansion populations that are not currently eligible for federal matching funds (such as low-income childless adults); and
- **Medicaid and Medicare block grants:** Under the CHSP single-payer proposal, the federal government is assumed to provide Colorado with a lump-sum payment (i.e., block grant) for what the federal government would have spent for Coloradan's under current law. For illustrative purposes, we assume that Congress acts to provide these block grants for Colorado.

Because these changes in law may not be forthcoming, we also show the effect of these programs assuming that these federal waivers and exemptions are not provided.

We present our analysis on the following sections:

II. HEALTH SPENDING AND COVERAGE IN COLORADO

The first step in this study was to develop a detailed analysis of the Colorado health care system. This includes an analysis of sources of coverage in the state and characteristics of the uninsured. We also estimated the amount of health spending in the state by type of service and source of payment. This is presented in the following sections:

- Sources of Coverage in Colorado, and
- Health Spending in Colorado

A. Sources of Coverage in Colorado

Our primary data source for this study is the March Current Population Survey (CPS) conducted annually by the Census Bureau. These data are the source of the annual Census Bureau estimates of the number of uninsured in the US and by state. We pooled the Colorado sub-samples of the CPS data for 2004 through 2006 to increase the sample size to a level sufficient to provide detailed analyses for the state.

While the CPS provides the most current data on insurance coverage, it under-reports the number of people covered under the Medicaid program by roughly 30 percent, which causes it to over-estimate the number of uninsured in the US. Consequently, we corrected the CPS data for under-reporting of Medicaid coverage to provide a more accurate count of the number of people without coverage. We also adjusted the data to the under-reporting of employer coverage. In this section, we describe the data sources and methodology that we used to estimate the total number of uninsured in the US and by state. We present coverage estimates in Colorado in the following sections:

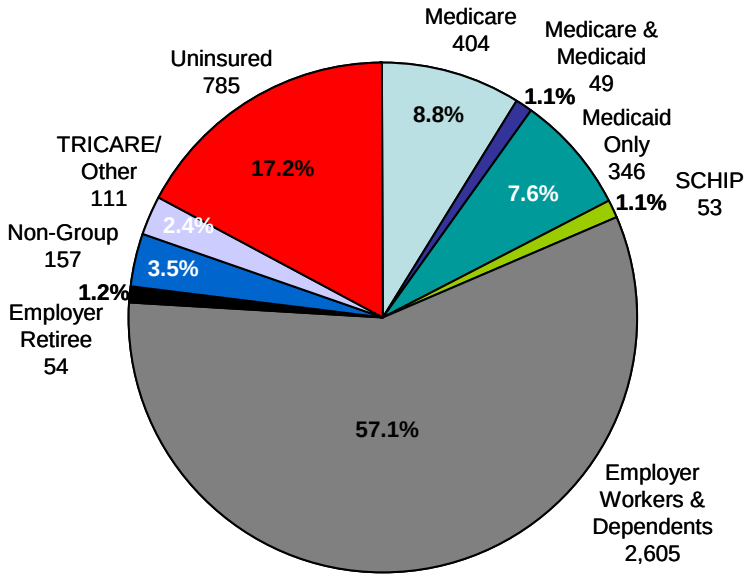
- Primary Source of Health Insurance
- Number of Uninsured by Age
- Uninsured by Family Income

Detailed description of our methodology for estimating coverage in Colorado is in ***Appendix A.***

1. Primary Source of Health Insurance

Figure 1 presents our estimates of the distribution of Colorado residents by primary source of coverage. Because many people have coverage from more than one source, we defined the primary source of coverage based on the prevailing coordination of benefits practices now in use. For example, about 49,000 aged and disabled people are covered under both Medicare and Medicaid. For these individuals, Medicare is the primary source of coverage, with Medicaid as secondary payer covering Medicare co-payments and services not covered by Medicare.

Figure 1
Colorado Residents by Average Monthly Primary Source of Health Insurance [a/]
(thousands)



Total Population = 4,564

a/Primary payer is determined on the basis of prevailing coordination of benefits practices now in use.
Source: Lewin Group estimates using the Health Benefits Simulation Model (HBSM).

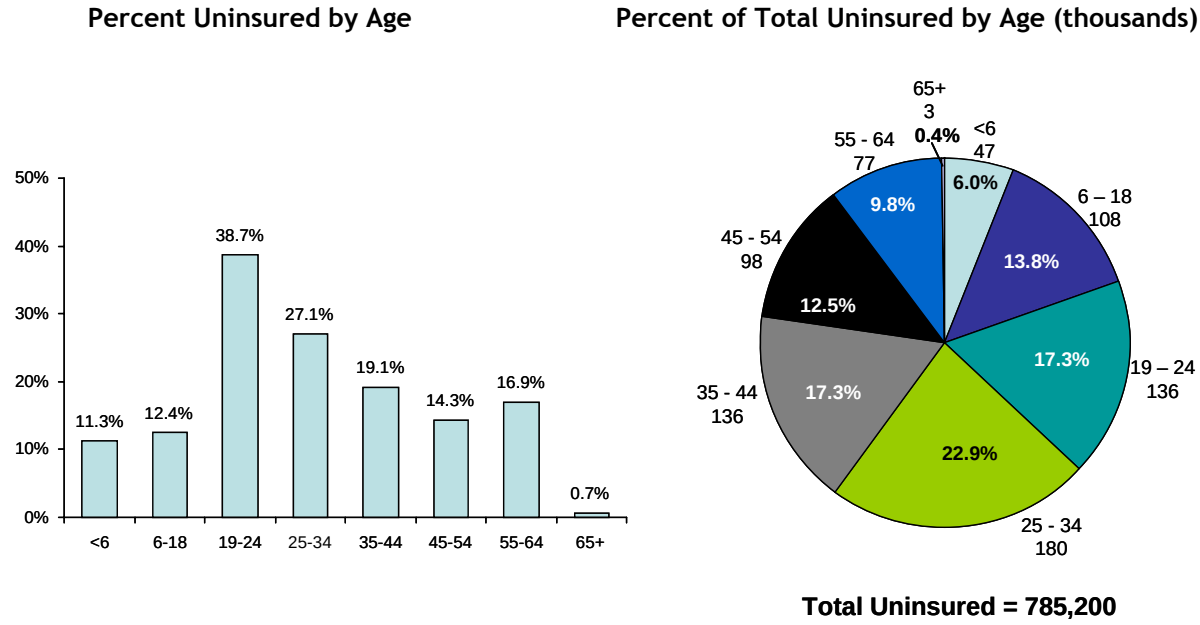
Employer-based coverage is the primary source of health insurance for most people in Colorado. More than one half of the population (57.1 percent) has employer based coverage as a worker or a dependent at any given point in time (***Figure 1***). Another 54,000 people are receiving employer coverage as an early retiree (i.e., excludes retiree supplemental coverage for Medicare eligible retirees). In addition, about 157,000 people have individually purchased non-group coverage as their primary source of coverage.

Medicare is the primary source of coverage for 453,000 aged or disabled people of whom about 49,000 are also covered under Medicaid. Average monthly enrollment in Medicaid is about 447,000, including 49,000 people who are also covered under Medicare. About 399,000 people have Medicaid as their primary source of health insurance coverage. There are about 83,000 people covered as military retirees or dependents under the TRICARE program. This leaves an average of about 785,200 uninsured people on an average-monthly basis.

2. Number of Uninsured by Age

Young adults are more likely to be without health insurance coverage than any other age group (***Figure 2***). About 38.7 percent of people age 19 through 24 are without health insurance, while about 27.1 percent of those age 25 through 34 are uninsured. About 16.7 percent of people age 55 through 64 are uninsured. Roughly 12 percent of children under the age of 19 are uninsured.

Figure 2
Percent of Colorado Residents Who are Uninsured by Age



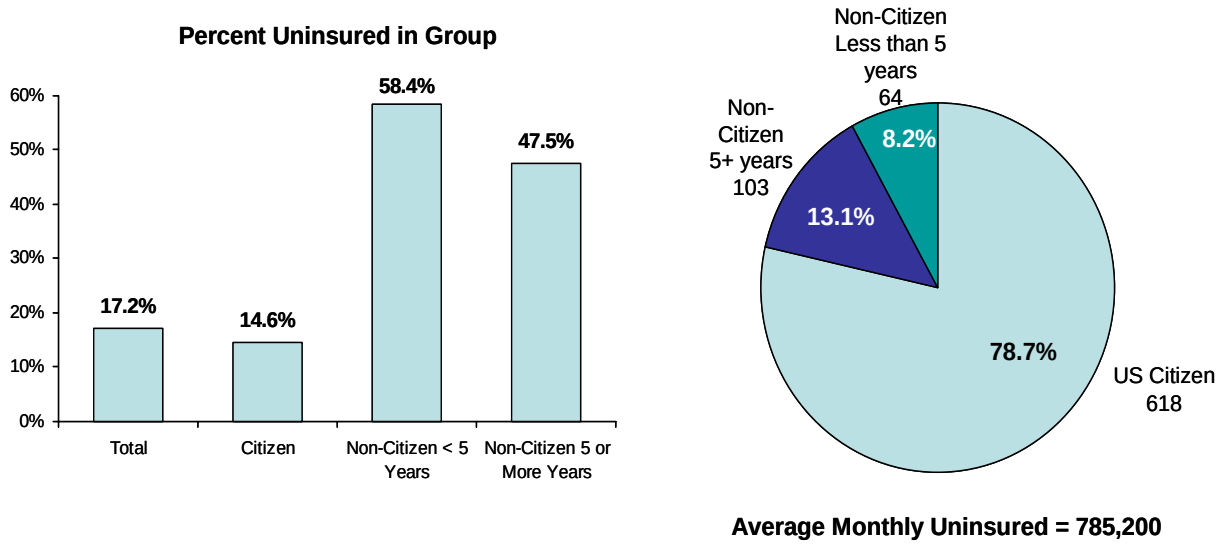
Source: The Lewin Group estimates using the Health Benefits Simulation Model (HBSM).

Of the 785,200 people without health insurance coverage, about 19.7 percent (i.e., 155,000) were children. About 40.2 percent of the uninsured are adults between the ages of 19 and 34.

3. Uninsured by Citizenship

About 167,000 of the uninsured (i.e., 21.3 percent) are not-citizens of the US (***Figure 3***). This is important in a policy context because immigrants must wait 5 years before they can qualify for Medicaid. Undocumented immigrants are ineligible for Medicaid regardless of income, except for emergency services. About 8.2 percent of the uninsured are non-citizens who have been in the US for less than 5 years and would not qualify for assistance under Medicaid or SCHIP except for emergencies. Another 13.1 percent of the uninsured are non-citizens who have been in the US for more than 5 years.

Figure 3
Uninsured in Colorado by Citizenship Status (thousands)



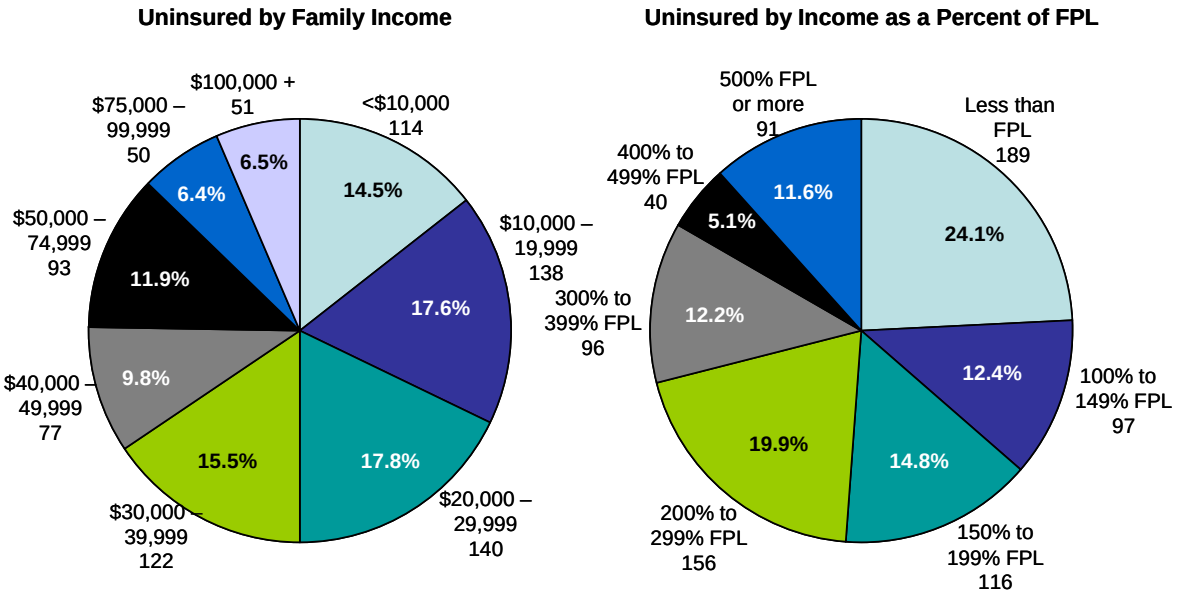
Source: Lewin Group estimates using the Health Benefits Simulations Model (HBSM)

Over half (58.4 percent) of all immigrants who have been in the country less than 5 years are uninsured. Among immigrants who have been in the US for 5 or more years, 47.5 percent are uninsured. About 14.6 percent of US citizens in Colorado are uninsured.

4. Uninsured by Family Income

The uninsured are found in all income groups (***Figure 4***). About 24.1 percent of the uninsured live below the federal poverty level (FPL). About 47.0 percent of the uninsured have incomes between 100 percent and 300 percent of the FPL, and about 28.9 percent of the uninsured have incomes in excess of 300 percent of the FPL. In fact 6.5 percent of the uninsured have family incomes of $100,000 or more.

Figure 4
Average Monthly Uninsured in Colorado by Family Income and Income as a Percent of the Federal Poverty Level (FPL) (thousands)



Average Monthly Uninsured = 785,200

Source: Lewin Group estimates using the Health Benefits Simulation Model (HBSM).

B. Health Spending in Colorado

We present our analysis of the current Wisconsin health care system in the following sections:

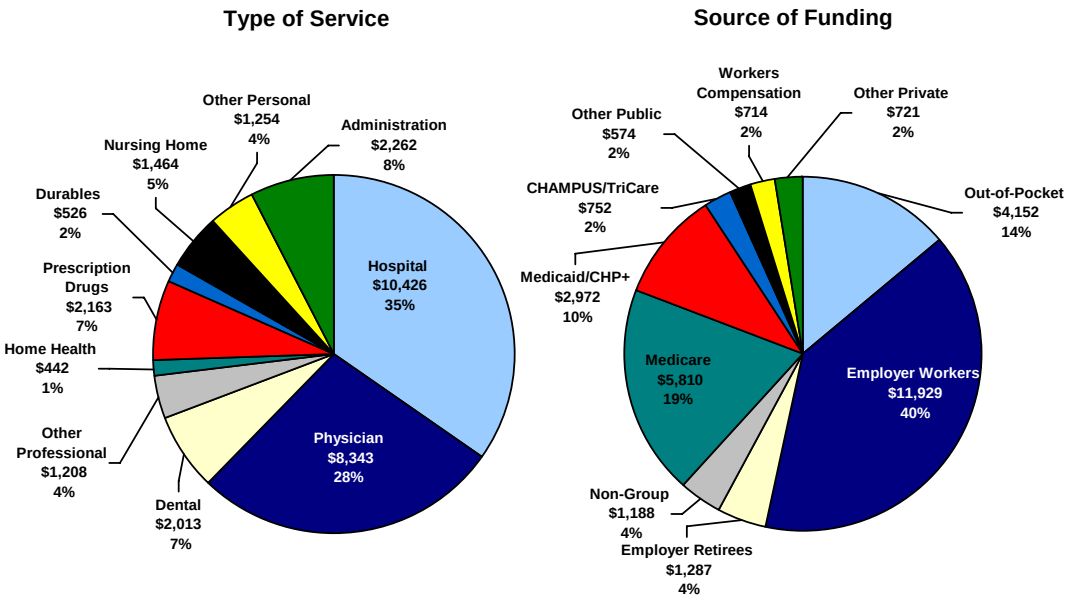
- Spending by Type of Service and Source of Payment
- Historical Spending in Colorado by Type of Service
- Projected Spending in Colorado by Type of Service

Detailed explanation of how we arrived at our estimates is provided in Appendix B.

1. Spending by Type of Service and Source of Payment

Figure 5 presents our estimates of spending by type of service and source of coverage in Colorado. Total health spending in Colorado for FY 2007-2008 is $30.1 billion, which includes administration expenditures.

Figure 5
FY 2007-2008 Estimated Spending in Colorado by Type of Service and Source of Funding [a/] (millions)



Total Spending = $30,100 million

Source: Lewin Group Estimates.

The following sections describe the data and methods used to estimate health spending in Colorado by type of service and source of payment. We estimated health spending for Colorado by type of service for FY 2007-2008 based upon historical data on actual spending in Colorado. For example, the Office of the Actuary (OACT) of the Centers for Medicare & Medicaid Services (CMS) conducts an extensive analysis of health spending by type of service that is designed to provide reliable estimates of spending for each individual state. These data are based upon hospital financial reports for each Hospital in Colorado. Data on income for physicians and other health professionals is based upon the Colorado sub-sample of surveys of businesses conducted by the Bureau of Labor Statistics.

2. Historical Spending in Colorado by Type of Service

We first estimated a control total for FY 2007-2008 health spending in the state of Colorado. We started with estimates of Colorado health spending developed by CMS for Colorado in calendar year (CY) 2004, which is their most recent year available. These estimates are available by type of service and are displayed along with national estimates in ***Figure 6***. Total health spending in Colorado was approximately $21.8 billion in 2004. This includes spending by all payers in the state including individual out-of-pocket payments, and spending for hospitals, physicians,

other health professionals, dentists, prescription drugs and long-term care.[1] It excludes insurer and program administration, research and construction, and public health spending.

Figure 6
Historical Spending in Colorado and the United States by Type of Service: 2000 and 2004 (millions) [a/]

	Colorado			United States		
Type of Service	CY 2000	CY 2004	Avg. Annual Growth 2000-2004	CY 2000	CY 2004	Avg. Annual Growth 2000-2004
Hospital	$5,598	$7,926	9.1%	$417,049	$566,866	8.0%
Physician	$4,719	$6,599	8.7%	$288,609	$393,713	8.1%
Dental	$1,168	$1,577	7.8%	$61,975	$81,476	7.1%
Other Professional [b/]	$738	$967	7.0%	$39,072	$52,636	7.7%
Home Health	$305	$365	4.6%	$30,514	$42,710	8.8%
Prescription Drugs	$1,335	$1,846	8.4%	$120,803	$189,651	11.9%
Medical Durables	$372	$449	4.8%	$19,330	$23,128	4.6%
Nursing Home	$938	$1,192	6.2%	$95,262	$115,015	4.8%
Other Personal Care [c/]	$538	$885	13.3%	$37,076	$53,278	9.5%
Total	**$15,711**	**$21,806**	**8.5%**	**$1,109,690**	**$1,518,473**	**8.2%**

a/ Spending in free-standing ambulatory surgical centers is recorded as physician income. For hospital based ambulatory care centers, the facilities charge is recorded as hospital income with the physician fee for non-hospital staff recorded as physician income.
b/ "Other professional" services are those provided by health practitioners other than physicians or dentists, such as private-duty nurses, chiropractors, podiatrists, and optometrists
c/ "Other Personal" services include industrial inplant services (i.e. health care provided by employers for employees at the employer's establishment), and government expenditures for medical care not delivered in traditional medical provider sites (e.g. community centers, senior citizen centers, schools, and military field stations). Home and Community Waiver programs comprise a large portion of "Other Personal" spending.
Source: Centers for Medicare & Medicaid Services, Office of the Actuary.

In ***Figure 7*** we display the 2000 and 2004 health spending data in Colorado along with its adjoining States. Colorado had rather moderate growth during this time period in comparison to that of its neighboring states.

[1] "Other professional" services are those provided by health practitioners other than physicians or dentists, such as private-duty nurses, chiropractors, podiatrists, and optometrists. "Other Personal" services include industrial inplant services (i.e. health care provided by employers for employees at the employer's establishment), and government expenditures for medical care not delivered in traditional medical provider sites (e.g. community centers, senior citizens centers, schools, and military field stations). Home and Community Waiver programs comprise a large portion of "Other Personal" spending.

Figure 7
Average Annual Growth Rates of Colorado and Adjacent States: CY 2000 and 2004 (in millions)

	State Spending 2000	State Spending 2004	Average Annual Growth Rate 2000-2004
Kansas	$10,402	$14,061	7.8%
Nebraska	$7,015	$9,715	8.5%
Arizona	$15,891	$23,639	10.4%
New Mexico	$5,457	$7,644	8.8%
Colorado	$15,711	$21,807	8.5%
Utah	$6,458	$9,543	10.3%
Wyoming	$1,615	$2,231	8.4%

Source: Centers for Medicare & Medicaid Services.

3. Projected Spending in Colorado by Type of Service

In order to project Colorado spending to FY 2007-2008 from CY 2004 we first calculate the ratio of the average annual growth rate experienced in Colorado from 2000 through 2004 to the comparable national growth rate for the same time period (see ***Figure 8***). Notice that the growth is fairly similar overall (Colorado health spending grew approximately 8.5 percent annually versus 8.2 percent nationally), but there were some significant differences within certain services. For example, Colorado home health spending grew nearly half as much as it did in the US whereas nursing home spending grew nearly 30 percent faster in Colorado.

Figure 8
Projected Spending in Colorado by Type of Service: FY 2007-2008

Type of Service	Ratio State Growth/US Growth 2000-2004	Average Annual Growth - US 2004-2007	State Weighted AAG 2004-2007	State Estimate FY04-05 (in millions)	State Estimate FY07-08 (in millions)
Hospital	1.14	7.2%	8.1%	$8,243	$10,426
Physician	1.08	6.4%	6.9%	$6,824	$8,343
Dental	1.10	6.6%	7.2%	$1,633	$2,013
Other Professional	0.90	7.3%	6.6%	$998	$1,208
Home Health	0.52	10.7%	5.6%	$375	$442
Prescription Drugs	0.71	6.6%	4.6%	$1,888	$2,163
Medical Durables	1.05	4.4%	4.6%	$459	$526
Nursing Home	1.28	4.7%	6.1%	$1,228	$1,464
Other Personal Care	1.40	7.5%	10.5%	$930	$1,254
Total	**1.05**	**6.7%**	**7.1%**	**$22,578**	**$27,838**

Source: Lewin Group estimates using state health spending and cost projections data provided by the Centers for Medicare & Medicaid Services, Office of the Actuary. See National Health Expenditures Projections 2006-2016. http://www.cms.hhs.gov/NationalHealthExpendData/downloads/proj2006.pdf>

After calculating the ratio of Colorado to US growth in health spending, we apply that ratio to the projected US average annual growth rates for 2004 through 2007 in order to obtain Colorado weighted projected average annual growth rates. The projected US growth rates are also developed by CMS.[2] The Colorado adjusted growth rates are used to extrapolate the 2004 state health spending estimates into the future. After this process, we estimate total health spending in Colorado in FY 2007-2008 to be about $27.8 billion.

4. Provider Payment Levels

The cost of uncompensated care and shortfalls in reimbursement under public programs are passed on to consumers in the form of higher charges through cost-shifting. Similarly, research indicates that reductions in uncompensated and under-compensated care are passed back to private payers in the form of reduced increases in charges. Thus, we assume that a portion of any reductions in uncompensated care or reduced Medicaid payment shortfalls will result in lower charges for private payers, including hospitals and physicians.

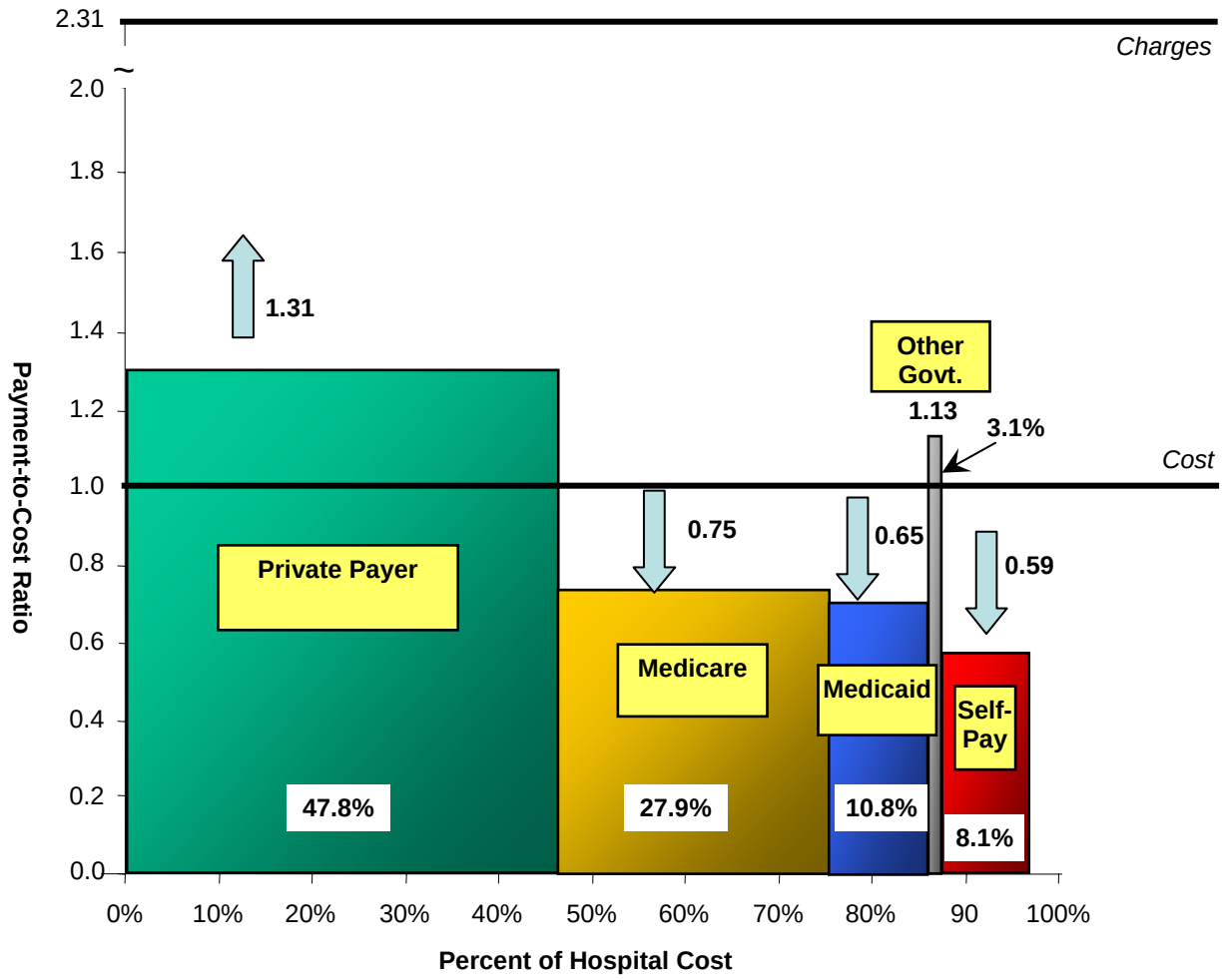
There are two separate studies indicating that about half of hospital payment shortfalls are passed-on to private payers in the form of higher charges. However, two other studies showed considerably less evidence of hospital cost-shifting, although they did not rule out a partial cost-shift. One study of physician pricing by Thomas Rice et al., showed that for every one percent reduction in physician payments under public programs, private sector prices increased by 0.4 percent.

Our own analysis of hospital data indicates that about 40 percent of the increase in hospital payment shortfalls (i.e., revenues minus costs) in public programs were passed on to private payers in the form of the cost shift during the years studied. Based upon this research, we estimate that 40 percent of increases in reimbursement would be passed back to payers in the form of reduced charges.

Figure 9 compares hospital payment levels in Colorado that are driven by shortfalls from government payers and the uninsured in Colorado. A detailed explanation is provided in Appendix C. On the public side, Medicaid payments are at 10.8 percent of cost compared to Medicare payment at 27.9 percent and other government payers at 3.1 percent of hospital costs. Private payers pay about 47.8 percent of the cost and self-pay pay about 8.1 percent of cost.

[2] Centers for Medicare & Medicaid Services, Office of the Actuary. National Health Expenditures Projections 2006-2016. <Available as of May 29, 2007 at: http://www.cms.hhs.gov/NationalHealthExpendData/downloads/proj2006.pdf>

Figure 9
Summary Comparison of Hospital Payment Levels in Colorado



Source: The Lewin Group analysis of Colorado Hospital Association data.

III. BETTER HEALTH CARE FOR COLORADO

Better Health Care for Colorado provides a path to universal health care through a public program expansion and access to private insurance coverage with low-income subsidies through a Health Insurance Exchange. Individuals eligible for public programs would receive benefits under those programs, and individuals who purchase private coverage would have access to a limited core set of benefits, with premiums copays. Financing for the program would be using Disproportionate Share Hospital (DSH) dollars, savings in uncompensated care, and other administrative savings. We present Better Health Care for Colorado in the following sections:

- Key Provisions of Better Health Care for Colorado
- Assumptions
- Cost and Coverage Impacts

A. Key Provisions of Better Health Care for Colorado

Key provisions of Better Health Care for Colorado are summarized below:

1. Coverage

Coverage in the program and residency requirements are described below.

a. Public Program Expansion

The proposal extends health coverage to uninsured, low-income populations up to 300 percent of the federal poverty level (FPL) through the Medicaid and Child Health Plus (CHP+) programs under Medicaid/SCHIP State Plan Amendments and an 1115 Demonstration Waiver, as follows:

- Children up to 300 percent FPL – Medicaid/SCHIP SPA; and
- Parents up to 250 percent of FPL and childless adults up to 225 percent FPL – 1115 Demonstration waiver to authorize Medicaid-funded premium subsidies to purchase private insurance through an Exchange (not a traditional Medicaid benefit package or entitlement).

The following populations are excluded:

- People with employer sponsored insurance (ESI), for which the employer pays at least 20 percent of costs for individual or 30 percent for families;
- People with private non-group insurance;
- People with Medicare or Medicaid coverage;
- People covered under the Federal Employee Health Benefits Program (FEHBP);
- People with state or local employee health benefits; and
- People covered under CHAMPUS/Tricare.

b. Private Coverage Expansion

Under the proposal, uninsured Colorado residents who work in qualified small business (including part-time workers) would purchase private insurance coverage through an Exchange. The worker would have to have been employed in a firm with 50 or fewer workers that has not offered employer sponsored insurance coverage (ESI) for at least one year.

c. Residency Requirement

The residency requirement would be the same as in the Colorado Medicaid program, for children eligible for Medicaid or CHP+ and for parents and childless adults eligible for Medicaid-funded premium subsidies. Undocumented aliens who are low-income or who work for uninsured small businesses would be eligible to buy insurance from the Exchange, however no subsidies would be provided to purchase insurance.

2. Covered Services, Cost Sharing and Benefit Limits

Individuals who are currently eligible for Medicaid and CHP+ would receive the benefits under those programs, including pharmacy benefits and long term care. Applicable cost-sharing requirements under the Medicaid program would apply.

Parents and childless adults in the expansion population and other uninsured workers would enroll in private plans and receive a minimum benefit package described below. Private plans would be required to offer a minimum benefit plan subject to benefit limits, with cost sharing ***(Figure 10)***. Copayments would be enforceable and would not exceed the following:

- Under 100 percent FPL, no copayments required;
- 100-200 percent FPL, maximum copayment of 2 percent of income; and
- 200-300 percent FPL, maximum copayment of 4 percent of income.

However, copayments could be waived as an incentive for wellness/healthy behavior. The proposal would establish a medical home and emphasize access to affordable coverage for primary care services. The minimum benefits package would also create a preferred drug list by a specialty pharmacy program.

Figure 10
Potential Colorado Benefit Design for Core, Basic Benefit, Cost Sharing and Limits [a/]

Covered Benefits/Services	Copayments	Limits
All Benefits		• $35,000 Annual Maximum
All Outpatient Services		• $5,000 Annual Maximum
• Physician Services		
◦ Primary Care (including adult preventive services & specialist monitoring a chronic condition)	$10	
◦ Specialist Care	$20	
• Urgent Care	$25	
• Outpatient Hospital		
◦ Surgical Services	$50	
◦ Other Outpatient Services	$25	
• Ambulance (emergency)	$50	
• Laboratory & X-Ray	$0	
• Family Planning Services	$0	
• Mental Health Services	Sliding scale	
• Therapies (consistent w/HMO benefit)	$10	
Other Services		
• Inpatient Hospital Services	$100	▪ $25,000 Annual Maximum
• Emergency Services	$50*	▪ $1,000 Annual Maximum
• Durable Medical Supplies/Equipment	$50	▪ $1,500 Annual Maximum
• Prescription Drugs (Medicaid FFS carve-out, if broad-based PDL is implemented)	Generic–$5 Brand–50% of cost, $25 minimum	• $2,500 Annual Maximum

a/ Plans would be allowed to offer a $25,000 maximum annual limit for all services and enhanced benefits.
Source: Better Health Care for Colorado Health Reform Proposal

The minimum benefit would establish a "floor" for benefits, a guaranteed subsidy for participants and a payment schedule for providers that varies by gender, age and potentially geographic area. Insurers could offer enhanced benefits and employers and unions could negotiate for more comprehensive coverage from selected plans; these plans would be required to extend that benefit package to all participants who choose the product on the Exchange.

In addition, the Exchange could offer different options for insurance coverage such as a more comprehensive "benchmark" benefit plan with higher participant cost sharing (like a state

employee plan) or, for participants who are at high risk and would qualify for the state's high risk pool, a higher premium subsidy to enroll in CoverColorado.

In place of supplemental or wrap-around coverage, the State could continue to use a portion of DSH to reimburse uncompensated care in excess of insurance coverage or, through the low-income pool, could use reinsurance or establish outlier payments for costs that exceed the annual limits. Long term care services would continue to be provided under the Medicaid program and would not be incorporated in the new premium subsidy program.

3. Premiums and Subsidies

Premiums would be set based on the benchmark minimum benefits above. However, monthly per member per month costs for the core benefit would be targeted at $150-$200. Individuals who do not pay their monthly premium would be disenrolled. For specific insurance products already offered, such as CoverColorado, existing policies & procedures would apply.

Figure 11 shows estimated Single and Family premiums by Age and Gender for the benefits package:

Figure 11
Better Health Care for Colorado Premium Estimates

Medical Expense PMPM by Age/Gender/Tier
Contracts Effective 2007/2008

Age/Gender	Single	Family
<25 M	$122.05	$440.91
25 - 34 M	$149.19	$642.74
35 - 44 M	$197.29	$767.38
45 - 54 M	$331.21	$862.99
55 - 64 M	$562.81	$1,030.89
<25 F	$218.09	$469.69
25 - 34 F	$274.48	$663.08
35 - 44 F	$319.34	$734.99
45 - 54 F	$420.98	$868.77
55 - 64 F	$605.72	$1,066.71

Source: NovaRest Consulting

Premium subsidies would be offered for low income people for private coverage (except undocumented aliens) on a sliding fee scale as follows:

- Under 100 percent FPL, no premiums required;
- 100-200 percent FPL, 98 percent premium subsidy;
- 200-300 percent FPL, 96 percent premiums subsidy; and
- Above 300 percent of FPL, no premium subsidies.

In addition, premium discounts could be offered through a wellness/healthy behavior initiative, along with value-based purchasing discounts to encourage use of cost-effective protocols for specific diseases (i.e. diabetes).

Low income individuals who receive a subsidy and enroll in a higher cost plan would be responsible for any additional premiums in excess of the subsidy provided for the core, basic benefit plan, with the exception of those eligible for the state's high risk pool.

The Exchange will establish a system to administer premium subsidies and collect premiums through payroll deductions and, if not employed, through coupon payments or an Electronic Funds Transfer (EFT). Alternatively, any functions now operated by the state for a Medicaid health insurance purchase arrangement, or any other premium collection system could be expanded to collect premiums for the expansion population.

4. Consumer Choice

Currently Medicaid and CHP+ eligible people would enroll in these programs and cannot enroll in a private plan. Under the expansion population, children would enroll in the Medicaid or CHP+ programs. Parents, childless adults and uninsured workers and families would be able to buy private market products offered by a Health Insurance Exchange. Low-income workers who are eligible for a premium subsidy would have the choice to opt out of the plan to enroll in ESI using the premium assistance to pay for their employee contribution.

Plans would compete through an exchange by offering lower cost-sharing or enhanced benefits packages, for example, lower-cost benefit plan that offers primary and preventive coverage with an annual benefit limit of $25,000 or $35,000. The Exchange would certify plans with preference for HMOs and PPO products that incorporate care management and managed care principles.

Individuals with higher healthcare costs or chronic conditions would have the option to select a product with broader coverage (e.g., a benchmark plan with more comprehensive coverage and higher cost sharing like the State Employees Health Plan with broader coverage or, if eligible under the criteria required for enrollment in the state's high risk pool, CoverColorado). In these instances the annual limit would not apply, but rather the alternative plan provisions selected by the participant would provide a choice of coverage with more comprehensive benefits and higher cost sharing. As noted, a higher subsidy could be provided for those eligible for CoverColorado to eliminate any financial disincentive to enroll in that program if an individual is high risk and qualifies for the program.

5. Enrollment and Coverage Continuation

The plan would specify an initial period of 60 days to enroll once eligible, an annual open enrollment period, and a lock-in period of one year, with exceptions for good cause, such as changes in employment, income or marital status. For specific insurance products already offered, such as CoverColorado, existing policies and procedures would apply. Individuals

could be disenrolled for failure to pay premiums, or denied service for failure to pay required cost sharing after a 30 day grace period.[3]

6. Disposition of State/Local Programs

The plan expands Medicaid and CHP+ as specified above. In addition the plan proposes to establish a high-quality, capitated Medicaid managed care program statewide. All other public programs such us Federally Qualified Health Centers (FQHCs), Rural Health Clinics (RHCs), Mental Health clinics, CoverColorado school based health services, etc, would be maintained.

7. Employer Provisions

Any employer contribution for the subsidized population would be voluntary. Multiple employers could contribute to coverage on the exchange, and payroll deductions could be drawn from more than one employer for employees with multiple jobs.

Employers would be required to cooperate with the Exchange to coordinate work site enrollment, payroll withholding and the establishment of a Section 125 plan to assure pre-tax treatment of employee contributions for health care. Employers could also make voluntary contributions for plan coverage.

8. Insurer's Role and Insurance Market Reforms

Insurers would offer products to be certified for the Exchange, and would be responsible for meeting benefit requirements (minimum coverage, guarantee issue for products on the Exchange), complying with wellness/healthy behavior, disease management, and for pay for performance requirements. Insurer's roles in marketing, outreach, information sharing and other enrollment functions would be reduced as these functions would be facilitated by the Exchange.

A modified community rating (age and gender) would apply for the basic, core insurance product on the Exchange. The Exchange could also allow rates to be established by geographic area. The rating rules that apply for CoverColorado would continue for that program.

9. Provider Payment Levels

Medicaid and CHP+ services providers would be paid at the Medicaid and CHP+ payment levels. For the expansion population purchasing insurance on the Exchange, providers would be paid at Medicare or comparable market rates. The following additional pay-for-performance incentives would be provided:

- For hospitals, future increases will be distributed on a provider specific basis depending on their "score". For example, if the budget provides an overall 3% increase in hospital rates, individual hospital rates could range from 4.5% to zero depending on their score.

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[3] The proposed grace period is to be comparable to that used in the individual and small group market and ESI coverage.

Insurers in the Exchange and other insurers would be encouraged to emulate the hospital P4P program in their payment designs.

- For Medicaid MCOs – the construct is to set rates at the bottom of the rate range and create incentives for outstanding plan performance that would get a MCO to the mid-point of the rate range. For products offered through the Exchange, a portion of the subsidy will be tied to outcome performance.
- Physician P4P would be required for MCOs or PCCM vendors in Medicaid managed care and for all plans offered through the exchange.
- Rate updates for Medicaid and CHP+ would continue as a function of the state budget process. For the private plans, the Exchange would review and approve rates to be offered, subject to approval of funding in the state budget process.

Rate updates for Medicaid and CHP+ would continue as a function of the state budget process. For the private plans, the Exchange would review and approve rates to be offered, subject to approval of funding in the state budget process.

10. Financing

The program would be financed as follows:

- Redirection of Colorado Indigent Care Program funding from providers to fund premium subsidies;
- Savings from proposed Medicaid 1115 Demonstration waiver provisions;
- Medicaid program savings from implementing disease management programs;
- An increase in tobacco—from $.84 up to $2.00 per pack; and
- An increase in alcohol taxes as follows
    - Spirits: from $.60 to $5.63 for a liter (or from $2.28 to $21.30 per gallon)
    - Wine: from $.07 to $.66 per liter (or from $.32 to $2.50 per gallon)
    - Beer: from $.05 to $.15 per 6-pack (or $.08 to $.26 per gallon)

11. Administration

For the public program expansion (parents and childless adults) and for private plans (unsubsidized small business employees), plan selection and enrollment would be facilitated by a quasi-public entity, "the Exchange". Medicaid and CHP+ administration would continue upon the plan effective date; however, the state could phase in to the Exchange model and could explore the extent to which other existing programs/structures could perform some of the Exchange functions. Functions of the Exchange would be as follows:

- Offer products to subsidized uninsured and non-subsidized small businesses;

- Facilitate enrollment, certify plans, administer premium subsidies, collect premiums through payroll deductions, coupon payments and EFT, ensure portability, and leverage pre-tax contributions to reduce cost.;
- Create an environment where providers would compete on price, quality, and provider networks;
- Certify plans with a preference for managed care and PPO products that incorporate care management and managed care principles, to provide a choice of insurance options, including:
    - Limited benefit health plan with first dollar coverage and annual benefit limit of $25,000 to $35,000;
    - A pre-paid and/or point-of-service plan;
    - A benchmark plan with more comprehensive coverage and higher participant cost sharing, such as the State Employee Health Insurance Plan;
    - State care initiatives (i.e., Colorado Indigent Care Program); and
    - If eligible, the Colorado high risk pool.

In addition to providing access to affordable insurance for the subsidized population, the Exchange would be a platform to offer more accessible, affordable products to uninsured small businesses with streamlined administration and portability for workers. Regulation of insurers in the marketplace would continue to be the responsibility of the Division of Insurance.

To the extent possible, the Exchange would coordinate with and build on Medicaid eligibility systems for outreach, eligibility determinations and coordination of health plan enrollment for multiple family members. The Exchange would also establish new lines of coordination and communication with employers for work site sign-up, payroll withholding and Section 125 plans.

The administration of long-term care services would remain with the Medicaid program; the Exchange would not administer any long term care services. Individuals requiring long term care services would access information/service via the current, but enhanced single entry points.

12. Long-Term Care Component

The proposal included several long term care reforms. Below are the proposed reforms, indicating the reforms for which Lewin would provide a completed analysis:

Reform Description	Lewin Cost Impact Estimate
I. ELIGIBILITY	
1. Post eligibility verification of financial information (Presumptive Eligibility) • Implement a post eligibility verification of financial eligibility for all with assets below $2,000.	✓

Reform Description	Lewin Cost Impact Estimate
• Post-eligibility verification would occur within 60 days of initial service start-date. • Individual is financially responsible for services if determined not eligible.	
2. Automated functional assessment system • Complete implementation of Benefits Utilization System for CO.	
3. Clinical eligibility changes • Colorado's clinical threshold for NF eligibility and also community services is 2.0 ADL limitations. Increase the institutional level clinical eligibility criteria for Elderly Blind and Disabled (EBD) waiver to 3.0 ADL limitations. Because the author has not had the opportunity to review acuity-level data related to this change, the recommendation may be modified or eliminated once data is available if there is a severe negative impact in either of these areas. • Apply the 2.0 ADL limitation clinical eligibility criteria to cover personal care services as a state plan service.	↓
4. State-funded change • Develop a more robust state-funded non-institutional option for individuals with limitations in 2.0 ADLs with income between 150 percent and 300 percent of poverty.	
5. Income eligibility change: Increase income eligibility of HCBW services to 150 percent FPL as a state plan service.	↓
6. HCBS Spend Down Program • Develop a HCBW spend down program for people with excess resources to buy into the program. • For people who exceed the Medicaid income levels, develop a private pay non-institutional option.	↓
II. REIMBURSEMENT	
1. Acuity Adjusted and Cost Effective Rate Setting • **Nursing facilities**: Use new version of MDS to revise nursing facility case mix rates to better account for behavioral health issues. • **Non-institutional Providers:** Develop a methodology that increases payment to non-institutional providers in recognition of greater resource requirements similar to the nursing facility case mix system. Collection and analyses of acuity information should be built into the Benefits Utilization System (BUS) system, Colorado's automated functional eligibility system.	
2. Cost-effective Rate-setting • The state should review its nursing facility and HCBW rate setting methodology to ensure that the rates provided encourage cost-effective care. • Address payment disparities between nursing facilities and HCBW services.	
3. Pay-for-Performance (P4P) • Establish P4P standards for all long term care providers.	
III. HOUSING	
1. Increase access to housing for LTC consumers • Establish housing set asides and priority placement for LTC consumers – establish a cabinet level commitment to make LTC consumers a priority to public housing entities.	

Reform Description	Lewin Cost Impact Estimate
• Develop supported housing and create partnerships between HCBW providers, SNPs, and public housing. Encourage SNPs to staff senior centers at public housing locations with on site medical care.	
2. Increase affordable and accessible housing stock	
• Create a housing fund that non-profit develops can access to develop accessible and affordable housing for at risk population. (e.g., Boulder Housing Authority)	
3. Provide local assistance to consumers to find affordable and accessible housing	
4. Provide assistance to NF, private developers and other interested parties in accessing state and federal programs to help finance affordable and accessible housing.	
5. Maximize housing-related funding	
• State review how funds related to housing including HCBW are used to ensure federal funding is being maximized.	
IV. RIGHT SIZING STRATEGY	
1. Establish right-sizing incentives	
• Provide incentives for facility conversions, bed buy-back programs, etc.	
• Consider additional disincentive in rate methodology for nursing facilities with high proportion of low-acuity residents.	
• Provide tiered reimbursement for facilities that provide a comprehensive health healthcare insurance benefit and provide a lower maximum allowable reimbursement for facilities that do not provide a comprehensive healthcare benefit.	
• Consider moving to a more cost-center-based system that promotes quality and improves accountability; e.g., money that is allocated to direct care labor costs cannot be spent on other areas such as capital and overhead and vice-versa.	
2. Promote PACE/SNP Development	
• State actively recruit NFs to partner with carriers do develop SNPs and PACE programs.	
3. Promote HCBW services	
4. Assist with transitioning the workforce	
• Provider training on Consumer Directed Care	
• Benefits-ensure that workers have insurance coverage.	
5. Quality Management	
• Establish a LTC QM Committee	
• Establish measurable benchmarks and performance standards	
• Implement a QI strategy	
• Establish a formal back-up and emergency system	
• Establish a training program	
• Establish a public authority	
V. CARE DELIVERY	
1. Consumer-Directed Care: Increase use of consumer directed options in all LTC programs in Colorado. Develop educational materials and provide training to ensure that all consumers understand this option.	

Reform Description	Lewin Cost Impact Estimate
2. Develop integrated models: • Develop integrated models including SNPs, Coordinated Care programs (to include Medicare and behavioral health services), PACE and PACE-like models. • Develop more integrated state-funded programs. **3. Develop HCBW for Veterans.** **4. Develop non-institutional model for Coloradans not eligible for Medicaid**	
VI. STRUCTURE • **Leadership and State-only funded programs:** State review current organizational structure to facilitate increasing demand for LTC services. • Establish a leadership team from various agencies involved in delivering LTC services (DHCP, Human Services, Housing, etc.) to establish and implement the Administration's vision, allocate resources, and monitor progress.	
VII. FINANCING State should consider the following as options to for developing and maintaining sustainable LTC programs: • Nursing home tax • Review state only spending on LTC to identify opportunities to obtain Medicaid federal match. • Obtain Medicaid match on Veteran's expenditures	

Lewin will present the results of LTC analysis and narrative to be provided in an Addendum to the Report.

B. Key Assumptions

The Author's proposal would expand coverage under Medicaid/SCHIP programs to cover all children living below 300 percent of the FPL. It also provides subsidies for private coverage for parents through 250 percent of the FPL and childless adults through 225 percent of the FPL. After a period of time, eligibility levels for parents would be increased to 300 percent of the FPL.

In this section, we describe the methods and assumptions used to simulate the impact of this proposal. A detailed discussion of the model is presented in ***Appendix D***.

1. Low-Income Coverage Expansion

We estimated the number of newly eligible children who would enroll in the program based on the Colorado sub-sample of the Current Populations Survey (CPS) data for 2004 through 2006 using the Health Benefits Simulation Model described above. These data provide information on income and insurance coverage for a representative sample of the population that is suitable for use in estimating the number of people who are eligible for public coverage expansions.

Key assumptions include:

- We estimated the number of children who would be eligible to enroll under these eligibility expansions using the income and demographic data reported in the CPS and the income eligibility levels used in the state. Estimates were developed using a simulation of month-by-month eligibility, which permits us to account for part-year eligibility.
- We simulated enrollment for eligible children based upon a Lewin Group analysis of program participation rates under the current Medicaid program. This approach results in participation rates of about 70 percent for uninsured persons and 39 percent for people who currently have insurance from some other source.
- We assumed that children currently eligible for Medicaid or SCHIP who are not enrolled would become covered under the program if one of their parents becomes covered under the private insurance subsidy program created for adults. We assume no change in coverage status for all other persons who are eligible for but not enrolled in the existing Medicaid/SCHIP program.
- Administrative costs per newly eligible person were assumed to equal average administrative costs for eligibility functions per enrollee under the current program (about 7.5 percent of benefits costs).
- Our participation model simulates "crowd-out" (i.e., the substitution of public for private coverage) based upon enrollment of children eligible for the pre-SCHIP poverty level expansions under Medicaid.[4] The model indicates that without anti-crowd-out provisions, up to 39 percent of newly eligible persons with employer coverage would eventually shift to the public program.[5]

2. *Premium Subsidies*

The premium subsidies would reduce the cost of insurance to eligible people, resulting in an increase in the number of people taking such coverage. We estimated the impact of the premium subsidy on the number of people purchasing non-group coverage by treating the subsidy as a change in the price of insurance to the individual. This reduction in price would result in an increase in the likelihood that such a family would purchase coverage.

We simulated the impact of this reduction in price using a multivariate model of how the likelihood of purchasing coverage changes as the price of coverage (i.e., the premium) is reduced. This model shows an average price elasticity for coverage of –0.34 (i.e., a 1.0 percent decrease in premiums is associated with an increase in coverage of about 0.34 percent). However, the impact of changes in premiums on coverage varies with the income and demographic characteristics of affected persons. For example, the price elasticity varies from about –0.31 among persons with family incomes of $50,000 to –0.55 among those with incomes of $10,000. Thus, the price response tends to be higher for low-income persons than high-income persons.

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[4] Estimates are based upon CPS data showing Medicaid enrolled children with parents who have employer health insurance. The poverty-level expansions did not include anti-crowd-out provisions.

[5] Crowd-out could be substantially reduced by requiring states to adopt anti-crowd-out provisions such as a six-month waiting period.

We used these price elasticity assumptions to simulate the change in coverage for uninsured people in the MEPS-based HBSM data. The model was used to estimate the premium faced by each uninsured individual/family in the individual market, and the amount of the credit that eligible persons would receive. Affected individuals were then randomly selected to become covered based on the change in the net cost of insurance to the individual as a result of the credit (i.e., premium less the tax credit received) and the price elasticity assumptions discussed above. This step involved the following assumptions:

- We used HBSM to estimate the premium that individuals face in the non-group market for a given benefits package by age, sex and self-reported health status. As discussed below, this benefits package is assumed to be similar to that offered through the Federal Employees Health Benefits Program (FEHBP), adjusted to reflect recent research indicating that the actuarial value of non-group policies is typically about 16 percent less than that of employer health plans.[6]
- All HBSM simulations were performed on a month-by-month basis to account for persons who are eligible for only part of the year. (The various tax credit proposals typically pro-rate the annual credit over months of eligibility.)
- All income-eligible persons who are currently purchasing non-group coverage are assumed to take the credit.
- All income-eligible persons who have employer coverage are assumed to receive the tax credit less the value of the tax exclusion on their employer-provided coverage.

3. "Crowd-out" Analysis

Programs that expand eligibility for Medicaid and various proposals to provide premium subsidies for non-group coverage can lead to reductions in the number of people who have employer-sponsored insurance (ESI). This is because, for those who qualify, these programs either reduce or eliminate the cost of obtaining coverage through other sources (i.e., Medicaid, SCHIP, or subsidized non-group coverage). For example, employers of low-wage workers may find that the cost of obtaining coverage through government subsidized coverage would actually be less than the cost of obtaining coverage as an employer group, even after accounting for the tax advantages of obtaining coverage through ESI. The process of people moving from private to public coverage in called "crowd-out."

The program modeled here includes a 12 month waiting period, which is designed to discourage people from discontinuing their employer coverage to enroll in publicly subsidized coverage. The waiting period rule requires that people must be uninsured for 12 consecutive months before enrolling in the program. Thus, to shift to the publicly subsidized coverage, the individual must terminate their employer coverage and "go bare" of insurance for a year before enrolling in the subsidized coverage program.

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[6] Gabel, Jon, et. al., "Individual Insurance: How Much Financial Coverage Does It Provide," *Health Affairs*, April 2002.

In this analysis, we assume that the waiting period requirement would be effective in preventing people from discontinuing their ESI to enroll in Medicaid/SCHIP or the premium subsidy program. However, we assume that the waiting period rule is waived to people losing employer coverage due to job change or a change in family status, such as a divorce.

4. Program Administration

We assumed that the cost of administering eligibility for the Medicaid/SCHIP expansion would equal $170 per family per year. This is based upon detailed data on the cost of administering eligibility under the Medicaid program. We assume that insurer's cost of administering coverage under each of these benefits packages to be equal to 19 percent of covered claims. This assumption is based upon experience in large health plans operating in the non-group market.

5. Wage Effects

We assume that changes in employer health spending under the proposal would be passed on to employees as changes in wages. We also assume that this would occur among government employers as well, assuming that states would need to remain competitive with private employers for labor. This adjustment wage increase would be partly offset by changes in income and payroll tax payments.

C. Cost and Coverage Impacts of Better Health Care for Colorado

We present our findings of the impact of the Better Health Care for Colorado proposal in 2007/2008 in the following sections:

1. Transitions in Coverage

The proposal provides coverage through a public program expansion and through the private market. Uninsured individuals in the private market would be able to purchase coverage through an Exchange. Some of these individuals would purchase only the limited benefit package while others would opt for more comprehensive benefits.

The proposal covers an estimated 324,600 uninsured or 40.99 percent of the uninsured population. ***Figure 12*** illustrates where people would become covered under the proposal. We estimate that, of the 2.69 million people currently receiving employer sponsored insurance (ESI), 14,900 would move into the Medicaid/CHP+ expansion as a result of the program expansion. In addition, 29,000 would seek coverage through the exchange as the proposal allows workers in qualified small firms to purchase coverage through the Exchange with a subsidy based on income level. Of the 29,000 enrolling through the Exchange, 9,000 would seek comprehensive benefits.

Out of an estimated 158,900 people getting coverage in the non-group market, we estimate that 13,000 would seek limited benefit coverage through the Exchange and 2,500 would seek more comprehensive benefits through the Exchange. These would include people who would be able to qualify for subsidies and who can get cheaper coverage through the Exchange. In addition 8,300 people would move from the non-group market to the Medicaid/CHP+ program because of the expansion. We estimate that 135,100 people would remain in the non-group market

without going through the Exchange. Better Health Care for Colorado has no impact on coverage of military personnel under CHAMPUS. Also the estimated number of people to be covered under Medicaid/CHP+ under current law would remain the same.

Figure 12
Transitions in Coverage under Better Health Care for Colorado in 2007/2008 (thousands)

Base Case Coverage	Total	Exchange		Private Coverage		Public Coverage			Uninsured
		Limited Benefit	Comprehensive Benefit	Employer	Non-Group	CHAMPUS	Medicare (incl. dual eligibles)	Medicaid/ CHP+	
Employer	2,691.7	20.0	9.0	2,647.8	0.0	0.0	0.0	14.9	0.0
Non-Group	158.9	13.0	2.5	0.0	135.1	0.0	0.0	8.3	0.0
CHAMPUS	112.4	0.0	0.0	0.0	0.0	112.4	0.0	0.0	0.0
Medicare (incl. dual eligibles)	413.0	0.0	0.0	0.0	0.0	0.0	413.0	0.0	0.0
Medicaid / CHP+	452.1	0.0	0.0	0.0	0.0	0.0	0.0	452.1	0.0
Uninsured	791.8	245.6	36.3	0.0	0.0	0.0	0.0	42.8	467.2
Total	**4,619.9**	**278.6**	**47.8**	**2,647.8**	**135.1**	**112.4**	**413.0**	**494.9**	**467.2**

Source: The Lewin Group estimates using the Health Benefits Simulation Model.

Figure 13 shows the change in the number of uninsured under the proposal by age and income, assuming the program is fully phased in with expansions for parents, adults and children under the Medicaid/CHP+ programs. The proposal covers a greater proportion of lower income people because of the subsidies provided for these individuals as well as the expansion in Medicaid/CHP+. The proposal would cover about 47.80 percent of uninsured people earning less than $50,000 per year compared to 27.72 percent of the uninsured those earning $50,000 or more. Individuals between the ages of 19-34 years are more likely to be healthier and therefore more likely to remain uninsured, particularly if they are lower income unless they fall under categorical groups for public programs. With the premiums subsidies provided through the Exchange and the public expansions to childless adults, the program covers 43 percent of people between ages 19-34 years. Primarily through the public program expansion for children, 27.22 percent of the uninsured under 19 years old would be covered.

Figure 13
Change in Uninsured under Better Health Care for Colorado in 2007/2008 (thousands)

	Uninsured Under Current Law	Reduction in Uninsured	Number Remaining Uninsured under the Policy
Family Income			
Under $10,000	90	36	54
$10,000-$19,999	109	60	49
$20,000-$29,999	127	68	59
$30,000-$39,999	118	49	69
$40,000-$49,999	79	37	43
$50,000-$74,999	123	42	81
$75,000-$99,999	66	16	50
$100,000-$149,999	48	7	41
$150,000 & over	30	9	21
Age			
Under 6	59	17	42
6-18	99	26	73
19-24	123	44	79
25-34	192	92	100
35-44	147	73	74
45-54	112	47	65
55-64	58	25	33
65 and over	1	0	1
Total	**792**	**325**	**467**

Source: The Lewin Group estimates using the Health Benefits Simulation model (HBSM)

6. Impact on Statewide Health Spending

As discussed above, we estimate that health spending for Colorado residents will be about $30.1 billion in 2007/2008. This includes spending for all health services by all payers including Medicare Medicaid, ESI, non-group insurance, workers compensation and various safety-net programs. Spending includes both payments for services, insurance, and program administration.

Better Health Care for Colorado would have several impacts on statewide health spending. There would be an increase in health services utilization as persons who are uninsured or underinsured under the current system become covered. Utilization will also increase slightly for those individuals previously covered in a less generous plan. However, some of these increases in costs would be offset by reductions in administrative costs for insurers and providers as people access coverage through the Exchange.

Health spending in Colorado would increase by about $595 million in 2007/2008 under the proposal (***Figure 14***). This is an increase in state-wide health spending of about 2 percent. Provider payments would increase by about $374 million due to increased utilization of services by newly insured people and a net increase in provider reimbursement resulting from the use

of provider payment levels equal to Medicare or comparable market rates. Medicaid and CHP+ provider payment rates will remain the same under the expanded programs.

Insurer administration would be increased by $164 million and administration of subsidies would add $39 million to the program costs. The impact of the program on health spending is presented below.

Figure 14
Changes in Statewide Health Spending under Better Health Care in 2007/2008 (millions)

Current State Health Spending		**$30,100**
Change in Health Services Expenditures		**$374**
Change in utilization for newly insured	$366	
Change in utilization for currently insured	$8	
Reimbursement Effects		**$65**
Payments for previously uncompensated care	$109	
Reduced Cost Shifting [a/]	($44)	
Medicaid Utilization Measures		**($8)**
Pharmacy Rebate for Adult Expansion Program [b/]	($8)	
Change in Administrative Cost of Programs and Insurance		**$164**
Change in Insurer Administration	$125	
Administration of Subsidies [c/]	$39	
Total Change in State Health Spending		**$595**

a/ Assumes 40 percent of change in provider payment rates are passed on to private health plans in the form of lower negotiated rates.
b/ Pharmacy program for adults in the Exchange will be administered through Medicaid in order to utilize the pharmacy rebates under Medicaid (about 20%).
c/ Assumes $171 per family for determining income eligibility for subsidies.
Source: The Lewin Group estimates using the Health Benefits Simulation Model (HBSM).

a. Impact on Utilization of Health Services

The expansions in coverage and benefits under Better Health Care would result in increased utilization of health services. Utilization of services for uninsured and underinsured people would generally increase due to expanded access to services under the program. In addition, under mandated benefits, utilization for certain services would increase due to the expansion in coverage for those services.

However, these increases in utilization would be partly offset by reduced spending for avoidable complications in health conditions and reduced spending in avoidable health conditions resulting from increased primary care utilization. Below we discuss the utilization impacts of implementing Better Health Care for Colorado.

b. Utilization for the Uninsured

Uninsured people who become covered under the program would use health care services at the same rate as reported by currently insured people with similar age, sex and health status characteristics. This assumption encompasses two important effects. First, the increase in access to primary care for this population would result in savings due to a reduction in avoidable emergency room visits and hospitalizations. Second, there would be a general increase in the use of such services like preventive care, advanced diagnostic tests, and other care that the uninsured often forego or delay.

Using this methodology, we estimate that health spending among the currently uninsured population would increase. We estimate an increase in spending due to utilization increase to a total of $366 million in 2007/2008.

c. Utilization for the Underinsured

Some insured have a benefit package that does not cover certain services including prescription drugs, dental care, orthodontia and medical equipment. Often times, these individuals access such services through government-funded clinics and health centers or forego services. In addition, a smaller underinsured population is covered through government programs that only offer a limited benefit package. Under Better Health Care for Colorado, these individuals will have access to a comprehensive benefits package that all health plans in the private sector must provide in the Exchange. In addition, people can opt for a more comprehensive package in the Exchange.

In this analysis, we assume that utilization of these services by people who are not currently covered for these services would increase to the levels observed among those with similar demographic and health status characteristics who do have coverage for these services. Spending under the Better Health Care for Colorado would increase by $8 million for under-insured people in 2007/2008.

d. Reimbursement Effects

Under the proposal, total benefit payments to providers for previously uncompensated care would be $109 million in 2007/2008. Under the current system, uncompensated care from services to the uninsured and under-insured is shifted to other payer sources (primarily private payers). Providers will be reimbursed directly for services provided to newly insured and underinsured people under the proposal. Based upon the literature on cost shifting discussed above, we assume that 40 percent of the change in provider payment rates are passed on to private payers in the form of lower negotiated rates, thereby reducing cost shifting which we estimate to be $44 million. This savings is included in our estimate of adjustments to provider payments.

7. Change in Government Health Spending

The program would have significant implications for both the state and federal governments. We present estimates of program operations costs and revenues for both the state and federal governments.

a. Premium Subsidy Costs

Figure 15 shows premium subsidy costs to the state and federal government, including costs for the expansion group. The program provides full subsidies for people under 100 percent of poverty. The level of subsidy for people between 100 percent and 300 percent of poverty is based on a sliding scale. People above 300 percent of poverty receive no subsidy. We estimated the costs of the subsidy, including administration of the subsidy to be $473.6 million for the state and $505.9 million for the federal government.

Figure 15
Enrollment and Costs under Better Health Care for Colorado in 2007/2008

	Number Enrolled (thousands)	Reduction in Uninsured (thousands)	Subsidy Costs (millions)[a/]	State Costs (millions)	Federal Costs (millions)
Children					
Medicaid Eligible Children [b/]	4.5	3.2	$7.8	$3.9	$3.9
Medicaid Limit - 300% FPL [c/]	61.5	39.6	$107.8	$37.7	$70.0
Parents					
Under 250% FPL	137.2	123.7	$322.3	$161.2	$161.2
250%-300% FPL	16.5	13.9	$48.2	$24.1	$24.1
Childless Adults [d/]					
Under 225% FPL	141.5	116.6	$347.5	$173.7	$173.7
225%-300% FPL	24.6	21.1	$72.0	$36.0	$36.0
Cost Sharing Subsidies and Administration of Subsidies	**n/a**	**n/a**	**$74.0**	**$37.0**	**$37.0**
Workers in small firms [e/]	**6.6**	**6.6**	**$0.0**	**$0.0**	**$0.0**
	Total Program				
Total Initial Expansion [f/]	**351.2**	**289.7**	**$859.4**	**$413.5**	**$445.8**
Total All Under 300% FPL	**392.3**	**324.6**	**$979.5**	**$473.6**	**$505.9**

a/ Includes premium subsidies for adults in the exchange and CHP+ expansion group costs.
b/ Assumes children eligible for Medicaid will be enrolled as parents become eligible and enroll.
c/ Assumes enhanced FMAP and additional SCHIP allotment funds become available.
d/ Assumes Medicaid 1115 demonstration waiver is approved and program savings is sufficient to cover expansion for childless adults.
e/ Workers above 300% FPL who are employed by small firms (under 50 employee) that have not offered coverage in the past year are eligible for the program, but are not eligible for a subsidy.
f/ Initial expansion group includes children to 300% FPL, parents to 250% FPL, childless adults to 225% FPL and workers in small non-insuring firms. Expansion for adults to 300% FPL will be added in the future.
Source: The Lewin Group estimates using the Health Benefits Simulation Model.

b. Impact on State and Local Budgets

We estimate new program costs under the Better Health Care for Colorado proposal to be $474 million assuming an 1115 waiver is approved by the federal government, and assuming the

proposal is fully phased in with expansions to 300 percent of poverty in 2007/2008 (***Figure 16***). The costs include the cost to the state and local government of $42 million for the expansion of Medicaid/CHP+, and the cost of premiums subsidies for everyone below 300 percent FPL would of $432 million.

Program costs would be offset by savings in current safety net programs resulting from payments for previously uncompensated care that are borne partly by safety net programs. In addition there would be increased tax revenue as reductions in employer costs are passed on to workers as increased wages. State and local governments save about $82 million in safety net programs. State and local government would save about $51 million in employee health benefits which would be passed on to workers as increase wages. The increased wages result in tax revenue increases of about $3 million. The net costs of the proposal, after offsets is $53 million.

Figure 16
Change in State and Local Government Spending under Better Health Care for Colorado in 2007/2008 (millions)

		Change in Spending Assuming 1115 Waiver is Approved [a/]	Change in Spending Assuming 1115 Waiver is Not Approved
New Program Costs		**$474**	**$704**
Medicaid Expansion for Children		**$42**	**$42**
Premium Subsidies		**$432**	**$662**
Offsets to Existing Programs		**$421**	**$421**
Savings to Current Safety Net Programs [b/]		**$82**	**$82**
State & Local Government Employee Health Benefits		--	--
Workers and Dependents	$51		
Wage Effects [c/]	($51)		
Program Financing		**$336**	**$336**
Tobacco Tax Increase	$210		
Alcohol Tax Increase	$126		
Tax Revenue Gain Due to Wage Effects [d/]		**$3**	**$3**
Net Cost/(Savings) to State and Local Government		**$53**	**$283**

a/ Assumes Medicaid 1115 demonstration waiver is approved and program savings is sufficient to cover expansion for childless adults.
b/ Includes care currently paid for by other safety net programs. Assumes waiver is approved to allow state to continue to receive Federal DSH funding to be used for the program.
c/ Assumes reduced employer costs are passed on to workers in the form of higher wage increases.
d/ Increase in tax revenue is counted as a reduction in State and Local Government health spending.
Source: The Lewin Group estimates using the Health Benefits Simulation Model.

c. Change in Federal Government Health Spending

The net change in federal government spending, less offsets, would be $472 million, assuming an 1115 waiver is approved. Of these new program costs, $74 million goes to expanding Medicaid/CHP+ and $432 million represents the federal portion of the government subsidies for the low-income population under 300 percent of poverty (***Figure 17***). This assumes the proposal is fully phased-in with expansions for adults to 300% FPL in 2007/2008.

These program costs to the federal government are offset by savings in Federal Employee Health Benefits, as employees access the Exchange, and these savings are passed on as increased wages resulting in a $34 million increase in tax revenue. The net change in federal government spending less offsets, would be $472 million.

Figure 17
Changes in Federal Government Spending under Better Health Care for Colorado in 2007/2008 (millions)

	Change in Spending Assuming 1115 Waiver is Approved [a/]	Change in Spending Assuming 1115 Waiver is Not Approved
Federal Program Costs		
Medicaid/CHP+ Programs	**$74**	**$74**
Federal Matching Funds for Premium Subsidies	**$432**	**$202**
Total Federal Program Costs	**$506**	**$276**
Federal Programs Revenues and Offsets		
Federal Employee Health Benefits	**$0**	**$0**
Workers and Dependent $6		
Wage Effects [b/] ($6)		
Tax Revenue Gain Due to Wage Effects [c/]	**$34**	**$34**
Total Federal Program Revenues and Offsets	**$34**	**$34**
Net Cost/(Savings) to Federal Government	**$472**	**$242**

a/ Assumes Medicaid 1115 demonstration waiver is approved and program savings is sufficient to cover expansion for childless adults
b/ Assumes reduced employer costs are passed on to workers in the form of higher wage increases.
c/ Increase in tax revenue is counted as a reduction in Federal Government health spending.
Source: The Lewin Group estimates using the Health Benefits Simulation Model.

2. Impact on Private Employers

Figure 18 shows the impact ton private employers. There is no change in spending for non-insuring firms as those workers would be covered through the Exchange. Private employers who currently offer coverage would pay a total of $7.0 billion more in health benefits. This includes about $6.5 billion in health benefits for workers and dependents, and $542 million for retirees. This increased spending would be offset by spending reductions of $86 million for employees who would choose to access health care coverage through the exchange and $21 million in reduced spending from cost shifting. Under the current system, employers pay

higher premiums for their workers as providers and insurers shift the cost of the uninsured to the private sector. Expanded coverage under the program results in reduced cost shifting. Private employers in Colorado overall would save about $107 million under the proposal in 2007/2008.

These savings do not take into account for increased wages as employers pass on lower health care costs to their wages in the form of increased wages. These estimates include employer spending for all covered workers, dependents and retirees living in Colorado, even if the employer is based outside the state. It excludes federal workers and state and local government employees, which was discussed above. This estimate also includes only the employer share of the costs of coverage. Workers shares of costs are presented below.

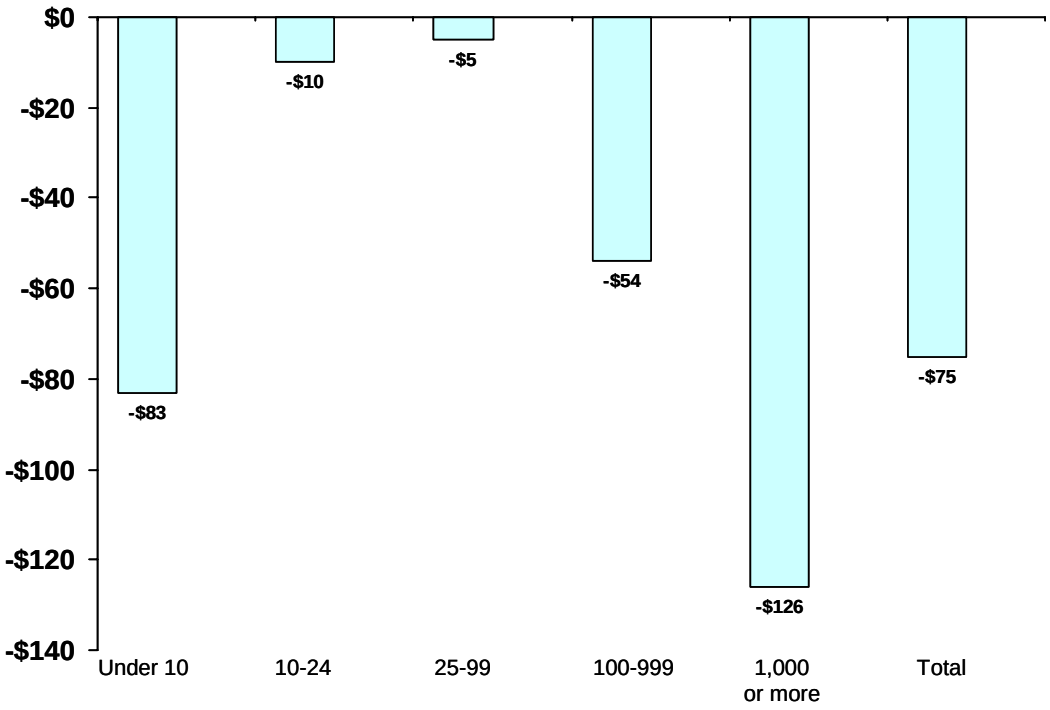
Figure 18
Changes in Private Employer Health Benefits Cost under Better Health Care for Colorado in 2007/2008 (millions)

	Currently Insuring Employers	Currently Non-Insuring Employers a/	All Employers
Private Employer Spending Under Current Law			
Current			
Workers & Dependents	$7,720	--	$7,720
Retirees	$350	--	$350
Total	**$8,070**	**--**	**$8,070**
Change in Private Employer Spending Under the Policy			
Employees and Dependents choosing Medicaid or Exchange	($86)	--	($86)
Cost Shift Savings	($21)	--	($21)
Net Change (before wage effects)	**($107)**	**--**	**($107)**

Source: The Lewin Group estimates using the Health Benefits Simulation Model (HBSM).

Private employer spending for firms that now provide coverage would decrease by about $75 per worker per year on average (***Figure 19***). Currently insuring firms with 10 or fewer workers would save an average of about $83 per worker on average. Those firms with one thousand or more workers would save about $126 on average per worker.

Figure 19
Change in Private Employer Health Spending Per Worker by Current Insuring Status under Better Health Care for Colorado in 2007/2008



Source: The Lewin Group estimates using the Health Benefits Simulation Model (HBSM).

8. Household Impacts

We present our analysis of household impacts of Better Health Care for Colorado below:

a. Impact of CHS Single Payer on Family Health Spending

Currently, families in Colorado spend about $4.15 million on health insurance premiums. This includes deductibles and co-payments under insurance plans, payments for services not covered by an insurance plan, and out-of-pocket spending by uninsured people. Under this proposal, family premium payments would increase by about $786 million; however, families would receive premium subsidies of $799 million. Overall, families would save $13 in premiums. Out-of-pocket spending, including copays and deductibles for families would decrease by $126 million (***Figure 20***). As employers spend less on health care benefits, these savings are passed on to workers in the form of increased wages. The increase in after tax wages are counted as savings in family health spending of $127 million. The program would be partly funded by a tobacco and alcohol tax increase resulting in an increase in family health spending of $336 million. Overall, families would spend about $70 more in health care under Better Health Care for Colorado.

Figure 20
Impact of Better Health Care for Colorado on Family Health Spending in 2007/2008
(millions)

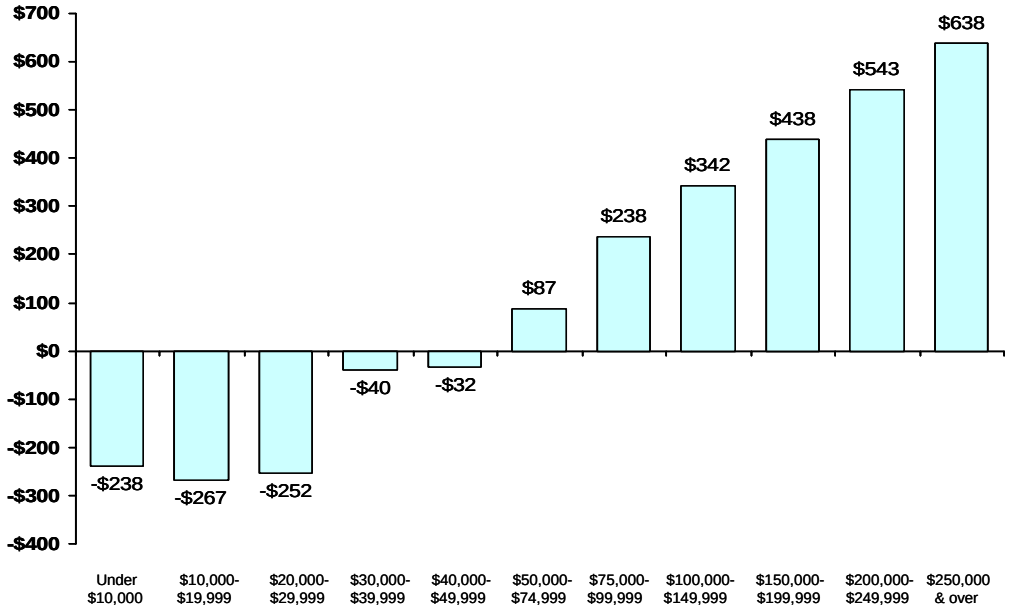
		Change in Spending
Change in Premiums		**($13)**
Change in Family Premiums	786	
Premium Subsidies	($799)	
Change in Out-of-pocket Payments		**($126)**
Program Financing		**$336**
Tobacco Tax Increase	210	
Alcohol Tax Increase	126	
After Tax Wage Effects [a/]		**($127)**
Net Change		**$70**

a/ The Increase in after-tax wage income resulting from reduced costs to employers are counted here as a reduction in family health spending.
Source: The Lewin Group estimates using the Health Benefits Simulation Model (HBSM).

b. Change in Average Family Health Spending by Income Group

The decrease in health spending is more dramatic for lower income families because of the premium subsidies (***Figure 21***). Families earning less than $10,000 would save on average $238, compared to an increase in health spending of $638 for families earning $250,000 or more.

Figure 21
Change in Average Family Health Spending by Income Group under the CSHP Single Payer in 2007/2008

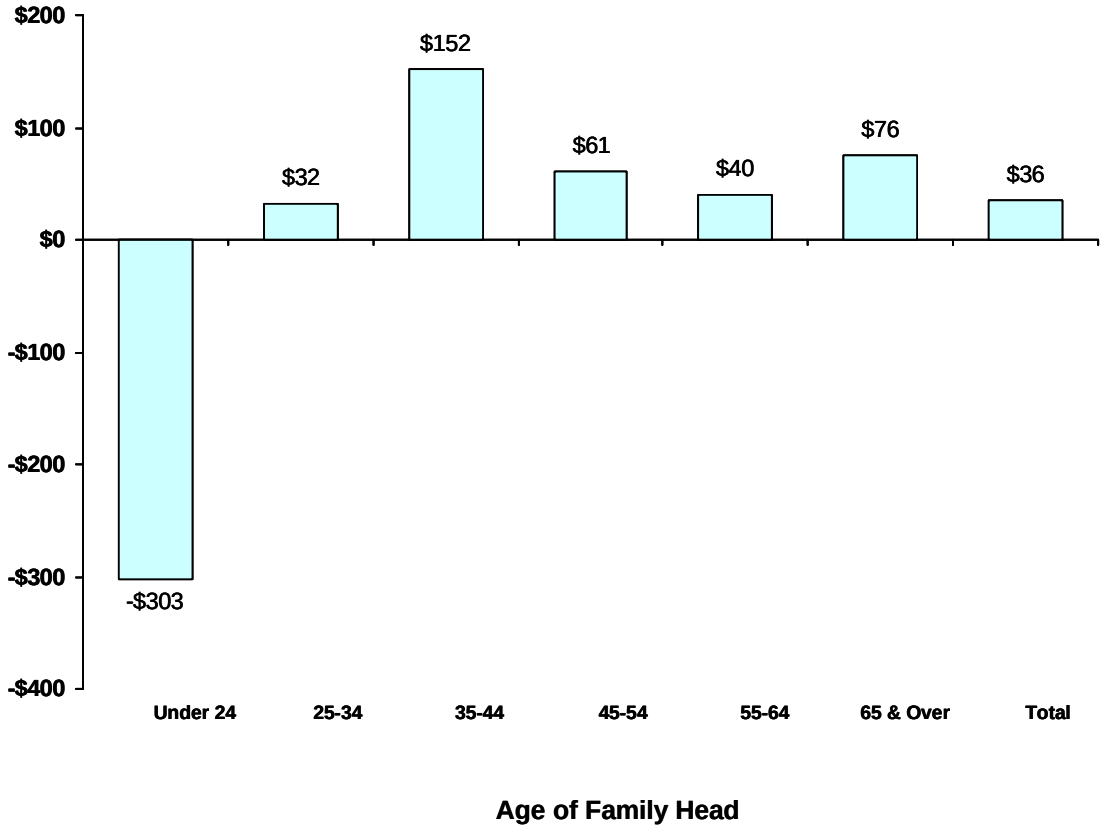


Source: the Lewin Group estimates using the Health Benefits Simulation Model (HBSM).

On average, all families would see an increase in spending of about $36 in 2007/2008 under Better Health Care for Colorado (***Figure 22***). Younger families, particularly those who are healthier, are more likely to remain uninsured even if they have higher earnings. Also, government programs often do not cover these lower income families unless they fall under categorical eligibility groups. Under Better Health Care for Colorado, people under the age of 24 years would spend on average about $303 less.

Families who are between ages 55 to 64 years would spend on average, about $40 because these families often pay high premiums due to their age and have higher out-of-pocket expenses.

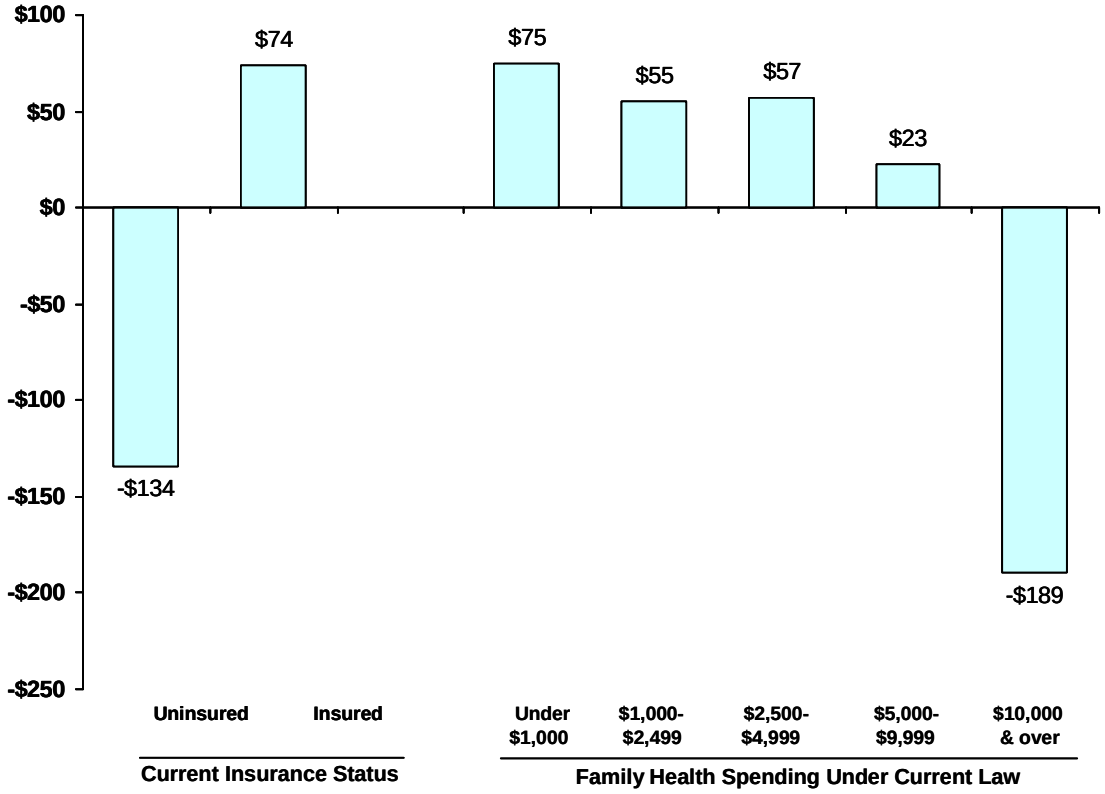
Figure 22
Change in Average Family Health Spending by Age under Better Health Care for Colorado in 2007/2008



Source: The Lewin Group estimates using the Health Benefits Simulation model (HBSM)

As illustrated in ***Figure 23***, currently uninsured families would save about $134 in health spending, resulting from the subsidies. Those who are currently insured would spend $74 more on average under Better Health Care for Colorado. Those families earning more than $10,000 achieve higher savings of about $189 on average, while those earning under $10,000 would have experience increase health care spending of about $75 on average.

Figure 23
Change in Average Family Health Spending by Current Law Insurance Status and Family Health Spending Under Better Health Care for Colorado in 2007/2008



IV. SOLUTIONS FOR A HEALTHY COLORADO

Solutions for a Healthy Colorado provides coverage to all Colorado residents under a Core Limited Benefit Plan in the private sector and expands coverage under Medicaid and Child Health Plus (CHP+). People who are low income but who would not be eligible for the government programs would receive a premium subsidy. The program would be financed through a combination of program savings and taxes. We present Better Health Care for Colorado in the following sections:

- Key Provisions of Solutions for a Healthy Colorado
- Assumptions
- Cost and Coverage Impacts
- Preparing for Future Program Growth

A. Key Provisions of Solutions for a Healthy Colorado

Below are key provisions of Solutions for a Healthy Colorado:

1. Coverage

All Colorado residents, except those covered under Medicare, Tricare/CHAMPUS and Federal Employee Health Benefits, would be required to obtain coverage through a guaranteed issue Core Limited Benefit Plan. Self-employed individuals would also be required to have coverage. In addition, this proposal expands eligibility of children in Child Health Plus+ (CHP+) to 250 percent of the federal poverty level (FPL) and to parents in Medicaid up to 100 percent of poverty. There are no employer mandates.

For the expansion program, the residency requirements under current law would remain the same. For all others, an individual would be determined a resident subject to the individual mandate if they are a resident for purposes of filing Colorado state income taxes or if they have been in Colorado for at least six-month.

2. Covered Services and Cost-Sharing

Covered services under the Core Limited Benefit Plan, other out of pocket spending and limits would be as follows:

Figure 24
Core Benefits Plan Summary

	In Network	Out of Network	
Routine Office Visit	$15 Copay	$15 Copay	Limited to 10 visits per year $200 max per visit
Preventive Care	$15 Copay	$15 Copay	Limited to 1 visit per year plus all child and adult preventative
Individual Deductible	$100	$200	
Mental Health and Substance Abuse	80%	60%	$1,000 annual maximum
Emergency Benefit	$100 copay	$100 Copay	$3,000 annual maximum
Hospitalization Cost	80%	60%	$3,000 per day limit
Outpatient/Ambulatory Surgery	80%	60%	$2,000 annual maximum
Lab & X-Ray	80% Coinsurance	60% Coinsurance	$2,000 annual maximum
CT, MRI, Pet, Nuclear	80% Coinsurance	60% Coinsurance	$2,000 annual maximum
Prescription	$10 Generic $20 Preferred Brand 100%	50% Coinsurance	$300 per month maximum
Durable Medical Equipment	80% coinsurance	60% coinsurance	$1,000 annual maximum
Annual Maximum	$50,000 In and Out of Network		
Out of Pocket Maximum	$3,000 annual maximum per individual		

Source: Solutions for a Healthy Colorado

Eye exams and hearing tests would be covered under routine office visits. Dental services and eyeglasses would be excluded from the Basic Core Limited Benefit package.

Individuals would be able to purchase coverage in a more comprehensive plan offered in the individual market, through their employer group plan or under CoverColorado, the state's high risk pool, if they qualify.

3. Premiums and Subsidies

The low income population who would receive a subsidy would have guaranteed issue for the Basic Core Limited Benefit package. Premiums would be set using a modified community rate—plans would be allowed to rate based on age and health status in the individual and small group markets. Premiums would also be allowed to vary based on coverage and enrollment (same as under current law). The following premium categories would apply for group coverage;

- Employee only, employee + spouse;
- Employee + one child;
- Employee + two children;
- Employee + three or more children;
- Employee + spouse + one child;
- Employee + spouse + two children;
- Employee + spouse + three or more children; and
- Child only.

Lewin estimates the PMPM under the Core Limited Benefit package to be $178 PMPM. Premium subsidies, in the form of a voucher, would be provided to individuals up to 250% of FPL. The subsidy amounts would be as follows:

- 90% of the premium for a core benefit plan to individuals between Medicaid eligibility and 150% of FPL;
- 70% subsidy to those between 150% and 200% of FPL;
- 50% for those between 200% and 250% of FPL; and
- Above 250% FPL no subsidy

Individuals would be allowed to use their subsidies to purchase insurance from their employer or towards a higher cost plan. Also, individuals who purchase coverage in a plan that is more comprehensive than the Core Limited Benefit plan would be responsible for the full premium difference between the core benefit plan and the enhanced plan they select. Premiums would be collected in the current fashion by payment directly to the entity or carrier providing the health plan. The following are estimated premiums for Single and Family coverage, by age and gender, for the benefits package:

Figure 25
Solutions for a Healthy Colorado

Medical Expense PMPM by Age/Gender/Tier
Contracts Effective 2007/2008

	Monthly Medical Expense per Enrollee	
	Two Tier	
Age/Gender	Single	Family
<25 M	$102.89	$371.70
25 - 34 M	$125.77	$541.85
35 - 44 M	$166.32	$646.92
45 - 54 M	$279.22	$727.52
55 - 64 M	$474.46	$869.07
<25 F	$183.86	$395.96
25 - 34 F	$231.39	$559.00
35 - 44 F	$269.21	$619.62
45 - 54 F	$354.90	$732.40
55 - 64 F	$510.64	$899.26

Source: NovaRest Consulting

4. Consumer Choice

All licensed products providing at least the Basic Core Limited Benefit would be able to participate in the Connector by paying a fee to register with the Connector. Consumers would have a choice of plans through the Connector. The plan would provide an initial open enrollment window of either six or twelve months. There would be a premium surcharge and pre-existing condition limitations for enrollment beyond the open-enrollment period.

5. Disposition of State/Local Programs

The program increases eligibility of children in CHP+ to 250% of FPL and for parents up to 100 percent of FPL for parents. There are no changes to Medicaid, CoverColorado or other government programs.

6. Insurance Market Reforms

All health insurance carriers doing business in Colorado would be required to offer a Limited Core Benefit Plan. Low income individuals who are eligible for a subsidy would have guaranteed issue for the Basic Limited Care Benefit plan. A standardized, modified community rating would be imposed for pricing—the plan would be allowed age and health status rating flexibility. The only exception would be that health status could not be utilized as a rating or underwriting factor on the guaranteed issue core benefits plan. Health status and claims could be utilized in a +10% to -25% range in the small group market.

The plan proposes that any mandates that affect less than one percent of the insured population but contributes to more than one percent of the costs of coverage should be eliminated. It also recommends the creation of a safe harbor for employers by adopting rating changes which would permit employers who implement such programs to receive premium savings.

The plan proposes no changes to the large group market; however, it proposes to eliminate the following barriers:

- Requiring the purchase of life insurance when purchasing health insurance;
- Imposing a 35% penalty on individuals and businesses for coming back into the fully insured market;
- Requiring high employee participation in group coverage; and
- Excluding dedicated 1099 employees from group-sponsored health care coverage.

Insurers would continue to perform their current roles in the areas of plan administration, claim processing, network development, marketing and implementation of disease management, transparency and customer service tools.

7. Coverage Continuation

Individuals would receive a 30-day grace period for non-payment of premiums after which coverage could be discontinued. The State Continuation for groups under 20 and COBRA for groups over 20 will continue to exist. The Connector model, in the short term would provide information and access to health insurance application/assistance. In the longer term, once this program is stabilized, there is the opportunity for the Connector to operate as a mechanism for true portability. Individual Core COBRA and Continuation Coverage would still be available and Basic Core Limited Benefits would be recognized as Creditable Coverage. Individual policies would be as they are now, not subject to these factors. Benefit plans would have guaranteed renewability and portability as long as premiums are paid.

8. Employer Provisions

Pre-tax (Section 125 POP plan) would be encouraged but not mandated. Employer contributions would not be mandated though they would be allowed. Employers who currently have group medical plans would be required to accept premium subsidy vouchers in payment for part or all of a low wage worker's share of employer sponsored medical coverage. Employers would not be required to offer a selection of medical plans.

9. Financing

The plan would be financed as follows:

- Redirection of Colorado Indigent Care Program funding from providers to fund premium subsidies;
- Employer contributions to a subsidy pool for employers who do not offer employer sponsored coverage;

- An increase in tobacco—from $.84 up to $2.00 per pack;
- An increase in alcohol taxes as follows:
  - Spirits: from $.60 to $5.63 for a liter (or from $2.28 to $21.30 per gallon)
  - Wine: from $.07 to $.66 per liter (or from $.32 to $2.50 per gallon)
  - Beer: from $.05 to $.15 per 6-pack (or $.08 to $.26 per gallon); and
- A Nutrition Sales Tax on all consumable food items that have little or no nutritional value to finance the costs that are not covered by participant premiums, including 65 percent sales tax on all nutritional fountain sodas and walk-up coffee locations.

Note: Colorado's Taxpayers Bill of Rights (TABOR) and the Arverschoug-Bird law which impose limits on state spending without voter approval would likely have implications to the financing mechanism in this proposal.

10. Tax and Other Incentives

The plan presumes federal law would allow income tax deductions for the premiums paid by individuals. The plan also proposes benefits to employers for offering healthy behavior/ wellness programs such as smoking cessation, and drug & alcohol abuse programs in the form of tax breaks and reductions in the employer contribution to the subsidy pool.

11. Reinsurance

All insurers, except self-funded plans, would be required to pay a reinsurance premium into a reinsurance pool. The reinsurance would be as follows:

- The pool would retain 100% of each claim up to a cap amount (e.g., $50,000);
- Between $50,000-$100,000 20% would be retained by the primary insurer and between $100,000-$200,000, 10% retained; and
- The reinsurance would cover 100% of claims above $100,000 but no more than $500,000 or $1 million.

12. Mandate Enforcement Provisions

The plan proposes an income tax credit for those who have coverage and a penalty for those who do not. Colorado residents would be required to file proof of coverage with their individual tax return as well as with their vehicle registration and application for a driver's license or state identification card. Individuals who do not have evidence of coverage at time of the application would be referred to the Connector to obtain coverage and would have 30 days to obtain coverage.

Individuals would be denied vehicle registrations, licenses and identification cards if they do not have proof of coverage. In addition tax filers with no proof of coverage would receive a State Income Tax penalty of $500 per person up to $1,500 per household.

13. Provider Payment Levels

Medicaid reimbursement levels would be increased to the Medicare payment levels. Payment rates for the private sector would be 120%-150% of Medicare. Future increases in payments in the private sector would take into account quality ratings ranging from Average to Superior Quality as follows:

- Level one: 125% of Medicare (entry level)
- Level two: 130% of Medicare (average quality measures)
- Level three: 140% of Medicare (above average quality measures)
- Level four: 150% of Medicare (superior quality measures)

For out-of-network services, plans must pay providers at 120% of Medicare rate. In addition, no provider can charge the patient above the difference between the provider's reasonable and customary charge and the provider's Medicare payment level. Under this plan the maximum reimbursement a provider would receive would be 150% of the Medicare payment level.

14. Administration

The plan establishes an internet-based, public/private Colorado Health Insurance Connector to provide information to consumers about government programs as well as private insurance plans. A limited agency/website would be created called the Health Care Coverage Matrix with links to public entity programs such as Medicaid and CHIP+. In addition, through the Connector, insurance brokers would be available to provide personalized expert advice on insurance choices, including government sponsored programs. Members of the Colorado State Association of Health Underwriters who choose to participate in the program would receive training on government programs. The plan would provide increased outreach to individuals who are eligible but not enrolled in government sponsored programs. Premium subsidies would be administered through the tax system under the Department of Revenue.

An internet-based tool would be developed to allow consumers to compare cost and quality of health care provided. The plan proposes implementation of Health IT to reduce system inefficiencies.

A large number of administrative and regulatory barriers exist that, if modified, could dramatically reduce the administrative costs of health care provisioning. Creating a consistent pricing model would benefit everyone. Examples are; standardized applications, and claims paying, as well as consistent medical underwriting, where that exists. Favorable tax treatment for health insurance carriers, a major component in administrative costs, is another.

15. Medical Malpractice Reform

The plan recommends comprehensive medical malpractice reform including:

a. Limiting non-economic damage awards;
b. Allocating damages in proportion to degree of fault;

c. Placing reasonable limits on punitive damages and attorney fees with a statute of limitations on claims; and

d. Implementing stricter disciplinary rules on physicians as a means to reduce costs associated with medical errors.

B. Key Assumptions

This proposal would expand eligibility for children under Child Health Plus to 250 percent of the FPL. Medicaid eligibility for parents would be increased to 100 percent of the FPL. In addition, the program provides a premium subsidy for private coverage to people living below 250 percent of the FPL that can be used to purchase either non-group coverage or to pay the worker share of the premium for employer provided coverage. Our key assumptions in simulating the impact of these proposals are presented below.

1. Low-Income Coverage Expansion

We estimated the number of newly eligible children who would enroll in the program based upon Colorado sub-sample of the Current Populations Survey (CPS) data for 2004 through 2006 using the Health Benefits Simulation Model described above. These data provide information on income and insurance coverage for a representative sample of the population that is suitable for use in estimating the number of people who are eligible for public coverage expansions.

Key assumptions include:

- We estimated the number of people who would be eligible to enroll under these eligibility expansions using the income and demographic data reported in the CPS and the income eligibility levels used in the state. Estimates were developed using a simulation of month-by-month eligibility, which permits us to account for part-year eligibility.
- We simulated enrollment for eligible people based upon a Lewin Group analysis of program participation rates under the current Medicaid and SCHIP programs. This approach results in participation rates of about 70 percent for uninsured persons and 39 percent for people who currently have insurance from some other source.
- We assumed that children who are currently eligible for Medicaid or SCHIP who are not enrolled would become covered under the program if one of their parents becomes covered under the private insurance subsidy program created for adults. We assume no change in coverage status for all other persons who are eligible for but not enrolled in the existing Medicaid/SCHIP program.
- Our participation model simulates "crowd-out" (i.e., the substitution of public for private coverage) based upon enrollment of children eligible for the pre-SCHIP poverty level expansions under Medicaid.[7] The model indicates that without anti-crowd-out

[7] Estimates are based upon CPS data showing Medicaid enrolled children with parents who have employer health insurance. The poverty-level expansions did not include anti-crowd-out provisions.

provisions, up to 39 percent of newly eligible persons with employer coverage would eventually shift to the public program.[8]

- Administrative costs per newly eligible person were assumed to equal average administrative costs for eligibility functions per enrollee under the current program (about 7.5 percent of benefits costs).

2. Premium Subsidies

The premium subsidies would reduce the cost of insurance to eligible people, resulting in an increase in the number of people taking such coverage. We estimated the impact of the premium subsidy on the number of people purchasing non-group coverage by treating the subsidy as a change in the price of insurance to the individual. This reduction in price would result in an increase in the likelihood that such a family would purchase coverage.

We simulated the impact of this reduction in price using a multivariate model of how the likelihood of purchasing coverage changes as the price of coverage (i.e., the premium) is reduced. This model shows an average price elasticity for coverage of –0.34 (i.e., a 1.0 percent decrease in premiums is associated with an increase in coverage of about 0.34 percent). However, the impact of changes in premiums on coverage varies with the income and demographic characteristics of affected persons. For example, the price elasticity varies from about –0.31 among persons with family incomes of $50,000 to –0.55 among those with incomes of $10,000. Thus, the price response tends to be higher for low-income persons than high-income persons.

We used these price elasticity assumptions to simulate the change in coverage for uninsured people in the MEPS-based HBSM data. The model was used to estimate the premium faced by each uninsured individual/family in the individual market, and the amount of the credit that eligible persons would receive. Affected individuals were then randomly selected to become covered based upon the change in the net cost of insurance to the individual as a result of the credit (i.e., premium less the tax credit received) and the price elasticity assumptions discussed above. This step involved the following assumptions:

- We used HBSM to estimate the premium that individuals face in the non-group market for a given benefits package by age, sex and self-reported health status. As discussed below, this benefits package is assumed to be similar to that offered through the Federal Employees Health Benefits Program (FEHBP), adjusted to reflect recent research indicating that the actuarial value of non-group policies is typically about 16 percent less than employer health plans.[9]
- All HBSM simulations were performed on a month-by-month basis to account for persons who are eligible for only part of the year (The various tax credit proposals typically pro-rate the annual credit over months of eligibility.)

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[8] Crowd-out could be substantially reduced by requiring states to adopt anti-crowd-out provisions such as a six-month waiting period.

[9] Gabel, Jon, et. al., "Individual Insurance: How Much Financial Coverage Does It Provide," *Health Affairs*, April 2002.

- All income-eligible people who are currently purchasing non-group coverage are assumed to take the premium subsidy.

3. "Crowd-out" Analysis

Programs that expand eligibility for Medicaid and various proposals to provide premium subsidies for non-group coverage can lead to reductions in the number of people who have employer-sponsored insurance (ESI). This is because these programs either reduce or eliminate the cost of obtaining coverage through other sources (i.e., Medicaid, SCHIP, or subsidized non-group coverage) for those who qualify. For example, employers of low-wage workers may find that the cost of obtaining coverage through government subsidized coverage would actually be less than the cost of obtaining coverage as an employer group, even after accounting for the tax advantages of obtaining coverage through ESI. The process of people moving from private to public coverage in called "crowd-out."

We simulate the process of employers discontinuing coverage based upon the change in the relative cost of ESI vs. the cost of subsidized insurance for their workforce using the "synthetic" firm data described above. For each firm, we estimate the total after-tax cost of covering their workers and their dependents under ESI with the insurance rating rules now used in Colorado. We then estimated the cost of coverage for the group assuming that their workers obtain coverage from the sources of available to each worker in the group. This includes subsidized coverage under Medicaid/SCHIP or the premium subsidy plan for those who are eligible. For workers who are not income-eligible for subsidized coverage, we use the cost of coverage in the non-group market. Employers are selected to discontinue coverage in cases where the cost of non-ESI coverage for the group is less than the after-tax cost of ESI.

4. Provider Payment Levels

The proposal would also adjust provider payment levels. The payment level differentials are shown in ***Figure 26.*** Medicaid payment levels would be increased to match Medicare payment levels. Private sector payment levels would be adjusted to 130 percent of Medicare payment levels.

Figure 26
Private Provider Payment Adjustments

	Medicaid to Medicare	Private to 130 percent of Medicare
Hospital	+15 percent	-26 percent
Physician	+35 percent	+5 percent

Source: Lewin Group analysis

5. Program Administration

We assumed that the cost of administering eligibility for the Medicaid/SCHIP expansion would equal $170 per family per year. This is based upon detailed data on the cost of administering

eligibility under the Medicaid program. We assume that insurer's cost of administering coverage under each of these benefits packages was assumed to be equal to 19 percent of covered claims. This assumption is based upon experience in large health plans operating in the non-group market.

6. Wage Effects

We assume that changes in employer health spending under the proposal would be passed on to employees as changes in wages. We also assume that this would occur among government employers as well, assuming that states would need to remain competitive with private employers for labor. This adjustment wage increase would be partly offset by changes in income and payroll tax payments.

7. Mandate Enforcement

The proposal includes a mandate for all Colorado residents to have health insurance. We first simulate voluntary enrollment for people newly eligible for subsidized coverage as described above. We then assume we assume full compliance among people where the cost of insurance would exceed 8 percent of their income. Others would remain uninsured.

C. Cost and Coverage Impacts

We present our findings of the impact of Solutions for A Healthy Colorado in 2007/2008 in the following sections:

1. Transitions in Coverage

The proposal provides coverage through a public program expansion and through the private market. Uninsured individuals would be required to obtain private coverage through guaranteed issue, Core Limited Benefit Plan.

Figure 27 illustrates where people would become covered under the proposal. Of about 2.69 million people getting coverage through their employer, 5,300 become covered under Medicaid/CHP+ as a result of the program expansion, 65,300 move into the non-group market and 2.62 million remain covered through their employer. Out of an estimated 158,900 people getting coverage in the non-group market, we estimate that 102,000 would remain in the non-group private market, 51,300 previously may have declined employer coverage would get coverage take up such coverage and 5,600 would move to Medicaid/CHP+. Solutions for a Healthy Colorado has no impact on military personnel who are covered through CHAMPUS. Likewise there is little change in coverage under the Medicare program.

Of the estimated 791,800 uninsured, 108,800 people would be covered under employer sponsored insurance and almost 446,300 would get coverage in the private non-group market as a result of the mandate. Another 103,400 of the uninsured would become covered through Medicaid/CHP+ leaving 133,400 people remaining uninsured in the state or (16.85 percent of the currently uninsured).

Figure 27
Transitions in Coverage under Healthy Solutions for Colorado in 2007/2008 (thousands)

		Private Coverage		Public Coverage			
Base Case Coverage	Total	Employer	Non-Group	CHAMPUS	Medicare (incl. dual eligibles)	Medicaid/ CHP+	Uninsured
Employer	2,691.7	2,616.1	65.3	0.0	0.0	5.3	5.0
Non-Group	158.9	51.3	102.0	0.0	0.0	5.6	0.0
CHAMPUS	112.4	0.0	0.0	112.4	0.0	0.0	0.0
Medicare (incl. dual eligibles)	413.0	0.0	0.0	0.0	413.0	0.0	0.0
Medicaid / CHP+	452.1	0.0	0.0	0.0	0.0	452.1	0.0
Uninsured	791.8	108.8	446.3	0.0	0.0	103.4	133.4
Total	**4,619.9**	**2,776.2**	**613.6**	**112.4**	**413.0**	**566.4**	**138.4**

Source: The Lewin Group estimates using the Health Benefits Simulation Model.

Figure 28 shows the change in number of uninsured under the proposal by age and income. The proposal covers an estimated 658,000 uninsured or 83.83 percent of the uninsured population. The proposal would cover about 61 percent of the uninsured earning less than $10,000 or annually and 93 percent of uninsured earning $150,000 or more annually (***Figure 28***). It would provide coverage to 89.87 percent of uninsured people 18 years old and younger.

Figure 28
Change in Uninsured under Healthy Solutions for Colorado in 2007/2008 (thousands)

	Uninsured Under Current Law	Newly Covered Under Program	People who Become Uninsured	Net Reduction in Uninsured
		Family Income		
Under $10,000	90	55	0	55
$10,000-$19,999	109	89	0	89
$20,000-$29,999	127	109	1	110
$30,000-$39,999	118	98	0	98
$40,000-$49,999	79	64	1	65
$50,000-$74,999	123	112	2	113
$75,000-$99,999	66	60	1	61
$100,000-$149,999	48	45	1	46
$150,000 & over	30	28	0	28
		Age		
Under 6	59	54	0	54
6-18	99	88	0	88
19-24	123	93	0	93
25-34	192	166	1	167
35-44	147	125	1	126
45-54	112	90	2	92
55-64	58	42	1	43
65 and over	1	1	0	1
Total	**792**	**658**	**5**	**664**

Source: The Lewin Group estimates using the Health Benefits Simulation model (HBSM).

2. Impact on Statewide Health Spending

As discussed above, we estimate that health spending for Colorado residents will be about $30.1 billion in 2007/2008. This includes spending for all health services by all payers including Medicare Medicaid, ESI, non-group insurance, workers compensation and various safety-net programs. Spending includes both payments for services and insurance, and program administration.

Solutions for a Healthy Colorado would have several impacts on statewide health spending. There would be an increase in health services utilization as persons who are uninsured or underinsured under the current system become covered. Utilization will also increase slightly for those individuals previously covered in a less generous plan. However, some of these increases in costs would be offset by reductions cost shifting. Provider payment increases resulting from more people having coverage is passed on as lower negotiated rates for private payers.

Health spending in Colorado would increase by about $271 million in 2007/2008 under the proposal (***Figure 29***). This is an increase in state-wide health spending of about 1 percent. Provider payments would increase by about $781 million due to increased utilization of services by newly insured people and a net increase in provider reimbursement resulting from increasing Medicaid provider payment levels to Medicare levels and private sector payment adjustments. Insurer administration would increase by $55 million and administration of subsidies would add $26 million to the program costs. The impact of the program on health spending is presented below.

Figure 29
Changes in Statewide Health Spending under Healthy Solutions for Colorado in 2007/2008 (millions)

Current State Health Spending		**$30,100**
Change in Health Services Expenditures		**$781**
Change in utilization for newly insured	$722	
Change in utilization for currently insured	$59	
Reimbursement Effects		**($558)**
Payments for previously uncompensated care	$203	
Increase Medicaid Payment Rates to Medicare Levels	$247	
Reduce Private Payment Rates to 120%-150% Medicare	($1,008)	
Medical Malpractice Reform a/		**($33)**
Change in Administrative Cost of Programs and Insurance		**$81**
Change in Insurer Administration	$55	
Administration of Subsidies b/	$26	
Total Change in State Health Spending		**$271**

a/ Assumes 40 percent of change in provider payment rates are passed on to private health plans in the form of lower negotiated rates.
b/ Assumes $171 per family for determining income eligibility for subsidies.
Source: The Lewin Group estimates using the Health Benefits Simulation Model (HBSM).

a. Impact on Utilization of Health Services

The expansions in coverage and benefits under Solutions for a Healthy Colorado would result in increased utilization of health services. Utilization of services for uninsured and underinsured people would generally increase due to expanded access to services under the program. In addition, under mandated benefits, utilization for certain services would increase due to the expansion in coverage for those services.

However, these increases in utilization would be partly offset by reduced spending for avoidable complications in health conditions and reduced spending in avoidable health conditions resulting from increased primary care utilization. Below we discuss the utilization impacts of implementing Better Health Care for Colorado.

b. Utilization for the Uninsured

Uninsured people who become covered under the program would use health care services at the same rate as reported by currently insured people with similar age, sex and health status characteristics. This assumption encompasses two important effects. First, the increase in access to primary care for this population would result in savings due to a reduction in avoidable emergency room visits and hospitalizations. Second, there would be a general increase in the use of such services like preventive care, advanced diagnostic tests, and other care that the uninsured often forego or delay.

Using this methodology, we estimate that health spending among the currently uninsured population would increase. We estimate an increase in spending due to utilization increase to total $722 million in 2007/2008.

c. Utilization for the Underinsured

Some insured have a benefit package that does not cover certain services including prescription drugs, dental care, orthodontia and medical equipment. Often times, these individuals access such services through government-funded clinics and health centers or forego services. In addition, a smaller underinsured population is covered through government programs that only offer a limited benefit package. Under Solutions for a Healthy Colorado, some of these individuals would have access to a more comprehensive benefits package under the Core Limited Benefit package in the private non-group market.

In this analysis, we assume that utilization of these services by people who are not currently covered for these services would increase to the levels observed among those with similar demographic and health status characteristics who do have coverage for these services. Spending under the Solutions for a Healthy Colorado would increase by $59 million for under-insured people in 2007/2008.

d. Reimbursement Effects

Under the proposal, total benefit payments to providers for previously uncompensated care would be $203 million in 2007/2008. Under the current system, uncompensated care from services to the uninsured and under-insured is shifted to other payer sources (primarily private

payers). Providers will be reimbursed directly for services provided to newly insured and underinsured people under the proposal. The increase in Medicaid payment levels to Medicare levels would result in an increase of $247 million. However the adjustment in private payer rates to 120-150 percent of Medicare would yield a savings of more than one billion, thereby offsetting these costs resulting in a net savings of $558 million. The savings are included in our estimate of adjustments to provider payments.

3. Changes in Government Health Spending

The program would have significant implications for both the state and federal governments. We present estimates of program operations costs and revenues for both state and federal governments.

a. Premium Subsidy Costs

The program provides premium subsidies based on the Core Limited Benefit package for people up to 250 percent of poverty on a sliding scale. People up to 150 percent of poverty receive a 90 percent subsidy, people between 150-200 percent of poverty receive a 70 percent subsidy, and people between 200-250 percent of poverty receive a 50 percent subsidy. As shown in ***Figure 30***, we estimated the costs of the subsidy, including administration of the subsidy, to be $1.37 billion for the state government.

Figure 30
Enrollment and Costs under Healthy Solutions for Colorado in 2007/2008

	Number Enrolled (thousands)	Total Costs (millions)	State Costs (millions)	Federal Costs (millions)
Medicaid Program				
Increased Medicaid Payment Rates	n/a	$247.0	$123.5	$123.5
Children Expansion to 250% FPL	30.0	$58.9	$20.6	$38.3
Parents Expansion to 100% FPL	24.4	$88.4	$44.2	$44.2
Enrollment due to mandate				
Medicaid Children	23.9	$47.0	$16.5	$30.6
CHP+ Children	26.4	$51.9	$26.0	$26.0
Medicaid Adults	9.5	$34.6	$17.3	$17.3
Total Medicaid	**114.3**	**$527.8**	**$248.0**	**$279.8**
Premium Subsidy Program				
Non-Group Premium Subsidies	348.1	$479.9	$479.9	$0.0
Employee Premium Subsidies	566.0	$331.6	$331.6	$0.0
Premium Subsidy Administration	n/a	$26.0	$26.0	$0.0
Total Premium Subsidies	914.1	$837.5	$837.5	$0.0
Total Program				
Total	**1,028.4**	**$1,365.3**	**$1,085.5**	**$279.8**

Source: The Lewin Group estimates using the Health Benefits Simulation Model.

b. Impact on State and Local Governments

We estimate new program costs under Solutions for a Healthy Colorado to be $1.09 billion assuming the proposal is fully phased in with expansions to 250 percent of poverty for children and up to 100 percent of poverty for parents in Medicaid in 2007/2008 (***Figure 31***). The costs include the cost the state and local government of $248 million for the expansion of Medicaid/CHP+, and the cost of premiums subsidies for the Core Limited Benefit to everyone below 250 percent of poverty of $838 million.

Program costs would be offset by savings in current safety net programs resulting from payments for previously uncompensated care that are borne partly by safety net programs, the tax penalty and nutrition tax revenue. State and local governments save about $137 million in safety net programs. In addition, the state and local government save about $127 million in employee health benefits which are passed on to workers as increased wages. The increased wages result in tax revenue increases of about $41 million. The net costs of the proposal to the state and local government after offsets is $887 million. Tax revenue collection from nutrition, alcohol and tobacco, less the tax collection administrative costs, would bring in $853 million in addition revenues to fund the program.

Figure 31
Change in State and Local Government Spending under Healthy Solutions for Colorado in 2007/2008 (millions)

			Change in Spending
New Program Costs			**$1,086**
Medicaid Expansion and Individual Mandate		**$248**	
Premium Subsidies		**$838**	
Offsets to Existing Programs			**$1,086**
Savings Current Safety Net Programs [a/]		**$137**	
Tax Penalty for remaining uninsured		**$55**	
State & Local Government Employee Health Benefits		**--**	
Workers and Dependents	$127		
Wage Effects [b/]	($127)		
Nutrition Sales Tax	$522	**$853**	
Tax Collection Administration (1% of Collections)	($5)		
Tobacco Tax Increase	$210		
Alcohol Tax Increase	$126		
Tax Revenue Due to Wage Effects [c/]		**$41**	
Net Cost/(Savings) to State and Local Government			**$0**

a/ Includes care currently paid for by other safety net programs. Assumes waiver is approved to allow state to continue to receive Federal DSH funding to be used for the program.
b/ Assumes reduced employer costs are passed on to workers in the form of higher wage increases.
c/ Reduction in tax revenue is counted as an increase in State and Local Government health spending.
Source: The Lewin Group estimates using the Health Benefits Simulation Model.

c. Change in Federal Government Health Spending

Total costs of the proposal to the federal government would be $280 million due to the CHP+ and Medicaid expansions (***Figure 32***). This assumes the proposal is fully phased-in with expansions for parents in Medicaid to 100 percent of poverty and children to 250 percent of poverty in 2007/2008.

These program costs to the federal government are partly offset by savings in Federal Employee Health Benefits as some employees become eligible for the expanded public programs. These savings are passed on as increased wages, resulting in a $2 million increase in tax revenue of $306 million. The net savings to the federal government, would be $26 million.

Figure 32
Change in Federal Government Spending under Health Solutions for Colorado in 2007/2008 (millions)

		Change in Spending
Federal Program Costs		
Medicaid/CHP+ Programs		**$280**
Federal Programs Revenues and Offsets		
Federal Employee Health Benefits		**$0**
Workers and Dependent	$52	
Wage Effects [a/]	($52)	
Tax Revenue Due to Wage Effects [b/]		**$306**
Total Federal Program Revenues and Offsets		**$306**
Net Cost/(Savings) to Federal Government		**($26)**

a/ Assumes reduced employer costs are passed on to workers in the form of higher wage increases.
b/ Reduction in tax revenue is counted as an increase in Federal Government health spending.
Source: The Lewin Group estimates using the Health Benefits Simulation Model.

4. Impact on Private Employers

There is no change in spending for non-insuring firms as there is no employer mandate. Private employers who currently offer coverage would save about $701 million in health benefits as more workers take-up coverage because of the individual mandate, the expansion in public programs, and subsidies (***Figure 33***). Under the program, firms would spend $76 million more in health care for employees and retirees who take up coverage. This would be offset by savings of 67 million for workers who drop coverage and $710 million in savings from private sector provider rate adjustments.

These savings do not take into account decreased wages as employers pass on higher health care costs to workers. These estimates include employer spending for all covered workers, dependents and retirees living in Colorado, even if the employer is based outside the state. It

excludes federal workers and state and local government employees, which was discussed above. This estimate also includes only the employer share of costs of coverage. Workers shares of costs are presented below.

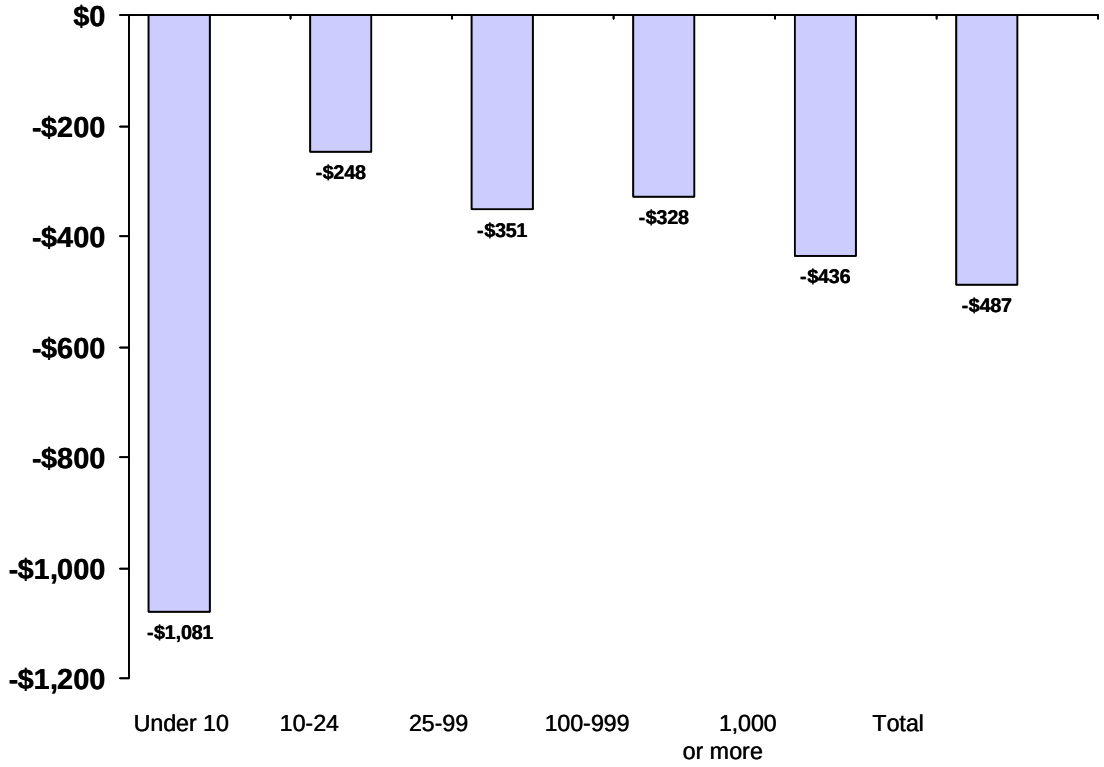
Figure 33
Change in Private Employer Health Benefits Costs under Healthy Solutions for Colorado in 2007/2008 (millions)

	Currently Insuring Employers	Currently Non-Insuring Employers [a/]	All Employers
Private Employer Spending Under Current Law			
Current			
Workers & Dependents	$7,720	--	$7,720
Retirees	$350	--	$350
Total	**$8,070**	--	**$8,070**
Change in Private Employer Spending Under the Policy			
Employees Previously Decline Coverage	$76	--	$76
Employers Dropping Coverage	($67)	--	($67)
Change in Payment Rates	($710)		($710)
Net Change (before wage effects)	**($701)**	**--**	**($701)**

a/ We estimate that 89,000 workers and dependents will be covered by firms not currently offering coverage that will decide offer coverage due to the individual mandate. However, we assume these employers will not contribute to the cost of the premium.
Source: The Lewin Group estimates using the Health Benefits Simulation Model (HBSM).

Private employer spending for firms that now provide coverage would decrease by about $487 per worker per year on average (***Figure 34***). Currently insuring firms with 10 or fewer workers would increase by about $1,081 per worker on average. Those firms with one thousand or more workers would save about $436 on average per worker.

Figure 34
Change in Private Employer Health Spending Per Worker for Currently Insuring Firms under Healthy Solutions for Colorado in 2007/2008



Source: The Lewin Group estimates using the Health Benefits Simulation Model (HBSM).

5. *Household Impacts*

We present our analysis of household impacts of Better Health Care for Colorado below:

a. *Impact of CHS Single Payer on Family Health Spending*

Currently, families in Colorado spend about $4.15 million on health insurance premiums. This includes deductibles and co-payments under insurance plans, payments for services not covered by an insurance plan and out-of-pocket spending by uninsured people. Under the proposal, family premium payments would increase by about $638 million, however, families would receive premium subsidies of $823 million. Overall, families would spend $185 million more in premiums (***Figure 35***).

Out-of-pocket spending, including copays and deductibles for families would increase by $108 million. As employers spend more on health care benefits, these increases are passed on to workers in the form of lower wages of $481 million. The program would be partly funded by a nutrition sales tax resulting in an increase of $858 million for families. The penalty for families who do not comply with the individual mandate would result in $55 million increase in spending. Overall, families would spend about $355 more in health care under Solutions for a Healthy Colorado.

Figure 35
Impact of Health Solutions for Colorado on Family Health Spending in 2007/2008 (millions)

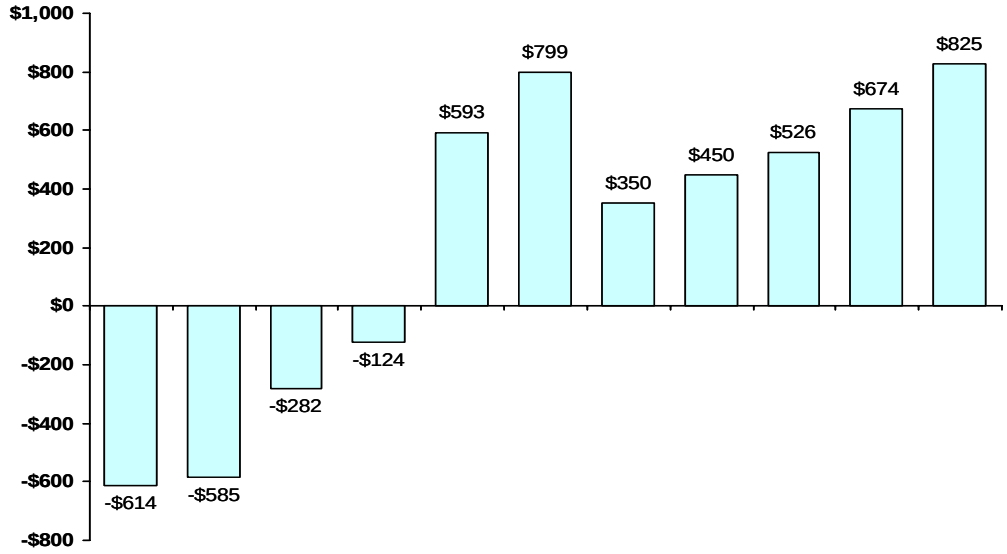
		Change in Spending
Change in Premiums		($185)
Change in Family Premiums	$638	
Premium Subsidies	($823)	
Change in Out-of-Pocket Payments		$108
Tax Penalty for Remaining Uninsured		$55
Nutrition Sales Tax	$522	$858
Tobacco Tax Increase	$210	
Alcohol Tax Increase	$126	
After Tax Wage Effects a/		($481)
Net Change		**$355**

a/ The reduction in after-tax wage income resulting from increased costs to employers are counted here as an increase in family health spending.
Source: The Lewin Group estimates using the Health Benefits Simulation Model (HBSM).

b. Change in Average Family Health Spending by Income Group

Figure 36 shows changes in family health spending by income group. Because premium subsidies are sliding scale between Medicaid levels to 250 percent of poverty, families earning less than $10,000 would save more, about $614 on average. Families earning $30,000-$39,999, would receive lower subsidies and thus, would save $163 on average.

Figure 36
Change in Average Family Health Spending by Income Group under Healthy Solutions for Colorado in 2007/2008

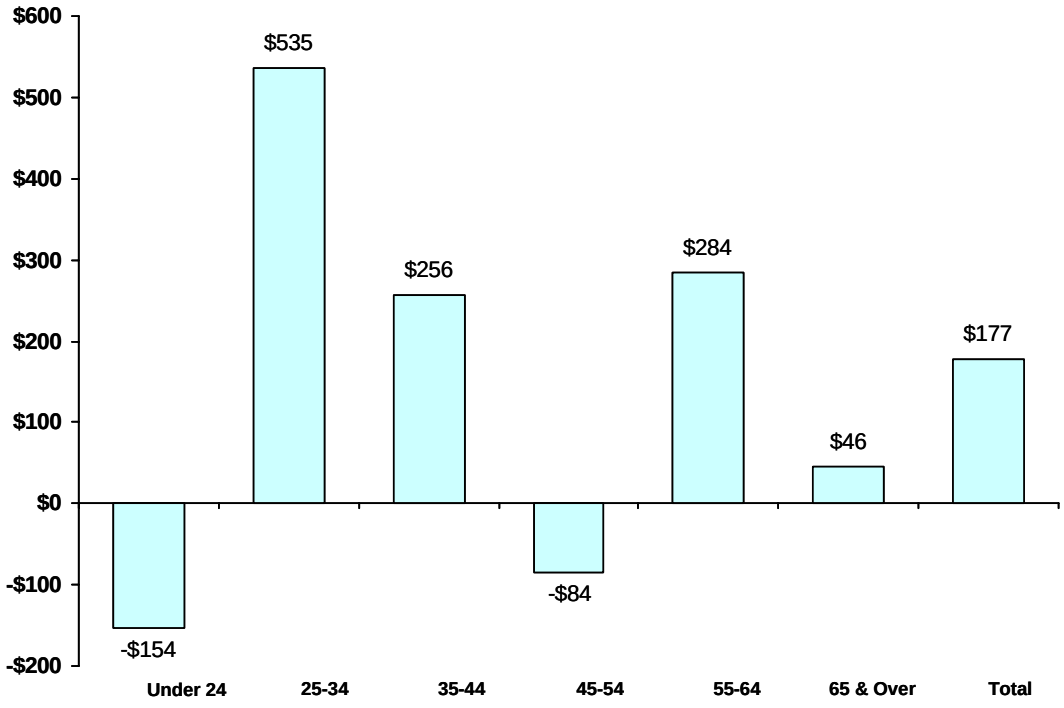


Source: the Lewin Group estimates using the Health Benefits Simulation Model (HBSM).
On average, all families would see an increase in spending of about $177 in 2007/2008 under Solutions for a Healthy Colorado (***Figure 37***). Younger families, particularly those who are

healthier are more likely to remain uninsured. Also, government programs often do not cover these families, even at lower income levels, unless they fall under categorical eligibility groups. The public program expansion would provide coverage to younger individuals with nominal copays, and the premium subsidies make insurance coverage more affordable for these younger families. We estimate that those under 24 years old would save about $154, on average, compared to those ages 45 to 54 years old, who would save about $84 on average.

People in all other age ranges would spend more on average in health care. Families between the ages of 55 to 64 years would spend about $284 on average because these families often pay high premiums due to their age, and often have higher out-of-pocket expenses. Families between the ages of 25-34 years would spend the most, at about $535 on average.

Figure 37
Change in Average Family Health Spending by Family Head under Healthy Solutions for Colorado in 2007/2008



Source: The Lewin Group estimates using the Health Benefits Simulation model (HBSM)

V. A PLAN FOR COVERING COLORADO

A Plan for Covering Coloradans provides coverage to Coloradans through a public program expansion and a mandatory private pool for all residents not eligible for the public program. It provides a minimum benefits package in a private pool and premium assistance based on income for those who cannot afford insurance. All plans would provide a comprehensive minimum benefits package, and differ mainly on cost-sharing amounts. Benefits packages would be easily comparable so that consumers can make informed choices. The private pool would be administered by a quasi-governmental entity, but subsidies would be administered through the tax system. The program would be financed through an employer assessment and a variety of taxes. We present A Plan for Covering Colorado in the following sections:

- Key Provisions of a Plan for Covering Colorado
- Assumptions
- Actuarial Analysis of Benefit

A. Key Provisions of A Plan for Covering Coloradans

Key provisions of A Plan for Covering Coloradans are summarized below:

1. Coverage

The proposal covers all residents in Colorado. For Medicaid and Child Health Plus (CHP+) programs residency is defined according to federal standards. For the private insurance pool, the premium assistance group would be required to have lived in Colorado for at least 6 continuous months, in addition to any other requirements under current law (e.g., citizenship requirements). For all other individuals in the private insurance pool, there is no durational requirement and residency would be under current law.

The proposal combines public program expansion, employer mandate and individual responsibility to provide health coverage. The proposal expands Medicaid to adults living in poverty, expands CHP+ eligibility and combines Medicaid and CHP+ into a single program.

a. Public Program Expansion

The combined Medicaid and CHP+ expanded population would be as follows:

Figure 38
Proposed Expansion for Public Programs

#	Age or Population Group	Current Eligibility (FPL)	Expansion Proposed (FPL)
1	Children ages 0-5 years	133% (Medicaid) 200% (CHP Plus)	300%
2	Children ages 6-19 years	100% (Medicaid) 200% (CHP Plus)	300%
3	Pregnant Women and New Mothers	133% (Medicaid) 200% (CHP Plus)	300%
4	Parents of eligible children	60%	300%
5	Non-disabled adults without children	--	100%
6	Disabled working adults	--	300% (buy-in)
7	65+	74%	100%
8	Medically needy	--	50%
9	COBRA Premium Assistance	--	100%

Source: A Plan for Covering Coloradans

The proposal would:

- Remove the income eligibility "steps" for families (groups 1-4) by increasing eligibility for kids and their parents to 300 percent of the federal poverty level (FPL), phased in over two years;
- Offer Medicaid coverage to non-disabled adults without children (group 5) up to 100 percent FPL using state-only dollars;
- Expand eligibility to the elderly and disabled. The plan raises the eligibility limit for Coloradoans who receive Supplemental Security Income (group 6) to 100 percent FPL;
- Establish a Medicaid sliding fee "buy-in" for working people with disabilities (group 7) up to 300 percent FPL through the federal Ticket to Work and Work Incentives Improvement Act of 1999;
- Add a medically needy program under Medicaid which will allow children up to age 21, parents, disabled and elderly persons whose incomes are above Medicaid eligibility standards to obtain Medicaid coverage if high medical expenses drop their income to less than 50 percent of the FPL;
- Seek federal matching funds to pay COBRA premiums for people in-between jobs with minimal assets (group 9) whose income is below 100 percent FPL (referred hereafter as the "COBRA premium assistance group"); and
- Expand coverage to all severely disabled children who qualify under Colorado's Children's Home and Community Based Services waivers, as well as the Children with Extensive Support waiver.

Individuals and families who appear to be presumptively eligible in government programs would be presumptively enrolled. Coverage for the elderly population eligible for Medicaid long term care services would remain unchanged.

b. Employer Mandate

Employers would be required to offer coverage or pay an assessment, which can be waived for employers who provide adequate coverage for the employees.

c. Individual Mandate/Personal Responsibility and Enforcement

All other individuals, families and employers (including the self-employed) would be able to buy coverage through a private sector purchasing pool which combines the current individual, small group and large group markets. This includes the following low-income population who would not be eligible for the expanded Medicaid/SCHIP program:

- Children and parents above 300 percent FPL;
- Pregnant women above 300 percent FPL;
- Disabled working adults above 300 percent FPL;
- Non-disabled childless adults above 100 percent FPL;
- COBRA premium assistance group above 100 percent FPL;
- Medically needy group above 50 percent FPL;
- Any individual with Employer Sponsored Insurance.

However, premium assistance would be available to people up to 400 percent FPL on a sliding scale, discussed further below.

Proof of insurance would be required at the time of tax filing. If there is no proof of coverage, the following assessment would apply:

- For individuals who would participate in the private insurance pool, the assessment would be equivalent to the annual premium in the least expensive plan, or if they appeared to be eligible for premium assistance, the individual or household's portion of the annual premium in the least expensive plan eligible for premium assistance; and
- For those who would be eligible for the public programs, they would be determined presumptively eligible based on participation in other public programs (e.g., food stamps, school-lunch programs) and automatically enrolled in Medicaid or CHP+ as applicable.

2. Covered Services, Cost Sharing and Benefit Limits

Benefits packages vary between the combined Medicaid/SCHIP program and the Private Insurance Pool.

a. *Combined Medicaid/SCHIP program*

For people enrolled under the combined Medicaid/SCHIP program the two benefit package shows in ***Figure 39*** would apply.

All people in the combined Medicaid/SCHIP expansion would be covered by the standard Medicaid benefits with one exception. Children and parents in families with incomes between 200-300 percent FPL would receive the CHP+ like Benefit Package. However, these families would also pay a premium and copayments, similar to the premium assistance program in the private pool.

Figure 39
Comparison of Colorado Public and Private Health Insurance Options-Coverage, Limits and Out-of Pocket Costs

	Medicaid[a/]	Child Health Plus (CHP+)-Like Plan[b/]
Premium/Deductible	None	Premiums- Based on sliding scale same as Premium Assistance Program (*Figure 41*) No deductible
Max Annual Out-of-Pocket	None	5% of yearly income
Coinsurance/Copays	Limited copay for some services if enrolled in Primary Care Physician Program (PCPP). No copays if enrolled in HMO, 18 or younger, pregnant or in a nursing home.	Copays: Based on sliding scale same as Premium Assistance Program (*Figure 41*)
Lifetime Benefits Max Paid by Plan	No limit	No limit
Services		
Emergency Services	Covered in full-no copay	$15 copays
Emergency Transport-Ambulance Services	Covered in full-no copay	Covered in full
Inpatient Hospital Stay	$15/visit	Covered in full
Outpatient Ambulatory Surgery	$3/visit	Covered in full
Lab, x-ray and Diagnostic Services	Covered in full-no copay	Covered in full
Medical Office Visit	$2/visit	0-250%: $5 copays 251-300% FPL: $10 copay
Preventive Services	Covered in full-no copay	Covered in full
Maternity Care	Covered in full-no copay	Covered in full
Neurobiologically Based Mental Illness	Covered in full-no copay	0-250%: $5 copays 251-300% FPL: $10 copay

	Medicaid[a/]	Child Health Plus (CHP+)-Like Plan[b/]
Other Mental Health Services	Covered in full-no copay	0-250%: $5 copays 251-300% FPL: $10 copay Limits: 45 inpatient days or 90 outpatient treatment days per benefit period. 20 outpatient visits.
Alcohol and Substance Abuse Treatment	Covered in full-no copay	0-250%: $5 copays. 251-300% FPL: $10 copay. 20 outpatient visits per diagnosis. No inpatient coverage.
Physical, Occupational and Speech Therapy	Covered in full-no copay	30 outpatient visits per diagnosis.
Durable Medical Equipment	Covered in full-no copay	Max $2,000, excluding glasses contacts or hearing aids.
Prescription Drugs	$1 generic, $3 brand-name	Generic: No copay Name brand: $5 copay
Vision Services	$2/visit	Coverage of age appropriate preventive and specialty care. $50 benefit for lenses, frames or contacts. Per visit copay: 0-250%: $5 copay 251-300% FPL: $10 copay
Audiological Services	Covered in full-no copay	Coverage for age appropriate preventive care, hearing aids max $800
Transplant Services	Covered in full-no copay	Coverage for limited transplants with prior authorization
Dental Care	Excluded unless surgical	$5 copays per procedure for fillings and extractions Covers periodic cleanings, exams, x-rays, filings, root canals. Annual max $500.
Podiatry Services	$2/visit	Excluded
Skilled Nursing Facility	Long-term care-may have to pay portion of income	Covered in full
Hospice Care	Long-term care-may have to pay portion of income	Excluded
Home Health Care	Long-term care-may have to pay portion of income	Covered in full
Spinal Manipulation	Excluded	Excluded

[a/] KaiserCommission on Medicaid and the Uninsured. Benefits by State: Colorado 2004. www.kff.org. Colorado Department of Healthcare Policy and Financing (HCPF) www.chcpf.state.co.us/HCPF/elig/Q9.asp.
[b/] Colorado HCPF, Child Health Plan Plus, Summary of Benefits, www.cchp.org/chpweb/mainPage.cfm?PageToLoad=summaryOfBenefits.cfm. Colorado HCPF, Child Health Plan Plus, Annual Enrollment Fee and Copayments, www.cchp.org/chpweb/mainPage.cfm?pageToLoad=annualEnrollmentFeeChart.cfm. Copays have been modified based on sliding scale.
Source: Lewin analysis of A Plan for Covering Coloradans, Committee for Colorado Health Care Solutions, Appendix H and Medicaid/SCHIP benefit package

b. *Private insurance pool*

Individuals not eligible for the expanded Medicaid/CHP+ program would be able to purchase from a variety of standard plans in the purchasing pool. There would be two plans to be available under a premium assistance program and at least two plans not available for premium assistance.[10]

For modeling purposes, plan benefits for people who would not be receiving premium assistance would be based on the Colorado Federal Employee Health Benefits Program (FEHBP) but would vary based on cost-sharing arrangements and deductibles. For illustrative purposes, we assume the following Plan choices:

- One plan based on a Colorado FEHBP benefit package with standard PPO cost-sharing arrangements ***(Figure 40, Plan A);*** and
- A less expensive high deductible, higher-cost-sharing health plan ***(Figure 40, Plan B)***. For illustrative modeling purposes, we assume that this least expensive plan would be the plan into which people who are not eligible for premium assistance would be auto-enrolled at the time of tax filing.

People not seeking premium assistance could also choose either of the plans offered in the premium assistance program, but would have to pay the full cost, less their employer contribution.

Figure 40
Non-Premium Assistance Benefits, Cost Sharing and Limitations

	Member Out-of-Pocket by Plan	
	Plan A	**Plan B**
Benefits	**Nationwide BCBS Standard Option** [a/]	**Aetna HealthFund HDHP** [b/]
In-network medical and dental preventive care	Varies	Nothing at a network provider
Medical services provided by physicians:		
• Diagnostic and treatment services provided in the office	PPO: 10%* of our allowance; $15 per office visit Non-PPO: 25%* of our allowance	In-network: 10% of our Plan allowance Out-of-network: 30% of our Plan allowance and any difference between our allowance and the billed amount.

[10] Lewin would determine how to allocate people among plans based on the Health Benefits Simulations Model (HBSM) data and assumptions.

	Member Out-of-Pocket by Plan	
	Plan A	Plan B
Benefits	**Nationwide BCBS Standard Option** [a/]	**Aetna HealthFund HDHP** [b/]
Services provided by a hospital:		
• Inpatient	PPO: $100 per admission	In-network: 10% of our Plan allowance
	Non-PPO: $300 per admission	Out-of-network: 30% of our Plan allowance and any difference between our allowance and the billed amount.
• Outpatient	PPO: 10%* of our allowance (no deductible for surgery)	In-network: 10% of our Plan allowance
	Non-PPO: 25%* of our allowance (no deductible for surgery)	Out-of-network: 30% of our Plan allowance and any difference between our allowance and the billed amount.
Skilled Nursing Facility	Nothing	In-network: 10% of our Plan allowance Out-of-network: 30% of our Plan allowance and any difference between our allowance and the billed amount.
Hospice		In-network: 10% of our Plan allowance Out-of-network: 30% of our Plan allowance and any difference between our allowance and the billed amount.
• Home hospice	Nothing	
• Inpatient hospice for members receiving home hospice care benefits	Preferred: $100 per admission copayment.	
Emergency benefits:		In-network or out-of-network: 10% of our Plan allowance
• Accidental injury	PPO: Nothing for outpatient hospital and physician services within 72 hours; regular benefits thereafter	
	Non-PPO: Any difference between our payment and the billed amount within 72 hours; regular benefits thereafter	
• Medical emergency	Regular benefits for physician and hospital care*; $50 per trip for ambulance transport services (no deductible)	

	Member Out-of-Pocket by Plan	
	Plan A	Plan B
Benefits	**Nationwide BCBS Standard Option** [a/]	**Aetna HealthFund HDHP** [b/]
Mental health and substance abuse treatment		
	In-Network (PPO): Regular cost sharing, such as $15 office visit copay; $100 per inpatient admission	In-network: 10% of our Plan allowance
	Out-of-Network (Non-PPO): Benefits are limited	Out-of-network: 30% of our Plan allowance and any difference between our allowance and the billed amount.
Prescription drugs		• After your deductible has been satisfied, your copayment will apply.
• Retail Pharmacy Program:	• PPO: 25% of our allowance; up to a 90-day supply	In-network: For up to a 30-day supply: $10 per generic formulary; $25 per brand name formulary; and $40 per nonformulary (generic or brand name)
	• Non-PPO: 45% of our allowance (AWP); up to a 90-day supply	Out-of-network (retail pharmacy only): 30% plus the difference between our Plan allowance and the billed amount.
• Mail Service Prescription Drug Program:	• $10 generic/$35 brand-name per prescription; up to a 90-day supply	(Available in-network only) For a 31-day up to a 90-day supply: Two copays
Dental care	Scheduled allowances for diagnostic and preventive services, fillings, and extractions; regular benefits for dental services required due to accidental injury and covered oral and maxillofacial surgery	No benefit other than in-network dental preventive care
Vision care	Covered as medical service.	In-network (only) preventive care benefits-no copay; $100 reimbursement for eyeglasses or contact lenses every 24 months
Hearing	Covered only as medical/surgical service	Covered if medical/surgical services. Also 1 hearing exam per 24 months
Special features	Flexible benefits option; online customer and claims service; 24-hour nurse line; services for deaf and hearing impaired; Web accessibility for the visually impaired; travel benefit/services overseas; health support programs; and Healthy Families Program	Aetna InteliHealth, Aetna Navigator, Contact Plan. Informed Health Line, and services for the deaf and hearing-impaired.

	Member Out-of-Pocket by Plan	
	Plan A	Plan B
Benefits	**Nationwide BCBS Standard Option** [a/]	**Aetna HealthFund HDHP** [b/]
Protection against catastrophic costs (your catastrophic protection out-of-pocket maximum)	Nothing after $4,000 (PPO) or $6,000 (PPO/Non-PPO) per contract per year; some costs do not count toward this protection against catastrophic costs (your 19-20 catastrophic protection out-of-pocket maximum)	In-network: Nothing after $4,000/Self Only or $8,000/Self and Family enrollment per year. Out-of-network: Nothing after $5,000/Self Only or $10,000/Self and Family enrollment per year. Some costs do not count toward this protection. Your deductible counts toward your out-of-pocket maximum.
Calendar Year Deductible	$250	$2,500 individual/$5000 family

a/ www.opm.gov.insure/07/brochures/pdf/71-005.pdf
b/ www.opm.gov.insure/07/brochures/pdf/73-828.pdf
Source: The Lewin Group analysis of Federal Health Employee Benefits schedule in Colorado.

For the premium assistance program there would be two plans available with comprehensive benefits, one an HMO and the other a PPO (see ***Figure 41***[11]). The premium assistance plans would offer low deductibles, first dollar coverage for preventive services, minimal to no co-payment for chronic disease medications, and lower cost-sharing for the use of safety net providers and other "high-value" providers. Copayment would be applied as specified in ***Figure 41***. There would be no copayment for people with income below 100 percent of poverty and no copayment for preventive care or chronic disease management.

Figure 41
Premium Assistance Plan Benefits, Limits and Out-of-Pocket Payments

Covered Benefits	Benefit Limits and Out-of-Pocket Payments
Physician/Routine Office Visit	0-250%: $5 copay 251-399%: $10 copay
Prevention	0-250%: Covered in full 251-399%: Covered in full
Maternity Care	0-250%: Covered in full 251-399%: 90% coinsurance
Urgent Care	0-250%: $5 copay 251-399%: $10 copay

11 This is Appendix G of the proposal.

Covered Benefits	Benefit Limits and Out-of-Pocket Payments
Outpatient Hospital **Surgical** **All Other Outpatient**	All outpatient hospital 0-250%: Covered in full 251-399%: 90% coinsurance
Ambulance-Emergency	0-250%: covered in full 251-399%: $25-50 copay
Hospital-Emergency	0-250%: $15 copay 251-399%: $25-50 copay
Inpatient Hospital	0-250%: covered in full 251-399%: 90% coinsurance
Lab and X-Ray	0-250%: Covered in full 251-399%: 90% coinsurance
Other Diagnostic **(e.g. CT,MRI, PET, Nuclear)**	0-250%: Covered in full 251-399%: 90% coinsurance
Transplants	0-250%: Coverage limited w/prior authorization 251-399%: 90% coinsurance for covered transplants
Family Planning	0-250%: Covered in full 251-399%: Covered in full No coverage for infertility treatment
Mental Health	Neurobiologically based MI Parity: inpatient same as hospitalization; outpatient same as medical office visit Other Mental Services Parity: inpatient same as hospitalization; outpatient same as medical office visit
Substance Abuse	Residential Same as inpatient hospital Outpatient $5 copay
Therapies (Speech, PT, OT)	0-250%: $5 copay 251-399%: 90% coinsurance Limited to 30 visits per year for diagnosis
Durable Medical Equipment	0-250% Covered in full Annual maximum $2,000 251-399% 90% coinsurance Annual maximum $2,000
Prescription Drugs	0-250% $2 Generic $5 brand 251-399% $10 copay preferred generic $15 copay preferred brand

Covered Benefits	Benefit Limits and Out-of-Pocket Payments
	$25 copay non-preferred All income levels No copays for chronic disease management drugs
Vision	0-250% Exam, specialty care covered Copay $5; $100 towards lenses, frames, or contacts 251-399% 90% coinsurance for exam, specialty care; $50 towards lenses, frames, or contacts
Dental	0-250% Periodic cleaning, exams, xrays, fillings, extractions, root canals Annual maximum $750 251-399% 90% coinsurance Annual maximum $750 Dental services resulting from an accident 0-250%: Covered in full 251-399%: 90% coinsurance No annual maximum
Audiology	0-250% Hearing aids, copay $25 Annual maximum $1000 251-399% Hearing aids, 90% coinsurance Annual max $1000
Skilled Nursing Facility	0-250%: Covered in full 251-399%: 90% coinsurance 100 days per year maximum
Hospice	0-250%: Covered in full 251-399%: 90% coinsurance
Home Health	0-250%: Covered in full 251-399%: 90% coinsurance
Deductibles	None for < 250% FPL $150 per person per year for all others Not applicable to preventive care (e.g., routine physicals, immunizations, PAP tests, mammograms, and other screening and testing provided as part of the preventive care visit) or office visits (primary care, consultations, mental health and chemical dependency outpatient visits, office-based surgeries, and follow-up visits)
Maximum	5% of yearly income annual maximum

Source: A Plan for Covering Coloradans, Committee for Colorado Health Care Solutions

c. Case Management

Case management would be available for high cost cases in the private market. In addition all people in the private market would be required to have a medical home.

3. Premiums and Subsidies

Premiums would be charged to obtain coverage through the private plans pool. Premium rates for all covered units (individuals, individuals with spouses, individuals with children and families) in the pool living in the same geographic area would be the same for a specific insurer's plan (i.e., community rating).

Estimated Singe and Family premiums by Age and Gender under the non-premium assistance program (see ***Figure 40***, Plan A and Plan B above) are as follows:

Figure 42
Non-Premium Assistance Plan Premium Comparison

Nationwide BCBS Benefit Plan (Plan A)			Aetna Health Fund (Plan B)		
Medical Expense PMPM by Age/Gender/Tier Contracts Effective 2007/2008			Medical Expense PMPM by Age/Gender/Tier Contracts Effective 2007/2008		
Age/Gender	**Single**	**Family**	**Age/Gender**	**Single**	**Family**
<25 M	$141.64	$511.68	<25 M	$139.16	$502.71
25 - 34 M	$173.14	$745.91	25 - 34 M	$170.10	$732.84
35 - 44 M	$228.96	$890.55	35 - 44 M	$224.95	$874.95
45 - 54 M	$384.37	$1,001.51	45 - 54 M	$377.64	$983.96
55 - 64 M	$653.15	$1,196.37	55 - 64 M	$641.70	$1,175.40
<25 F	$253.10	$545.08	<25 F	$248.66	$535.53
25 - 34 F	$318.54	$769.52	25 - 34 F	$312.96	$756.03
35 - 44 F	$370.60	$852.97	35 - 44 F	$364.11	$838.02
45 - 54 F	$488.55	$1,008.22	45 - 54 F	$479.99	$990.56
55 - 64 F	$702.95	$1,237.93	55 - 64 F	$690.63	$1,216.24

Source: NovaRest Consulting

Estimated Single and Family Premiums by Age and Gender for the Premium Assistance Plan (***Figure 41*** above) are as follows:

Figure 43
Premium Assistance Plan Premiums

Medical Expense PMPM by Age/Gender/Tier Contracts Effective 2007/2008		
Age/Gender	**Single**	**Family**
<25 M	$142.31	$514.09
25 - 34 M	$173.95	$749.42
35 - 44 M	$230.04	$894.74
45 - 54 M	$386.18	$1,006.22
55 - 64 M	$656.22	$1,201.99
<25 F	$254.29	$547.65
25 - 34 F	$320.04	$773.14
35 - 44 F	$372.34	$856.98
45 - 54 F	$490.85	$1,012.96
55 - 64 F	$706.25	$1,243.75

Source: NovaRest Consulting

Employers would be required to allow workers to pay their share of premiums through a payroll deduction and would be required to establish a section 125 plan for workers. The proposal would provide premium assistance to people with incomes up to 400 percent of FPL from a shorter list of plans that participate in premium assistance, with the government as the payer of last resort. The premium assistance would be as follows:

- Full subsidies for individuals and families at or below 200 percent of FPL;
- Sliding scale up between 201-400 percent of FPL as follows
    - 201-250 percent FPL - 90 percent subsidy
    - 251-300 percent FPL - 80 percent subsidy
    - 301-350 percent FPL - 60 percent subsidy
    - 351-400 percent FPL - 25 percent subsidy; and
- No subsidy for any individuals or families above 400 percent of FPL.

Subsidy levels for 251-300 percent of the federal poverty level are for illustrative purposes. The author requested that Lewin assume a sliding fee scale which is non-linear, with very little premium subsidies on the lower end of the scale and increasing subsidies in larger increments, as income as a percent of the FPL rises. The adjustment is designed to account for the fact that persons between 200 percent and 250 percent have almost no capacity to share in premiums.

A benchmark premium would be negotiated by the Authority for the subsidized plans. For modeling purposes, the median premium of plans participating in the premium assistance pool would be the benchmark premium. Workers in self-insured employers who offer benefit package that meet the minimum benefits package established by the Authority would also be eligible for subsidies.

Employers would define their level of contribution. If the employer contribution would not cover the full cost of the individual or family coverage, employee dollars would be applied through a payroll deduction up to a maximum out-of-pocket premium defined by income, the subsidy schedule and the benchmark premium. *For example*: for people between 201-250 percent of poverty, once the employer makes their contribution, the individual/family would be expected to pay up to 10 percent of the benchmark premium plus any amount in excess of the benchmark the plan they select costs. The government would pay the remainder.

> *Example: government subsidy amount for people between 201-250 percent of poverty*
>
> *Government Subsidy = (90% x benchmark premium) – employer contribution.*

1. Consumer Choice

Consumers in the private pool would be able to choose among a number of plans based on a limited set of standardized, comprehensive benefits packages and the characteristics of type of plan (e.g., HMO, PPO, etc.), price, and customer service rating. Consumers enrolled in the premium assistance programs would be able to select among just two of these plans, one an HMO, the other a PPO, both with low cost-sharing ***(Figure 41)***.

People who are eligible for government sponsored programs (combined Medicaid/SCHIP) would be enrolled in a managed care plan—automatic or passive enrollment would kick in if they do not select a plan. Individuals who are not eligible for the Medicaid/CHP+ program who do not select a plan would be assessed a fee by the Department of Revenue equal to the cost of the annual premium in the lowest cost plan and provided enrollment information. Individuals would not be disenrolled for non-payment of premiums but would face penalties.

2. Administration

The Department of Health Care Policy and Finance would continue to administer the newly combined Medicaid/CHP+ program. Administration of premium subsidies and penalties would be through the tax system under the Colorado Department of Revenue.

The proposal creates an independent, quasi-governmental Authority with a governance Board responsible for setting policy and standards, and an administrative structure to manage the private pool. The pool would provide participating employers with standardized information about plans and enrollment forms to set up Section 125 plans for workers.

The Authority Board would perform the following:

- Define the minimum benefit package;
- Define and periodically update the set of standard benefit packages based on evidence of effectiveness and cost-effectiveness;
- Define and certify "high-value" providers;
- Define the requirements for participation of plans in a premium subsidy program;

- Define and periodically update an affordability standard below which individuals will be eligible for premium assistance;
- Establish a benchmark premium for the premium assistance program;
- Bring stakeholders together to develop a standardized uniform billing and payment system; and
- Convene stakeholders to select robust outcome measures and determine how accountability and incentives for delivery of high quality care is allocated.

Administrative functions of the Authority would include but not be limited to, certifying plans, assuring regional coverage and network adequacy, enrolling individuals and groups in plans of their choosing, collecting premiums, collecting claims data from insurers, managing the risk adjustment process, and disbursing payments to insurers, assuring public outreach and education, etc.

Health plan responsibility for claims processing and network development would continue. However, there would be a decrease in broker functions as the Authority conducts enrollment and premium collection. In addition, the plan underwriting function would be eliminated as a result of the community-rated pool.

3. Financing

Employers would be required to offer coverage or pay an assessment which can be waived for employers who provide adequate coverage for the employees. Adequate coverage would be defined as offering health benefits that meet or exceed the minimum benefit package defined by the Authority, and contributing at least 85% of the median cost of a standard individual plan. Financing, which includes a set of new tax assessments to fully fund the proposal is as follows:

a. Employer Assessment

The proposal imposes an employer assessment that would be based on the number of full-time equivalents of workers not offered a plan meeting the benchmark benefit, multiplied by the annual per worker assessment. For illustrative purposes, the annual per worker assessment would be $347. The amount is prorated for part-time workers. Business Groups of 1 (BG1), i.e., self-employed and the federal government would be exempt from paying the assessment.

b. Premium Tax

The proposal imposes a premium tax on insurers, which will redistribute a portion of the insurer's administrative costs savings though the proposal to a premium assistance fund.

c. Program Savings

The proposal would use savings that can be gained from the following could also be used to finance the program:

- Any savings from Medicaid enrollees being required to use 340B drugs[12];
- Any savings from adopting a formulary similar to Oregon's Medicaid formulary for the Medicaid/CHP+ newly expanded program;
- Savings from requiring the Medicaid/CHP+ population enroll in a mandatory, capitated, statewide managed care program;[13]
- Implementing mandatory case management for high users/high cost individuals; and
- Implementing a statewide nurse advice line.

d. Other Fund Sources

Additional money to fully fund the proposal is as follows:

- A provider tax on revenues (approximated by the value of average uncompensated care cost-shifting in current prices);
- An increase in tobacco—from $.84 up to $2.00 per pack; and
- An increase in alcohol taxes as follows
  - Spirits: from $.60 to $5.63 for a liter (or from $2.28 to $21.30 per gallon)
  - Wine: from $.07 to $.66 per liter (or from $.32 to $2.50 per gallon)
  - Beer: from $.05 to $.15 per 6-pack (or $.08 to $.26 per gallon)

e. Alternative Financing

If there remains a deficit in funding, the following financing options would be modeled:

- Option 1: An increase in the income tax
- Option 2: Property and sales taxes taking into account the higher collection costs;

The income and property tax options are not part of the proposal. Estimates are provided for informational purposes to assist the author in assessing the level of increased taxation that would be required to fully fund the proposal using the employer assessment and an increase in income tax.

With respect to any of the taxes under this section of the specifications, Colorado's Taxpayers Bill of Rights (TABOR) and the Arverschoug-Bird law which impose limits on state spending without voter approval, and other tax laws would likely have implications to the financing mechanisms analyzed in this proposal.

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[12] The 340B Drug Pricing Program was established in response to the passage of Section 340B of U.S Public Law 102-585, the Veterans Health Care Act of 1992. Section 340B of this law limits the cost of drugs to federal purchasers and to certain grantees of federal agencies.

[13] Conversations with Colorado's Health Care Policy and Finance (HCPF) staff informed Lewin that given previous managed care experience in the state that, the state would have to pay at least fee-for-service equivalent rates to managed care organizations to gain their participation in a mandatory managed care program. So it is unlikely that mandatory Medicaid managed care would generate any programmatic savings.

4. Disposition of State/Local Programs

Because plans would be required to guarantee issue using community rating, CoverColorado, the state's high risk pool would be eliminated. As discussed above the proposal combines Medicaid and CHP+ and expands these programs. Otherwise, all other public programs would remain the same.

5. Provider Payment Levels

For services under the newly expanded Medicaid/CHP+ program, providers would be paid as follows:

- For services under the newly expanded Medicaid/CHP+ program, providers would be paid Medicare rates; and
- For insurers in the private pool, payments would be risk adjusted by the Authority using claims to account for health risks among enrollees in the plan.

6. Health Information Technology

The proposal recommends funding rapid development of Health Information Technology (HIT) by the Colorado Department of Health and Environment to create an Office of Health Information Technology (OHIT) which would be responsible for the following:

- Creating standards of interoperability;
- Soliciting bids for and certifying a limited number of electronic health record product licenses that include essential elements such as stability, technical support services, registry functionality, tracking and reminder systems, evidence-based decision support and interoperability; and
- Providing technical assistance to providers who are selecting systems.

7. Insurance Market Reforms

The proposal retains the private insurance market, but creates a pooling mechanism by combining individual, large group and small group markets through which issuers can offer coverage and purchaser can buy coverage to include all insurers, individuals, and employers (except those exempt from state regulation who choose to offer self-funded coverage).

The proposal requires guaranteed issue and implements a pure community rating; plans would not be allowed to base premium rates based on any attributes related to health status or risk. Dependent adults would be eligible to be covered under their parent's policies until 26 years old. Plans would not be allowed to develop risk-adjusted rates, but would receive risk adjusted payments from the Authority.

B. Key Assumptions

The author's proposal would require employers to either provide coverage for their workers or pay a fee. The program also expands coverage under the Medicaid/SCHIP programs to cover all parents and children living below 300 percent of FPL, and childless adults living below 100 percent of the FPL. It also establishes a purchasing pool where individuals can purchase coverage with a premium that is subsidized on a sliding-scale, with income for people living below 400 percent of the FPL. In this section, we describe the methods and assumptions used to simulate the impact of this proposal. A detailed discussion of the model is presented in ***Appendix D***.

1. Low-Income Coverage Expansion

We used the Health Benefits Simulation Model (HBSM) described above to estimate the number of newly eligible children who would enroll in the program based on Colorado sub-sample of the Current Populations Survey (CPS) data for 2004 through 2006. These data provide information on income and insurance coverage for a representative sample of the population that is suitable for use in estimating the number of people who are eligible for public coverage expansions.

Key assumptions include:

- We estimated the number of people who would be eligible to enroll under these eligibility expansions using the income and demographic data reported in the CPS and the income eligibility levels used in the state. Estimates were developed using a simulation of month-by-month eligibility, which permits us to account for part-year eligibility.
- We simulated enrollment for eligible people based upon a Lewin Group analysis of program participation rates under the current Medicaid and SCHIP programs. This approach results in participation rates of about 70 percent for uninsured persons and 39 percent for people who currently have insurance from some other source.
- We assumed that children who are currently eligible for Medicaid or SCHIP who are not enrolled would become covered under the program if one of their parents becomes covered under the private insurance subsidy program created for adults. We assume no change in coverage status for all other persons who are eligible for but not enrolled in the existing Medicaid/SCHIP program.
- Our participation model simulates "crowd-out" (i.e., the substitution of public for private coverage) based upon enrollment of children eligible for the pre-SCHIP poverty level expansions under Medicaid.[14] The model indicates that without anti-crowd-out

[14] Estimates are based upon CPS data showing Medicaid enrolled children with parents who have employer health insurance. The poverty-level expansions did not include anti-crowd-out provisions.

provisions, up to 39 percent of newly eligible persons with employer coverage would eventually shift to the public program.[15]

- Administrative costs per newly eligible person were assumed to equal average administrative costs for eligibility functions per enrollee under the current program (about 7.5 percent of benefits costs).

2. Premium Subsidies

The premium subsidies would reduce the cost of insurance to eligible people, resulting in an increase in the number of people taking such coverage. We estimated the impact of the premium subsidy on the number of people purchasing non-group coverage by treating the subsidy as a change in the price of insurance to the individual. This reduction in price would result in an increase in the likelihood that such a family would purchase coverage.

We simulated the impact of this reduction in price by using a multivariate model of how the likelihood of purchasing coverage changes as the price of coverage (i.e., the premium) is reduced. This model shows an average price elasticity for coverage of –0.34 (i.e., a 1.0 percent decrease in premiums is associated with an increase in coverage of about 0.34 percent). However, the impact of changes in premiums on coverage varies with the income and demographic characteristics of affected persons. For example, the price elasticity varies from about –0.31 among persons with family incomes of $50,000 to –0.55 among those with incomes of $10,000. Thus, the price response tends to be higher for low-income persons than for high-income persons.

We used these price elasticity assumptions to simulate the change in coverage for uninsured people in the MEPS-based HBSM data. The model was used to estimate the premium faced by each uninsured individual/family in the individual market, and the amount of the credit that eligible persons would receive. Affected individuals were then randomly selected to become covered based upon the change in the net cost of insurance to the individual as a result of the credit (i.e., premium less the tax credit received) and the price elasticity assumptions discussed above. This step involved the following assumptions:

- We used HBSM to estimate the premium that individuals face in the non-group market for a given benefits package by age, sex and self-reported health status. As discussed below, this benefits package is assumed to be similar to that offered through the Federal Employees Health Benefits Program (FEHBP), adjusted to reflect recent research indicating that the actuarial value of non-group policies is typically about 16 percent less than employer health plans.[16]
- All HBSM simulations were performed on a month-by-month basis to account for persons who are eligible for only part of the year (The various tax credit proposals typically pro-rate the annual credit over months of eligibility.).

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[15] Crowd-out could be substantially reduced by requiring states to adopt anti-crowd-out provisions such as a six-month waiting period.

[16] Gabel, Jon, et. al., "Individual Insurance: How Much Financial Coverage Does It Provide," *Health Affairs*, April 2002.

- All income-eligible people who are currently purchasing non-group coverage are assumed to take the premium subsidy.

3. Employer Response to Premium Subsidies

The model simulates the employer's decision to purchase coverage or pay the tax based on the cost of these two approaches to the employer. Firms that find that the cost of providing the minimum standard benefits package for their workers is less than the cost of paying the payroll tax are assumed to provide coverage. This would typically occur among firms with more highly compensated workers. Firms with lower-wage workers who find that paying the tax, is less costly than providing coverage would pay the tax, thus covering their workers under the public program. The methods used to simulate the employer's decision are presented below.

Creation of Synthetic Firms: The simulation of the employer coverage decision was based upon a database of "synthetic firms" developed using HBSM. Each worker in the MEPS data was assigned to one of the employers in the Kaiser/HRET data. We then "populated" the firm to which each worker has been assigned by randomly selecting MEPS workers who match the economic and demographic profile of persons employed by that firm.[17]

Health care costs for the group are assumed to be equal to the individual worker's costs as reported in MEPS plus the costs for other persons assigned to the firm. Costs also include expenditures for dependent spouses and children. This approach assures that the costs for each synthetic firm reflects the actual level of utilization for each MEPS worker, plus the others assigned to the firm.[18]

Private Sector Premiums: The model was used to estimate the premium for each of these synthetic firms under the proposal's benefits package. The cost of covering these services was estimated from the health expenditures data reported for each of the workers assigned to the firm. Premiums were estimated based on a simulation of rating practices for firms of various sizes that apply in each state. The private coverage premium for each synthetic firm is estimated as follows:

- For self-funding firms, the "premium" is equal to the average cost per worker assigned to each firm for single and family coverage;
- For fully insured firms subject to state rating regulations, premiums are based on a simulation of small group premium ratings in each state including community rating, age rating, and rating bands. These requirements impose varying degrees of risk pooling in the small group market that we simulate by pooling the workers in these synthetic firms. Premiums are based on average costs by age and gender, which are compressed into fewer age groupings in states that limit rate variations.

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[17] The Kaiser/HRET data provide information on the wage profile, industry and firm size characteristics of each firm. We then statistically matched these data with the 1991 employer survey conducted by the Health Insurance Association of America (HIAA), which provides additional demographic detail including age, gender, part-time/full-time status, and family/single covered status.

[18] The method for developing synthetic firms is described in detail in the technical appendix to this report (forthcoming).

- For fully insured groups subject to experience rating, premiums are estimated based on actual health expenditures for persons assigned to the firm, and an analysis of the degree to which expenditures in one year predict the level of spending in the next.
- Separate premiums are estimated for the various types of coverage (i.e., single, family etc.). These estimates are done for firms that currently offer insurance and firms that do not insure.

Employer Choice: We simulated the decision to pay the fee or provide the coverage based upon the data developed for each synthetic firm. For each firm, the cost of providing the minimum benefits package is based upon the premiums estimated as described above. Premiums reflect the cost of covering workers and dependents for workers in the firm who have families. The cost of paying the tax is computed on the basis of earnings reported for workers assigned to each firm.

We assume that the employer offers the coverage if it is less costly than paying the tax. In some instances, insuring employers will need to upgrade their coverage to the minimum standard benefits package as discussed below. All others pay the tax, thus covering their workers and dependents under the public program.

4. "Crowd-out" Analysis

Programs that expand eligibility for Medicaid and various proposals to provide premium subsidies for non-group coverage can lead to reductions in the number of people who have employer-sponsored insurance (ESI). This is because these programs either reduce or eliminate the cost of obtaining coverage through other sources (i.e., Medicaid, SCHIP, or subsidized non-group coverage) for those who qualify. For example, employers of low-wage workers may find that the cost of obtaining coverage through government subsidized coverage would actually be less than the cost of obtaining coverage as an employer group, even after accounting for the tax advantages of obtaining coverage through ESI. The process of people moving from private to public coverage in called "crowd-out."

We simulate the process of employers discontinuing coverage based upon the change in the relative cost of ESI vs. the cost of subsidized insurance for their workforce using the "synthetic" firm data described above. For each firm, we estimate the total after-tax cost of covering their workers and their dependents under ESI with the insurance rating rules now used in Colorado. We then estimated the cost of coverage for the group assuming that their workers obtain coverage from the sources of available to each worker in the group. This includes subsidized coverage under Medicaid/SCHIP or the premium subsidy plan for those who are eligible. For workers who are not income-eligible for subsidized coverage, we use the cost of coverage in the non-group market. Employers are selected to discontinue coverage in cases where the cost of non-ESI coverage for the group is less than the after-tax cost of ESI.

5. Program Administration

We assumed that the cost of administering eligibility for the Medicaid/SCHIP expansion would equal $170 per family per year. This is based on detailed data on the cost of administering eligibility under the Medicaid program. We assume that insurer's cost of administering

coverage under each of these benefit packages was assumed to be equal to 19 percent of covered claims. This assumption is based on experience in large health plans operating in the non-group market.

6. Wage Effects

We assume that changes in employer health spending under the proposal would be passed on to employees as changes in wages. We also assume that this would occur among government employers as well, assuming that states would need to remain competitive with private employers for labor. This adjustment wage increase would be partly offset by changes in income and payroll tax payments.

7. Mandate Enforcement

The proposal includes a mandate for all Colorado residents to have health insurance. We first simulate voluntary enrollment for people newly eligible for subsidized coverage as described above. We then assume we assume full compliance among people where the cost of insurance would exceed 8 percent of their income. Others would remain uninsured.

C. Cost and Coverage Impacts

We present our findings of A Plan for Covering Coloradans in the following sections:

1. Transitions in Coverage

The proposal provides coverage through a public program expansion and through a private pool. ***Figure 44*** illustrates where people would become covered under the proposal. Of the 2.69 million people getting coverage through their employer, 2.53 million would maintain employer coverage, 72,800 would get coverage in the private pool, and 88,000 would move into Medicaid/CHP+ as a result of the program expansions, while 2,100 become uninsured. Out of an estimated 158,900 people getting coverage in the non-group market, we estimate that 92,200 would remain in the non-group private market, 50,300 would take up employer coverage and 16,400 would be covered through Medicaid/CHP+ as a result of the expansions. A Plan for Covering Colorado has no impact on military personnel who are covered through CHAMPUS. Likewise, there would be no change in coverage in the Medicare program.

Of the estimated 791,800 uninsured, 84,300 people who previously declined employer coverage would take up such coverage and 230,300 would get coverage in the private pool as a result of the mandate. Another 370,700 of the uninsured would become covered through Medicaid/CHP+ leaving 106,500 people remaining uninsured in the state or (13.45 percent of the currently uninsured).

Figure 44
Transitions in Coverage under A Plan for Covering Colorado in 2007/2008 (thousands)

		Transitions in Coverage Under the Policy					
Coverage Under Current Law	Total	Employer	Non-Group	CHAMPUS	Medicare (excl. dual eligibles)	Medicaid/ CHP+	Uninsured
Employer	2,691.7	2,528.8	72.8	0.0	0.0	88.0	2.1
Non-Group	158.9	50.3	92.2	0.0	0.0	16.4	0.0
CHAMPUS	112.4	0.0	0.0	112.4	0.0	0.0	0.0
Medicare (excl. dual eligibles)	413.0	0.0	0.0	0.0	413.0	0.0	0.0
Medicaid / CHP+	452.1	0.0	0.0	0.0	0.0	452.1	0.0
Uninsured	791.8	84.3	230.3	0.0	0.0	370.7	106.5
Total	**4,619.9**	**2,663.4**	**395.3**	**112.4**	**413.0**	**927.2**	**108.6**

Source: The Lewin Group estimates using the Health Benefits Simulation Model.

Figure 45 shows the change in number of uninsured under the proposal by age and income. The proposal covers an estimated 687,000 uninsured or 86.76 percent of the uninsured population. The proposal would cover about 85.56 percent of the uninsured earning less than $10,000 annually and 93.33 percent of uninsured earning $150,000 or more annually (***Figure 45)***. It would provide coverage to 91.13 percent of uninsured people 18 years old and younger, and 84.75 percent of all uninsured age 55 years and older would have coverage.

Figure 45
Change in Uninsured under A Plan for Covering Colorado in 2007/2008 (thousands)

	Uninsured Under Current Law	Newly Covered Under Program	People who Become Uninsured	Net Reduction in Uninsured
		Family Income		
Under $10,000	90	77	0	77
$10,000-$19,999	109	91	0	91
$20,000-$29,999	127	113	0	113
$30,000-$39,999	118	104	0	104
$40,000-$49,999	79	66	1	67
$50,000-$74,999	123	102	0	102
$75,000-$99,999	66	57	1	58
$100,000-$149,999	48	46	1	47
$150,000 & over	30	28	0	28

	Uninsured Under Current Law	Newly Covered Under Program	People who Become Uninsured	Net Reduction in Uninsured
		Age		
Under 6	59	53	0	53
6-18	99	91	0	91
19-24	123	101	0	101
25-34	192	167	0	167
35-44	147	124	1	125
45-54	112	99	1	100
55-64	58	49	0	49
65 and over	1	1	0	1
Total	**792**	**685**	**2**	**687**

Source: The Lewin Group estimates using the Health Benefits Simulation model (HBSM).

2. Impact on Statewide Health Spending

As discussed above, we estimate that health spending for Colorado residents will be about $30.1 billion in 2007/2008. This includes spending for all health services by all payers including Medicare Medicaid, ESI, non-group insurance, workers compensation and various safety-net programs. Spending includes both payments for services, insurance, and program administration.

A Plan for Covering Colorado would have several impacts on statewide health spending. There would be an increase in health services utilization as persons who are uninsured or underinsured under the current system become covered. Utilization will also increase slightly for those individuals previously covered in a less generous plan. However, some of these increases in costs would be offset by the proposed provider premium tax.

Health spending in Colorado would increase by about $1.3 billion in 2007/2008 under the proposal (***Figure 46***). This is an increase in statewide health spending by about 4.3 percent. Provider payments would increase by about $805 million due to increased utilization of services by newly insured people, $63 million for currently insured, and a net increase in provider reimbursement resulting from increasing Medicaid provider payment levels to Medicare levels and private sector payment adjustments. Insurer administration would be increased by $39 million and administration of subsidies would add $26 million to the program costs. The impact of the program on health spending is presented below.

Figure 46
Changes in Statewide Health Spending under A Plan for Covering Colorado in 2007/2008
(millions)

Current State-wide Health Spending for All Payers		**$30,100**
Change in Health Services Expenditures		**$868**
Change in utilization for newly insured	$805	
Change in utilization for currently insured	$63	
Reimbursement Effects		**$412**
Payments for previously uncompensated care	$226	
Medicaid Payment Rate Increases (current program)	$247	
Medicaid Payment Rate Increases (expansion / mandate)	$215	
Reduced Cost Shifting [a/]	($276)	
Provider Taxes		**$0**
Provider Tax [b/]	($688)	
Tax Payments Passed on to Consumers as Higher Premiums	$688	
Case Management / Medical Home Model in Fully Insured Market [c/]		**($56)**
Change in Administrative Cost of Programs and Insurance		**$65**
Change in Insurer Administration	$39	
Administration of Subsidies d/	$26	
Total Change in State Health Spending		**$1,289**

a/ Assumes 40 percent of change in provider payment rates are passed on to private health plans in the form of lower negotiated rates.
b/ Assumes $171 per family for determining income eligibility for subsidies.
Source: The Lewin Group estimates using the Health Benefits Simulation Model (HBSM).

a. Impact on Utilization of Health Services

The expansions in coverage and benefits under A Plan for Covering Colorado would result in increased utilization of health services. Utilization of services for uninsured and underinsured people would generally increase due to expanded access to services under the program. In addition, under mandated benefits, utilization for certain services would increase due to the expansion in coverage for those services.

However, these increases in utilization would be partly offset by reduced spending for avoidable complications in health conditions and reduced spending in avoidable health conditions resulting from increased primary care utilization. Below we discuss the utilization impacts of implementing A Plan for Covering Colorado.

b. Utilization for the Uninsured

Uninsured people who become covered under the program would use health care services at the same rate as reported by currently insured people with similar age, sex and health status characteristics. This assumption encompasses two important effects. First, the increase in access to primary care for this population would result in savings due to a reduction in avoidable emergency room visits and hospitalizations. Second, there would be a general increase in the

use of such services like preventive care, advanced diagnostic tests, and other care that the uninsured often forego or delay.

Using this methodology, we estimate that health spending among the currently uninsured population will increase. We estimate an increase in spending due to the increase in utilization to be $807 million in 2007/2008.

c. Utilization for the Underinsured

Some insured have a benefit package that does not cover certain services including prescription drugs, dental care, orthodontia and medical equipment. Often times, these individuals access such services through government-funded clinics and health centers or forego services. In addition, a smaller underinsured population is covered through government programs that only offer a limited benefit package. Under A Plan for Covering Colorado, some of these individuals would have access to a more comprehensive benefits package in the private non-group market.

In this analysis, we assume that utilization of these services by people who are not currently covered for these services would increase to the levels observed among those with similar demographic and health status characteristics who do have coverage for these services. Spending under the Plan would increase by $63 million for under-insured people in 2007/2008.

d. Reimbursement Effects

Under the proposal, total benefit payments to providers for previously uncompensated care would be $226 million in 2007/2008. Under the current system, uncompensated care from services to the uninsured and under-insured is shifted to other payer sources (primarily private payers). Providers will be reimbursed directly for services provided to newly insured and underinsured people under the proposal resulting in $276 million in reduced cost-shifting. In addition, Medicaid payment increases would cost and additional $462 million. Provider taxes of $688 million are passed on to consumers in the form of higher premiums, and case management/medical home model would result in a savings of $56 million.

3. Changes in Government Health Spending

The program would have significant implications for both the state and federal governments. We present estimates of program operations costs and revenues for both state and federal governments.

a. Premium Subsidy Costs

The program provides premium subsidies to people with income up to 400 percent of poverty. People with income up to 200 percent of poverty would receive full subsidy and those between 201-400 percent would receive a sliding scale premium subsidy, as discussed above. We estimated the costs of the subsidy, including its administration to be $1.45 billion for the state government, and the total costs of the public programs including subsidy costs would be $2.26 billion to the state government (***Figure 47***).

Figure 47
Enrollment and Costs under A Plan for Covering Colorado in 2007/2008

	Enrollment (thousands)	Total Costs (millions)	State Costs (millions)	Federal Costs (millions)
Medicaid Expansion & Individual Mandate [a/]				
Increased Medicaid Payment Rates to Medicare Levels	n/a	$247	$124	$124
Children to 300% FPL	135.4	$253	$89	$164
Parents to 300% FPL	185.1	$638	$319	$319
Childless Adults to 100% FPL [b/]	154.8	$561	$280	$280
Total New Medicaid Enrollment & Spending	**475.3**	**$1,698**	**$811**	**$887**
Premium Subsidies				
Employer Plans	1,134.5	$653	$653	$0
Non-Group Plans	292.2	$769	$769	$0
Administration of Subsidies	n/a	$26	$26	$0
Total Premium Subsidies and Administration	**1,426.7**	**$1,448**	**$1,448**	**$0**
Total Program				
Total Public Program Costs	**1,902.0**	**$3,146**	**$2,259**	**$887**

Source: The Lewin Group estimates using the Health Benefits Simulation Model.

b. Impact on State and Local Governments

We estimate new program costs under A Plan for Covering Colorado to be $2.3 billion, in 2007/2008, assuming the proposal is fully phased in with public program expansions to 400 percent of poverty as discussed above (***Figure 48***). The costs include the cost the state and local government of $811 million for the expansion of Medicaid/CHP+, and the cost of premiums subsidies to everyone below 400 percent of poverty of $1.45 billion.

Program costs would be offset by savings in current safety net programs resulting from payments for previously uncompensated care that are borne partly by safety net programs and tax revenue from various taxes. State and local governments save about $206 million in safety net programs. In addition, the state and local government save about $21 million in employee health benefits which are passed on to workers as increase wages. Revenues from taxes total $2.01 billion. Based on the combination of savings in existing programs and tax revenue, A Plan for Covering Colorado has no net change in state or local spending on health care.

Figure 48
Change in State and Local Government Spending A Plan for Covering Colorado in 2007/2008 (millions)

		Change in Spending Assuming Medicaid 1115 Waiver is Approved [a/]	Change in Spending Assuming Medicaid 1115 Waiver is not Approved
New Program Costs		**$2,259**	**$2,540**
Medicaid and CHP+ Programs		**$811**	**$1,092**
Premium Subsidies		**$1,448**	**$1,448**
New Revenues and Offsets to Existing Programs		**$2,259**	**$2,259**
Savings to Current Safety Net Programs [b/]		**$206**	**$206**
State & Local Government Employee Health Benefits		**--**	**--**
Workers and Dependents	($21)		
Wage Effects [c/]	$21		
Tax Penalty for Remaining Uninsured [d/]		**$43**	**$43**
Program Financing		**$2,014**	**$2,014**
Employer Assessment	$179		
Premium Tax	$240		
Tobacco Tax Increase	$210		
Provider Tax	$688		
Alcohol Tax Increase	$126		
Income Tax (0.6%)	$571		
Tax Revenue (Loss)/Gain Due to Wage Effects [e/]		**($4)**	**($4)**
Net Cost/(Savings) to State and Local Government		**$0**	**$281**

a/ Includes care currently paid for by other safety net programs. Assumes waiver is approved to allow state to continue to receive Federal DSH funding to be used for the program.
b/ Assumes reduced employer costs are passed on to workers in the form of higher wage increases.
c/ Reduction in tax revenue is counted as an increase in State and Local Government health spending.
Source: The Lewin Group estimates using the Health Benefits Simulation Model.

c. Change in Federal Government Health Spending

Under the program the federal government would spend $887 million more on CHP+ and Medicaid due to the program expansions, assuming the expansion is fully phased-in in 2007/2008 (***Figure 49***). In addition, federal government spending for Federal Employee Health Benefits would increase by $27 million due to the employer mandate and assessment. This increase in cost would be passed on to workers as lower wages, resulting in a net loss of $37 million in federal tax revenue. Overall, the federal government would spend $924 million more under the proposal assuming an 1115 waiver is approved.

Figure 49
Change in Federal Government Spending under A Plan for Covering Colorado in 2007/2008
(millions)

		Change in Spending Assuming Medicaid 1115 Waiver is Approved	Change in Spending Assuming Medicaid 1115 Waiver is not Approved
Medicaid and CHP+ Programs		**$887**	**$607**
Federal Employee Health Benefits		**$0**	**$0**
Workers and Dependent	$27		
Wage Effects a/	($27)		
Tax Revenue Loss/(Gain) Due to Wage Effects b/		**$37**	**$37**
Net Cost/(Savings) to Federal Government		**$924**	**$644**

a/ Assumes reduced employer costs are passed on to workers in the form of higher wage increases.
b/ Reduction in tax revenue is counted as an increase in Federal Government health spending.
Source: The Lewin Group estimates using the Health Benefits Simulation Model.

4. Impact on Private Employers

Private employers currently spend $7.7 billion on health care benefits for their workers (***Figure 50***) and $350 million on retiree health benefits for a total of $8.07 billion in health benefits. Private employers who currently offer coverage would save a total of $150 million in health benefits as more workers move to the expanded CHP+ and Medicaid programs, and low-income workers of up to 400 percent FPL would receive subsidies. They would spend an additional $31 million as a result of the employer mandate for covering workers. Currently insuring workers would save $163 million due to reduced administrative costs associated with the mandatory purchasing pool and the impact of pure community rating in the purchasing pool. These employers would have to pay a $347 annual assessment for each worker without employer coverage, prorated for part-time workers, for a total of $82 million in additional spending. Finally, we assume that the premium assessment on providers would be passed on to employers in the form of higher negotiated rates. This would result in additional spending of $91 for currently insuring employers.

Overall, currently non-insuring firms would spend $215 million more on health care. This includes $122 million to cover health care benefits for workers, $84 million due to the employer assessment, and $5 million in the provider premium assessment pass through. Overall, private employers, both currently insuring and non-insuring firms would spend $65 million more than they currently do on health care for all covered workers, dependents, and retirees living in Colorado, even if the employer is based outside the state. This estimate also includes only the employer share of costs of coverage. Workers shares of costs are presented below.

These changes in health spending do not take into account the wages effects as employers pass on higher health care costs to workers or increase wages as a result of lower health care costs. They also exclude the costs for covering federal workers and state and local government employees, which was discussed above.

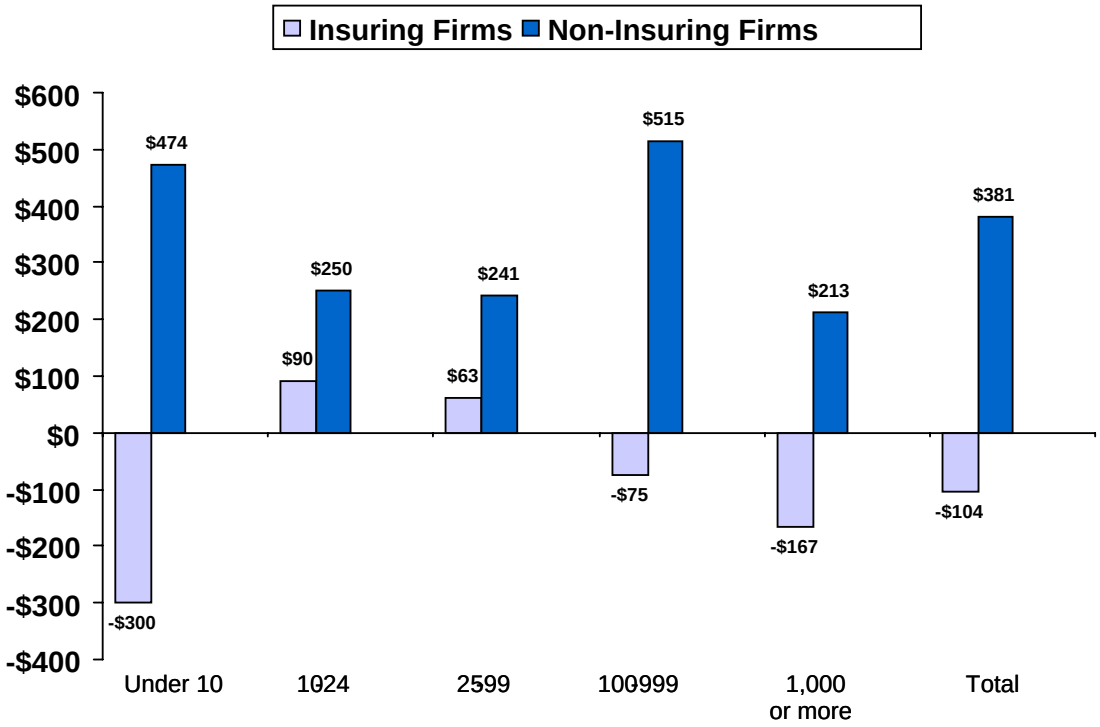
Figure 50
Change in Private Employer Health Benefits Costs under Health Solutions for Colorado in 2007/2008 (millions)

	Currently Insuring Employers	Currently Non-Insuring Employers	All Employers
Private Employer Spending Under Current Law			
Current			
Workers & Dependents	$7,720	--	$7,720
Retirees	$350	--	$350
Total	**$8,070**	--	**$8,070**
Change in Private Employer Spending Under the Policy			
Employers Dropping Coverage	($381)	--	($381)
New Employer Coverage	$31	$122	$153
Impact of Purchasing Pool /a	($163)	--	($163)
Employer Assessment /b	$82	$84	$166
Premium Tax Pass Through Effect /c	$91	$5	$96
Increased Cost Shifting	$190	$4	$194
Net Change (before wage effects)	**($150)**	**$215**	**$65**

a/ Includes impact of reduced administrative costs under a mandatory purchasing pool and the impact of pure community rating in the purchasing pool.
b/ $347 annual assessment for each worker without employer coverage, prorated for part-time workers.
c/ Assumes premium taxes are passed through to consumers.
Source: The Lewin Group estimates using the Health Benefits Simulation Model (HBSM).

Private employers that now provide coverage would spend about $96 less, per worker, per year, on average (***Figure 51***). Currently insuring firms with 10 or fewer workers would spend about $104 less, on average, per worker. Those firms with one thousand or more workers would save about $164, on average, per worker. Currently non-insuring firms would see spending increase by $381, on average, per worker. Those with 10 or fewer workers would see spending increase by about $443 per worker, on average. Those firms with one thousand or more workers would see spending increase by about $474, on average per worker.

Figure 51
Change in Private Employer Health Spending Per Worker for Currently Insuring Firms under A Plan for Covering Colorado in 2007/2008



Source: The Lewin Group estimates using the Health Benefits Simulation Model (HBSM).

5. *Household Impacts*

We present our analysis of household impacts of A Plan for Covering Colorado below:

a. *Impact of CHS Single Payer on Family Health Spending*

Currently, families in Colorado spend about $4.15 million on health insurance premiums. This includes deductibles and co-payments under insurance plans, payments for services not covered by an insurance plan and out-of-pocket spending by uninsured people. Under the proposal, family premium payments would decrease by about $205 million (***Figure 52***). This includes $945 million in premium resulting from the mandate, $144 million in premium pass through as insurers pass through the premium tax to workers in the form of higher premiums, and $128 million in increased cost shifting. These costs are offset by $1.46 billion in premium subsidies.

Out-of-pocket spending, including copays and deductibles for families would decrease by $452 million. As employers spend more on health care benefits, these increases are passed on to workers in the form of lower wages. The decrease in after tax wages are counted as an increase family health spending of $72 million. The program would be partly funded by alcohol and tobacco sales tax increase as well as an income tax increase resulting in an increase in spending

of $907 million for families. Overall, families would spend about $365 million more in health care under A Plan for Covering Colorado.

Figure 52
Impact of A Plan for Covering Colorado on Family Health Spending in 2007/2008
(millions)

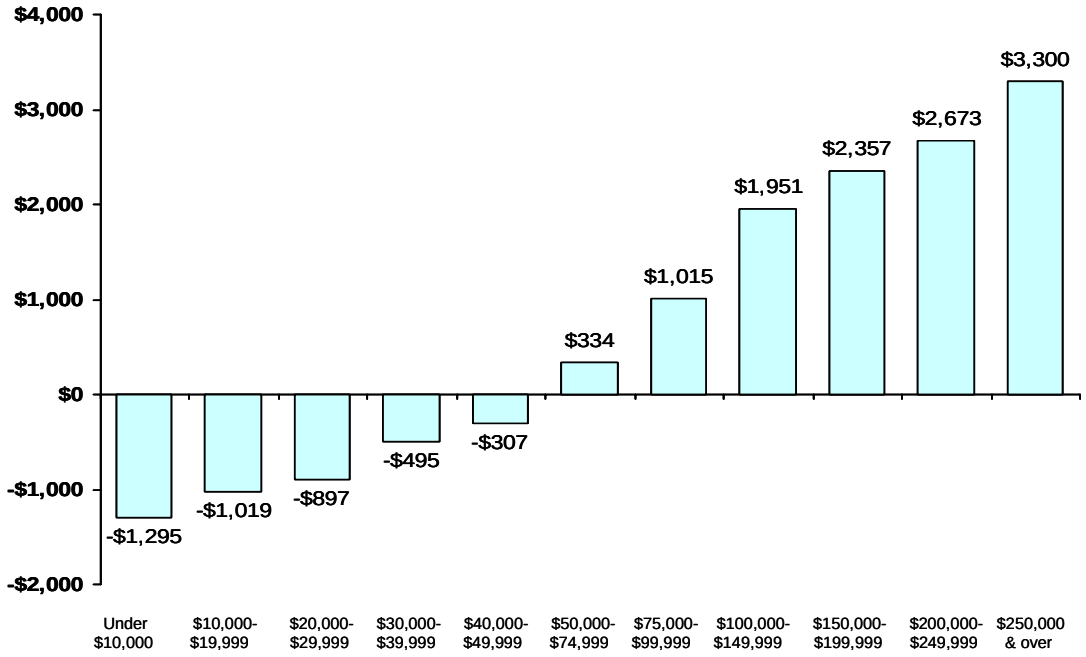
		Change in Spending
Change in Premiums		($205)
Change in Family Premiums	$945	
Premium Tax Pass Through	$144	
Increased Cost Shifting	$128	
Premium Subsidies	($1,422)	
Change in Out-of-Pocket Payments		($452)
Tax Penalty for Remaining Uninsured		$43
Program Financing		$907
Tobacco Tax Increase	$210	
Alcohol Tax Increase	$126	
Income Tax (0.6%)	$571	
After Tax Wage Effects a/		$72
Net Change		**$365**

a/ The reduction in after-tax wage income resulting from increased costs to employers are counted here as an increase in family health spending.
Source: The Lewin Group estimates using the Health Benefits Simulation Model (HBSM).

b. Change in Average Family Health Spending by Income Group

Figure 53 shows the change in average family health spending by income group. Families earning $50,000 or higher would see an increase in health spending. Lower income families would save more because premiums subsidies are sliding scale, and with the expansion in Medicaid and CHP+, families with lower income save more. Families earning less than $10,000 would save $1,295 on average compared to those earning $40,000-$49,999 who would save $307, on average in 2007/2008.

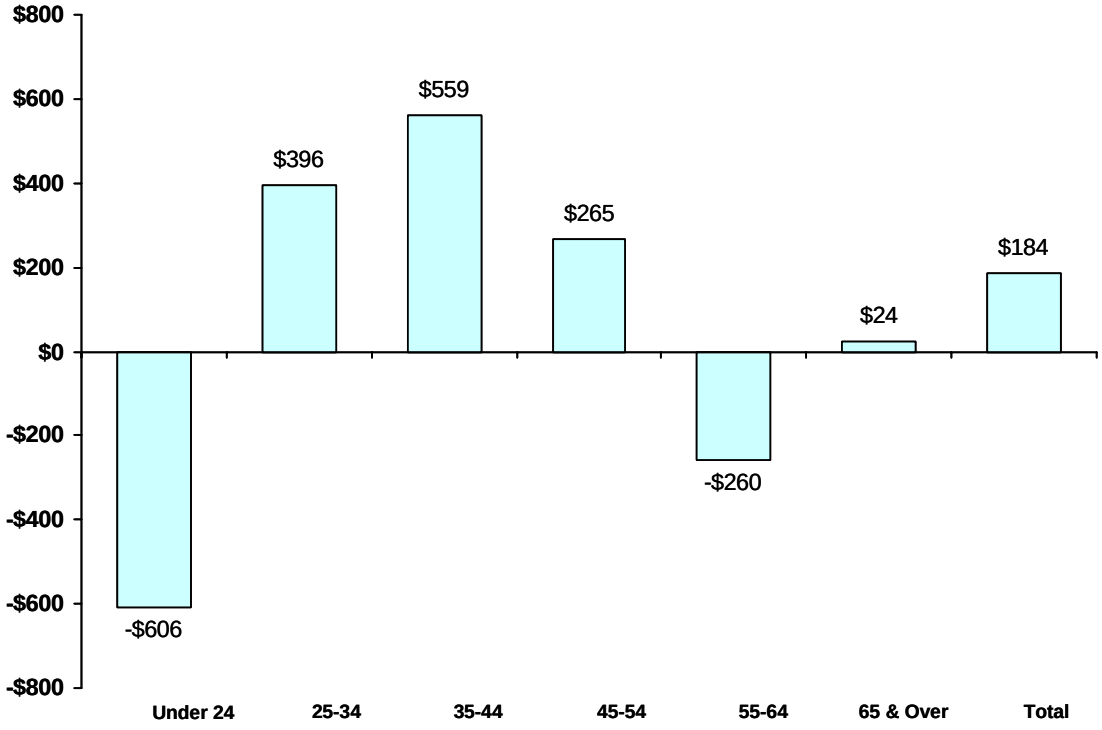
Figure 53
Change in Average Family Health Spending by Income Group under A Plan for Covering Colorado in 2007/2008



Source: the Lewin Group estimates using the Health Benefits Simulation Model (HBSM).

On average, all families would see an increase in spending of about $184, on average, in 2007/2008 under A Plan for Covering Colorado (***Figure 54***). Only families headed by an individual under the age of 24 years and between the ages of 55-64 years would save under the proposal. Savings for those less than 24 years old average $606, on average, and savings for those 55-64 years would be $260, on average. Families 35-44 years old would spend more than all other age groups at about $559, on average.

Figure 54
Change in Average Family Health Spending by Family Head under A Plan for Covering Colorado in 2007/2008



Source: The Lewin Group estimates using the Health Benefits Simulation model (HBSM)

VI. COLORADO HEALTH SERVICES SINGLE PAYER PROGRAM

The Colorado Health Services (CHS) Program is a single payer plan that would provide coverage to all residents of the state, including state and local workers, and residents currently covered under Medicare, Tricare, Veteran's Health, Indian Health Services and Federal Health Benefits programs. The program would provide all people with comprehensive health care benefits that cover the same list of services now covered by the Colorado Medicaid benefits package. Consumers would have their choice of providers and hospitals within the state.

No premiums would be required but there would be some cost-sharing required. The program would be financed partly with the savings of moving to a single source of insurance coverage. The CHS program would be administered by a publicly owned non-for-profit governing board. We present Colorado Health Services Single Payer Program in the following sections:

- Key Provisions of Colorado Health Services Program
- Assumptions
- Cost and Coverage Impacts
- Preparing for Future Program Growth

A. Key Provisions of Colorado Health Services Program

Key provisions of the Colorado Health Services Program are summarized below:

1. Coverage

All Colorado residents, including state and local government workers and retirees would be covered under the proposal. Residency would be defined as anyone who has resided in Colorado for 3 months or who works in the State of Colorado. During the first 2 years of the program, all Colorado residents would be determined presumptively eligible for the minimum benefit package. Within the first two years of the effective date of the program, all individuals who present for services would not be required to show any evidence of coverage.

2. Covered Services

All individuals would be eligible for a comprehensive set of benefits, illustrated in ***Figure 55***. For modeling purposes we used the Medicaid benefit package with added preventive dental services for adults. Long term care services would be covered subject to the following:

- For nursing home eligible Medicaid recipients, room and board for a nursing home stay would be covered as under current law;
- For those who are not Medicaid-eligible, nursing home long-term care would only include the medical component; room and board would be excluded; and
- In the first year there would be allowance for a 25 percent increase in home and community-based care.

In addition, plans can provide enhanced benefits depending on the specific needs of each of the five regions. Employers would also be permitted to provide additional coverage not provided under the CHS benefit package.

Figure 55
Colorado Health Services Benefit Schedule

	Cost Sharing[a/]
Premium/Deductible	None
Max Annual Out-of-Pocket	None
Coinsurance/Copays [b/]	Limited copay for some services if enrolled in Primary Care Physician Program (PCPP). No copays if 18 or younger, pregnant or in a nursing home.
Lifetime Benefits Max Paid by Plan	No limit
Services	
Emergency Services	Covered in full-no copay
Emergency Transport-Ambulance Services	Covered in full-no copay
Inpatient Hospital Stay	$15/visit
Outpatient Ambulatory Surgery	$3/visit
Lab, x-ray and Diagnostic Services	Covered in full-no copay
Medical Office Visit	$2/visit
Preventive Services	Covered in full-no copay
Maternity Care	Covered in full-no copay
Neurobiologically Based Mental Illness	Covered in full-no copay
Other Mental Health Services	Covered in full-no copay
Alcohol and Substance Abuse Treatment	Covered in full-no copay
Physical, Occupational and Speech Therapy	Covered in full-no copay
Durable Medical Equipment	Covered in full-no copay
Prescription Drugs	$1 generic, $3 brand-name
Vision Services	$2/visit
Audiological Services	Covered in full-no copay
Transplant Services	Covered in full-no copay
Dental Care [c/]	Comprehensive dental for children. Basic preventive dental and surgical for adults.
Podiatry Services	$2/visit
Skilled Nursing Facility	Long-term care-may have to pay portion of income
Hospice Care	Long-term care-may have to pay portion of income
Home Health Care	Long-term care-may have to pay portion of income
Spinal Manipulation	Excluded

a/ KaiserCommission on Medicaid and the Uninsured. Benefits by State: Colorado 2004. www.kff.org. Colorado Department of Healthcare Policy and Financing (HCPF) www.chcpf.state.co.us/HCPF/elig/Q9.asp.
b/ For modeling purposes, the copays in this table would be applicable to individuals eligible for Medicaid and CHP+ under current law. Medicaid also waives copays if the individual is enrolled in an HMO. However, this is not applicable under the Single Payer as there would be no HMO—everyone is enrolled in the Single Payer.
c/ Colorado Medicaid currently does not cover dental services for adults except surgical services. The Single Payer proposal extends preventive dental services to adults.
Source: Colorado Department of Health Policy and Financing

3. Cost Sharing

There would be no deductibles under this plan. Cost-sharing provisions would be as follows:

- Certain low income enrollees would be required to make nominal copayments as follows:
  - $2 for physician visits;
  - $3 for hospital outpatient services;
  - $1 (generic)/$3 (brand name) copays for prescriptions.

For modeling purposes we assume low-income people are those who would be eligible for Medicaid or CHP+ under current law. ***Figure 55*** provides additional detail on the copayments by service used in the model.

- For all other people under the CHS plan, covered services would be the same as for Medicaid but with the following copays:
  - No copays for preventive services;
  - $5 copay for office visits;
  - $15 copay for urgent and emergency care; and
  - $5 (generic)/$15 (brand name) copay for prescriptions.

4. Financing

The CHS plan would be financed as follows:

- Colorado would seek agreement with the federal government for matching funds for CHS plan services provided to people who would have been eligible for federal programs (i.e., Medicare, Medicaid, Tricare/CHAMPUS, Veteran's Affairs, Indian Health Services and the Federal Employees Health Benefits Plan);
- All current State and Local government health spending would be transferred to the program (i.e., Medicaid, employee health benefits, worker's compensation and other safety net program funding);
- All employers, including those that do not currently offer coverage, as well as the self-employed, would pay a 6 percent employer payroll tax;

- Individuals and families, including self-employed people, would pay an additional income tax of 7.5 percent;
- Tobacco taxes would be increased from $0.84 to $2.00 per pack; and
- Alcohol taxes would be increased as follows:
  - Spirits from $0.60 to $5.63 per liter;
  - Wine from $0.07 to $0.66 per liter; and
  - Beer from $0.05 to $01.5 per 6-pack.

The citizens of Colorado would need to demonstrate approval of these revenue generating mechanisms as Colorado's Taxpayers Bill of Rights (TABOR) and the Arverschoug-Bird law which impose limits on state spending, without voter approval would likely have implications to the financing mechanism in the single payer proposal.

5. Provider Payment Levels

Provider payment levels would be set at the average level of reimbursement across all payers (i.e., a composite of private and public payers) for health care services under current law. However, provider payment rates would be adjusted to reflect the following:

- Reduced cost-shifting for uncompensated care; and
- Estimated administrative savings for providers under the current system.

6. Administration

The CHS program would be administered by a publicly owned non-for-profit board of trustees comprised of 15 members. The state would have regional offices under the governing board for the purpose of local administration, medical directorship, outreach and oversight of programs that may be specific to each of the regional needs.

The CHS Board would provide oversight and administrative direction for the CHS. All decisions of the CHS Board will be final in regard to administration and implementation of health care within the state unless otherwise directed by the courts or state statute. The board would also be responsible for conducting initial reviews of medical malpractice claims. The Legislature would not be able to remove funds allocated to the trust without the consent of the people. In addition, the CHS would not operate in a deficit, nor could the administrative overhead of the CHS exceed 5% of total expenditures.

7. Health Information Technology

The CHS program calls for a statewide, fully integrated Information Technology network that can be expanded upon with Colorado Health Regional Information Organization (COHRIO). The proposal does not provide any specific funding to put into HIT development. HIT would include electronic medical records, billing/claims adjudication, and centralized data support.

B. Key Assumptions

The Author's proposal puts all Colorado residents in a single source insurance coverage program. In this section, we describe the methods and assumptions used to simulate the impact of this proposal. A detailed discussion of the model is presented in ***Appendix D.***

1. Provider Administration

Figure 56 presents our estimates of provider revenue and expenses for Colorado in 2007/2008. We derived administrative savings for hospitals and physicians for the Single Payer using current revenue and expense data specific to Colorado. We calculated hospital revenue and expenses using the Colorado Medicare Hospital Cost report data for 2004 and a projection of FY 2007-2008 revenues based on the CMS national health expenditures. We calculated physician revenue and expenses using the 2006 Medical Group Management Association (MGMA) cost survey (based on 2005 data). The survey includes responses from 355 physician practices nationwide. We used the distribution of operating costs for non-hospitals or IDS (Integrated Direct Service) multi-specialty practices. To generate the distribution of costs, we applied the Western region's distribution to the share of Lewin's 2007-2008 estimate of physician revenue attributable to operating costs.

We estimate that physician administrative expenses would be reduced by 26.3 percent and hospital administrative costs would be reduced by 9.8 percent in Colorado in 2007/2008 under the Single Payer proposal. A detailed description is presented in ***Appendix D***.

Figure 56
Estimated Physician and Hospital Revenues for Colorado in 2007/2008 (millions)

	Total Revenues by Expenses [a/]	Direct Patient Care Expenses	Expenses attributed to Administration [b/]	Estimated Savings under Program	Assumed Percent Reduction
Total Non—Physician Salaries and Benefits [c/]	$2,831.6	$1,007.8	$1,823.8	$479	26.3%
	Hospital Care Expense	**Expenses Attributed to Patient Care**	**Value Allocated to Administration**	**Estimated Savings under Program**	**Assumed Percent Reduction**
Total Adjusted Hospital Operating Revenue [d/]	$10,426.0	$7,139.7	$3,286.3	$322.2	9.8%

[a/] Our estimates of national physician net patient revenues under current policy were allocated across physician expense and physician income categories based upon the distribution of net patient revenues by these expense groups reported in "The Cost and Production Survey report," Medical Group Management Association (MGMA), Denver, CO in the Western Region.
[b/] Physician expenses attributed to administration were estimated by allocating costs to expense categories not directly attributable to providing patient care.
[c/] Non-physician staff expenses include wages, salaries, and payroll taxes. Additionally, benefit costs and contracted/temporary labor costs were allocated proportionally across all non-physician subcategories. Management fees paid out were allocated across all non-medical staff subcategories.
[d/] Includes gross patient revenues less contractual adjustments, bad debts, and charity care as well as non-patient operating revenue and non-operating revenue such as interest income.
Source: Lewin Group Estimates

2. Insurer Administration

The Single Payer would extend large-group economies of scale throughout the health care system by covering all individuals under a single insurance mechanism. This would eliminate the costs associated with underwriting, transitions in coverage, and maintaining the administratively cumbersome linkage between employers and insurers.

We assumed that the cost of insurer administration is similar to administrative costs under the Medicare program (modified to reflect administrative simplification), which can be thought of as a single source insurer for the elderly. Medicare administrative costs are equal to about 1.8 percent of covered benefits compared with an average of about 14 percent under private insurance arrangements. We estimated the amount of insurer administrative savings based on the difference between total insurer and government program administrative costs under the current system, and estimated administrative costs under the program.

The Administrative cost estimates for Medicare (1.8 percent) and private insurance (14 percent) are fully comparable. The Medicare figure included claims processing, peer-review and other functions that are performed by contractors. It also includes costs for administrative operations performed by the federal government including wages and salaries, health and other fringe benefits, and a "fair market" valuation of all offices and equipment used by federal Medicare employees. In addition, it includes research on quality, outcomes and provider payment systems.

Medicare claims and peer review functions are performed with a separate contractor in each state. Thus, the cost of administering Medicare is built-up from what are in effect fifty-one separate state programs (California has two fiscal agents). Thus the economies of scale in operating a single payer program in Colorado would be comparable to the cost of administering Medicare for an individual state.

We estimated administrative costs based upon a breakdown of Medicare administrative costs by function. Medicare costs were about $115.77 per beneficiary, including both contracted costs and federal administration (***Figure 57***). We adjusted the claims processing and utilization review costs to reflect the lower levels of service utilization per-enrollee among the non-Medicare population. We assume no change in other agency administrative costs, which are related to overall project management, enrollment processing and tax functions. Using these assumptions, we estimate administrative costs for non-Medicare enrollees averaging about $69.46 per enrollee under the Colorado single payer program.

Figure 57
Derivation of Insurer Costs Per-Enrollee
Under the Colorado Single Payer Program in 2006 [a/]

	Medicare Costs Per Enrollee	Costs for non-Medicare Enrollees Under CHSP [b/]	Total
Claims Processing	$64.45	$38.67	N/A
Utilization Review	$29.13	$17.48	N/A
Research/Demonstrations	$1.75	$1.05	N/A
Agency Administration	$20.44	$12.26	N/A
Total	$115.77	$69.46	N/A
Number People Enrolled (in thousands)	438.6	4,181	4619.8
Total Administration Under CHSP Program in Colorado (in millions)	$50.78	$290.43	$341.20

a/ Insurer administrative costs were extrapolated from administrative costs for current the Medicare program, using data supplied by CMS.
b/ The number of health services used by the non-Medicare population is on average about 55 percent less than among the aged and disabled people covered under Medicare. We estimated this using the Medical Expenditures Panel Survey (MEPS) data for 1999 through 2001.
c/ Assumes administrative per-enrollee cost growth of 3.8 percent per year between 2003 and 2006 based upon the HCFA Implicit Medical Price Deflator estimated by the Office of the Actuary o CMS.
Source: Lewin Group estimates.

3. Utilization of Health Services

The expansions in coverage and benefits under the program would result in increased utilization of health services. Utilization of services for uninsured and under-insured people would generally increase due to expanded access to services under the program.

a. Utilization for the Uninsured

We assume that uninsured people who become covered under the program would use health care services at the same rate as reported by currently insured people with similar age, sex and health status characteristics. This assumption encompasses two important effects. First, the increase in access to primary care for this population would result in savings due to a reduction in avoidable emergency room visits and hospitalizations. Second, there would be a general increase in the use of such services as preventive care, corrective orthopedic surgery, advanced diagnostic tests, and other care that the uninsured often forego or delay.

Using this methodology, we estimate that the health spending among the currently uninsured population would increase. That is, savings from improved primary care would be more than offset by increased use of non-emergency care. We assume that utilization for these people would adjust to the levels reported by insured people with similar demographic and health status characteristics.

b. Utilization for the Underinsured

Many of the insured have insurance that does not cover certain services including prescription drugs, dental care, orthodontia and medical equipment. In this analysis, we assume that utilization of these services by people who are not currently covered for these services would increase to the levels observed among those with similar demographic and health status characteristics who do have coverage for these services.

However, we are not able to identify whether individuals in the HBSM household data, which partially based upon the Medical Expenditures Panel Survey (MEPS) data have coverage for these services. It was necessary to impute coverage for prescription drugs and dental care based on reporting of reimbursements for dental care in the MEPS data, and the employer health plans to which each worker is matched in the model, and reported payments for dental services. We imputed coverage for orthodontia based upon coverage data published by the Hay Group from their employer health benefits survey.[19]

Utilization among those who do not have coverage for these services is assumed to increase based on our estimates of the percentage increase in utilization for all health services estimated for those who are newly insured. This utilization was subject to the adjustment for the elimination of cost-sharing as specified in the proposal.

4. Bulk Purchasing Savings

We assume that the state establishes central purchasing authorities responsible for negotiating favorable prices for prescription drugs and durable medical equipment. We assume this would be aided by establishing a drug formulary that favors the use of lower-cost drugs when possible and contracts with durable goods manufacturers for reduced prices.

c. Prescription Drugs

The program would use a prescription drug formulary to negotiate price discounts with drug manufacturers. The formulary would be developed by the single payer administrative authority. Under this system, specific drugs are selected for inclusion in the formulary for each type of medical therapy. This would typically include generic substitutes for brand-name drugs, and drugs selected by the state in negotiations with the pharmaceutical manufacturers. Providers would not be permitted to prescribe off-formulary (usually higher cost) medications unless the formulary medication is ineffective or inappropriate for the patient due to side-effects.

In this analysis, we assume that Colorado would negotiate discounts with drug manufacturer that are equivalent to the discounts and rebates received by the Medicaid program for all people

[19] Respondents in the CPS/MEPS data who indicated that they had expenses for these services that were reimbursed by a health plan were assigned to a plan that covers these services.

covered under the single payer plan, which is about 20 percent. This compares with an estimated average discount of 8 percent for existing private insurance plans.[20]

d. Durable Medical Equipment Purchasing

The use of centralized purchasing for durable medical equipment could also reduce costs (i.e., wheelchairs, hearing aids, etc.). The state would negotiate volume discounts from the various manufacturers through a process similar to that used for purchasing prescription drugs. Here again, the key to effective price negotiations would be the credibility of the threat that if the manufacturer does not provide a competitive discount, they would lose out on virtually the entire Colorado market.

Therefore a key element of the program is that medical durable products from higher cost suppliers would not be available to Colorado residents unless they purchase these items themselves. However, the threat that certain equipment might not be covered is expected to cause suppliers to reduce prices to be competitive. This design is likely to give the state substantial leverage in negotiating prices with suppliers and manufacturers. In this analysis, we assume that the savings on durable medical equipment under the program would be similar to the percentage savings assumed for prescription drugs by the source of payment discussed above.

5. Health System Fraud

The single payer could potentially reduce health system fraud through its subpoena powers. Government agencies typically have the power to subpoena provider records in investigations of possible fraud. Private carriers do not have these powers, so it is more difficult to investigate potentially fraudulent claims. This suggests that the single payer program would be more effective than private insurers in detecting and deterring fraud.

The literature on this subject indicates that about five percent of all health claims are "inaccurate."

In this study, we assumed that fraud is reduced by about 20 percent among privately insured people who become covered under the Act for all services except hospital care. We assume that the savings would apply only to people who currently have private coverage because the state and federal governments already have subpoena powers for current government programs.

6. Employer Response

There are two major responses that employers could have to the program. These are employer supplements to coverage and wage changes in response to changes in employer costs. Both of these effects are estimated and presented in our financial analysis.

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[20] Medicaid law requires that prescription drug manufacturers charge Medicaid no more than the lowest amount charges to any customer nationwide.

a. Employer Supplemental Coverage

The employer would be free to pay a portion or the entire income tax surcharge on behalf of the worker under the Single Payer. We anticipate that this would occur among firms that currently cover dependents and provide superior benefits. These firms would generally save under the program because the payroll tax would be substantially lower than what they now pay for coverage of workers and dependents. Employers are likely to pay the tax surcharge for their employees to attract and retain workers, just as they now offer dependent coverage and higher benefits to attract workers. Also, if the employer pays the income tax surcharge, it is exempt from federal taxes, which is a significant incentive for employer paid health benefits. Thus, we assume that employers will pay worker income tax surcharge up to the amount they save by moving to the single payer program.

b. Wage Effect

The employer would also be free to provide coverage for additional services not covered under the Single Payer. However, much of the savings for firms now offering coverage of dependents and additional services would largely be taken-up to assist in paying the income tax surcharge for their workers. Also, the Medicaid package offered under the Single Payer is sufficiently comprehensive that few employers would be offering significantly more than the Medicaid benefits package. Consequently, we estimate little or no employer supplemental coverage under the program.

C. Cost and Coverage Impacts of Colorado Health Services (CHS) Single Payer

We present our findings of the impact of the Colorado Health Services Single Payer proposal in 2007/2008 in the following sections:

1. Transitions in Coverage

The single payer program would cover about all Colorado residents (***Figure 58***). The single payer program would be the sole source of coverage for all Colorado residents. Some employers may provide supplemental coverage for services that are not covered under the single payer program. But the single payer program would be the primary source of coverage for covered individuals.

Figure 58
Transitions in Coverage under CHS Single Payer in 2007/2008 (thousands)

Base Case Coverage	Total	Single Payer Program	Private Coverage					
			Employer	Non-Group	CHAMPUS	Medicare (incl. dual eligibles)	Medicaid / CHP+	Uninsured
Employer	2,691.7	2,691.7	0.0	0.0	0.0	0.0	0.0	0.0
Non-Group	158.9	158.9	0.0	0.0	0.0	0.0	0.0	0.0
CHAMPUS	112.4	112.4	0.0	0.0	0.0	0.0	0.0	0.0
Medicare (incl. dual eligibles)	413.0	413.0	0.0	0.0	0.0	0.0	0.0	0.0
Medicaid / CHP+	452.1	452.1	0.0	0.0	0.0	0.0	0.0	0.0
Uninsured	791.8	791.8	0.0	0.0	0.0	0.0	0.0	0.0
Total	**4,619.9**	**4,619.9**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Source: The Lewin Group estimates using the Health Benefits Simulation Model (HBSM).

2. Impact on Statewide Health Spending

As discussed above, we estimate that health spending for Colorado residents will be about $30.1 billion in 2007/2008. This includes spending for all health services by all payers including Medicare Medicaid, ESI, non-group insurance, workers compensation and various safety-net programs. Spending includes both payments for services and insurance, and program administration.

The single payer model would have several impacts on statewide health spending. There would be an increase in health services utilization as persons who are uninsured or underinsured under the current system become covered. Utilization will also increase slightly for those individuals previously covered in a less generous plan. However, these increases in costs would be largely offset by reductions in administrative costs for insurers and providers. There also would be savings due to bulk purchasing of prescription drugs and durable medical equipment.

Statewide health spending under the CHS Single Payer in Colorado in 2007/2008 would decrease by $1.4 billion from $30.1 billion under the current system to $28.7 billion (***Figure 59***). This includes benefits (including administration) of $26.58 billion, household out-of-pocket payments of $1.33 billion and supplemental insurance of $795 million. Most of the decrease in overall health spending from all payers under the CHS single payer system results from reduced administrative costs of about $1.86 billion.

Figure 59
Distribution of Statewide Health Spending under CHS Single Payer in 2007/2008 (millions)

	Benefits Payments	Administrative Costs	Total Spending
Change in State-wide Health Spending under CHSP			
Current State-wide Health Spending for All Payers	$27,838	$2,262	$30,100
Change in State-wide Health Spending under CHSP	$461	($1,856)	($1,395)
State-wide Health Spending under CHSP program	**$28,299**	**$406**	**$28,705**
Distribution of Spending Under CHSP Program			
Benefits Covered under CHSP	$26,237	$341	$26,578
Household out-of-Pocket Payments [a/]	$1,332	--	$1,332
Supplemental Insurance	$730	$65	$795
Total	**$28,299**	**$406**	**$28,705**

Source: The Lewin Group estimates using the Health Benefits Simulation Model (HBSM).

Overall health spending would decline by $1.4 billion (***Figure 60***). As more people seek health care and providers are paid on a composite of all payer rates, spending would increase by $1.78 billion. In addition, the CHS single payer provides for increased utilization in home and community based services. Because there would be a single source payer, there would be no cost shifting under the CHS program. Increased spending would be partially offset by the $2.85 billion in savings from administration and another $322 million from the bulk purchasing of drugs.

Figure 60
Changes in Statewide Health Spending under CHS Single Payer in 2007/2008 (millions)

Current State-wide Health Spending for All Payers		**$30,100**
Change in Health Services Expenditures		**$1,774**
Change in acute care utilization for newly insured	$939	
Change in acute care utilization for currently insured	$70	
Change in long term care utilization	$765	
Reimbursement Effects		**$0**
Payments for previously uncompensated care	$682	
Reduced Cost Shifting [a/]	($682)	
Bulk Purchasing Discounts		**($322)**
Bulk Purchasing of Prescription Drugs and Durable Medical Equipment [b/]	($322)	
Change in Administrative Cost of Programs and Insurance		**($2,847)**
Insurer Administration	($1,856)	
Hospital Administration	($322)	
Physician Administration	($669)	
Total Change in State Health Spending		**($1,395)**

a/ Assumes change in provider payment resulting from previously uncompensated care are passed on to CHSP in the form of lower payment rates.
b/ Assumes 13 percent additional discount on drugs and medical equipment.
Source: The Lewin Group estimates using the Health Benefits Simulation Model (HBSM).

a. *Impact on Utilization of Health Services*

The expansions in coverage and benefits under a single payer plan would result in increased utilization of health services. Utilization of services for uninsured and underinsured people would generally increase due to expanded access to services under the program. The elimination or reductions in patient cost-sharing would also increase utilization for those who now face substantial co-payments and deductibles. In addition, under mandated benefits, utilization for certain services would increase due to the expansion in coverage for those services.

However, these increases in utilization would be partly offset by reduced spending for avoidable complications in health conditions and reduced spending in avoidable health conditions resulting from increased primary care utilization. Below we discuss the utilization impacts of implementing a singe payer plan.

Uninsured people who become covered under the program would use health care services at the same rate as reported by currently insured people with similar age, sex and health status characteristics. This assumption encompasses two important effects. First, the increase in access to primary care for this population would result in savings due to a reduction in avoidable emergency room visits and hospitalizations. Second, there would be a general increase in the use of such services like preventive care, advanced diagnostic tests, and other care that the uninsured often forego or delay.

Using this methodology, we estimate that health spending among the currently uninsured population would increase. That is, savings from improved primary care would be more than offset by increased use of non-emergency care. We estimate an increase in spending due to utilization will increase to a total of $939 million in 2007/2008.

Some insured have a benefit package that does not cover certain services including prescription drugs, dental care, orthodontia and medical equipment. Often times, these individuals access such services through government-funded clinics and health centers or forego services. In addition, a smaller underinsured population is covered through government programs that only offer a limited benefit package. Under a single payer plan, these individuals will have access to a full range of comprehensive health care services which would increase utilization and costs.

In this analysis, we assume that utilization of these services by people who are not currently covered for these services would increase to the levels observed among those with similar demographic and health status characteristics who do have coverage for these services. Spending under the single payer will increase by about $70 million for under-insured people.

The proposal makes long term care services available to all individuals. Room and board and medical expenses would continue to be covered for the Medicaid/CHP+ eligible population in the Single Payer. However, for those who are not eligible, only the medical component would be covered. The individual would responsible for room and board. The proposal also requires a 25 percent increase in utilization for home and community-based long term care services. We estimated that the change in health spending for utilization of long term care services would be $765 million in 2007/2008.

1. Change in Government Health Spending

The program would have significant implications for both the state and federal governments. We present estimates of program operation costs and revenues for both the state and federal governments.

a. Sources and Uses of Funds

Figure 61 presents our estimates of sources and uses of funds under the single payer programs. Overall state spending for these programs would be about $26.58 billion. This would be funded in-part with $3.07 billion in state spending and $8.43 billion federal spending transfer that would have occurred under current law. It is supplemented with about $8.18 billion in individual income tax payments, about $6.51 billion in employer payroll tax revenues, and $336 million in alcohol and tobacco taxes.

Under the single payer program, total benefit payments to providers will be about $25.25 billion in 2007/2008. We estimate that $322 million will be saved in 2006 from bulk purchasing discounts on prescription drugs and durable medical equipment. We also estimate a savings of $682 million in provider payment adjustments. This includes physician and hospital administrative savings as well as an allowance for reduced cost shifting. Under the current system, uncompensated care from services to the uninsured and under-insured is shifted to other payer sources (primarily private payers). A single payer plan will cover almost all residents, thereby reducing cost shifting which we estimate to be $682 million. This savings is included in our estimate of adjustments to provider payments. Administrative savings for hospitals would total $322 million and $669 million for physicians.

We assume that federal funding would continue for Medicaid (including long-term care and funding for the Medicare/Medicaid duals), and SCHIP and would be transferred to the state to help fund the CHS Single Payer, totaling $1.55 billion. We also assume that funding for the Medicare eligible population would also be transferred to the state, totaling $5.81 billion. In addition funding for military personnel under CHAMPUS, Indian Health Services and federal employees benefits, including retirees totaling $1.07 billion, would be transferred to the state to help fund the Single Payer. The estimated total revenue from federal government transfers is $8.43 billion in 2007/2008.

New revenues include increasing the income tax by 8.1 percent, bringing the income tax rate to 12.4 percent compared to 4.3 percent currently, which would raise $8.18 billion in 2007/2008. An employer payroll tax of 6 percent would raise $6.5 billion in 2007/2008. Alcohol and tobacco taxes increase would raise $336 to fund the program. Additionally, savings from employers that result in increased wages would result in additional tax revenues of $56 million. Total new revenue to fully fund the program would be about $26.58 billion in 2007/2008.

Figure 61
CHS Single Payer Costs and Revenues in 2007/2008 (millions)

Uses of Funds			Sources of Funds		
CHSP Acute Care Benefits Costs		**$23,255**	**State & Local Government Program Savings**		**$3,072**
Benefits costs at current payment rates	$25,250		Medicaid / CHP+	$1,427	
Bulk Purchasing Savings	($322)		Employee and Retiree Benefits [/a]	$378	
Reduced Cost Shifting	($682)		Workers Compensation	$702	
Hospital Admin. Savings	($322)		Other Safety Net Programs [/b]	$565	
Physician Admin. Savings	($669)		**Federal Government Transfers**		**$8,425**
CHSP Long Term Care Benefits Costs		**$2,982**	Medicaid / CHP+	$1,545	
Nursing Home	955		Medicare	$5,810	
Home & Community Based Services	$1,276		CHAMPUS / VA	$752	
Home Health	$751		Indian Health Service	$40	
			FEHBP (employees & retirees) [/a]	$278	
CHSP Program Administration		**$341**	**Taxes to Fund Program**		**$15,025**
			Employers (6% payroll tax)	$6,513	
			Increase personal income tax rate by 8.1%	$8,176	
			Tobacco Tax Increase [/c]	$210	
			Alcohol Tax Increase [/c]	$126	
			State Income Tax Gain/(Loss) from Wage Effects		**$56**
Total Costs		**$26,578**	**Total Revenues**		**$26,578**

a/ Includes net savings after additional benefits for employees and retirees and payroll taxes.
b/ Includes care currently paid for by other safety net programs. Assumes waiver is approved to allow state to continue to receive Federal DSH funding to be used for the program. Source: The Lewin Group estimates using the Health Benefits Simulation Model.

2. Impact on State and Local Budgets

Under the CHS Single Payer, all state and local funding for programs now serving people shifted to the single payer plan would be transferred to the single payer program. State spending for Medicaid and CHP+ (i.e., state share), as well as state and local government spending for safety-net programs, and worker's compensation totaling about $3.07 billion under current law would be transferred to the Single Payer (***Figure 61***).

While there would be no net change in spending for public health benefits programs, there would be substantial savings for state and local worker coverage for employees and retirees. This results mostly from the fact that early retirees (i.e., pre Medicare) would largely become covered under the single payer program. Because employers are not required to pay a payroll tax for the early retirees that they cover, the state, as an employer, saves the full cost of covering this population. Additional savings would come from safety net programs and worker's compensation.

3. Change in Federal Government Health Spending

The single payer model would require the federal government to agree to provide all of the funding for Medicaid and other programs in a lump sum that could be used as a source of revenue for the single payer program. Turning the federal share of Medicaid spending into a "block grant" would eliminate the need to separately determine eligibility of each individual, resulting in substantial administrative savings. The amount of the funding would be indexed over time to reflect the expected growth in funding that would have occurred under current law.

However, there would be a net loss of federal tax revenues for Colorado residents due to the single payer program. The reason for this is that employers will often pay the income tax surcharge for their workers so that the tax is paid in pre-tax rather than after-tax income. This would tend to occur in firms that currently provide coverage and would no-longer need to provide coverage for dependents. The resulting loss in revenue would be about $607 million (***Figure 62***).

Figure 62
Changes in Federal Government Spending under CHS Single Payer in 2007/2008
(millions)

		Change in Spending
Federal Program Costs/(Savings)		
Savings to Public Programs		**($8,147)**
Medicaid / CHP+	($1,545)	
Medicare	($5,810)	
CHAMPUS / VA	($752)	
Indian Health Service	($40)	
Savings to FEHBP		**($278)**
Workers and Retirees	($545)	
Payroll Taxes to fund CHSP	$267	
Total Federal Program Costs/(Savings)		**($8,425)**
Federal Programs Transfers and Offsets		
Transfers to CHSP to fund program		**$8,425**
Tax Revenue (Gain)/Loss Due to Wage Effects [a/]		**($607)**
Net Cost/(Savings) to Federal Government		**($607)**

a/ An Increase in tax revenue is counted as a reduction in Federal health spending.
Source: The Lewin Group estimates using the Health Benefits Simulation Model.

4. Impact on Private Employers

Private employers in Colorado would pay about $8.01 billion for health benefits in 2007/2008 under current law, including $7.72 billion in benefits for workers and dependents and $350 million in retiree health benefits (***Figure 63***). These estimates include employer spending for all covered workers, dependents and retirees living in Colorado, even if the employer is based

outside the state. It excludes federal workers and state and local government employees, which was discussed above. This estimate includes only the employer share of costs of coverage.

Total spending for private employers would drop by about $2.34 billion under the proposal. Benefits cost for workers and dependents would remain unchanged as we believe employers who currently offer coverage would opt to provide wrap around coverage to attract and retain workers. The payroll tax of 6 percent would raise $5.4 billion. Total private employer spending would be $5.73 billion, which is a $2.34 billion reduction in estimated spending in 2007/2008 under current law.

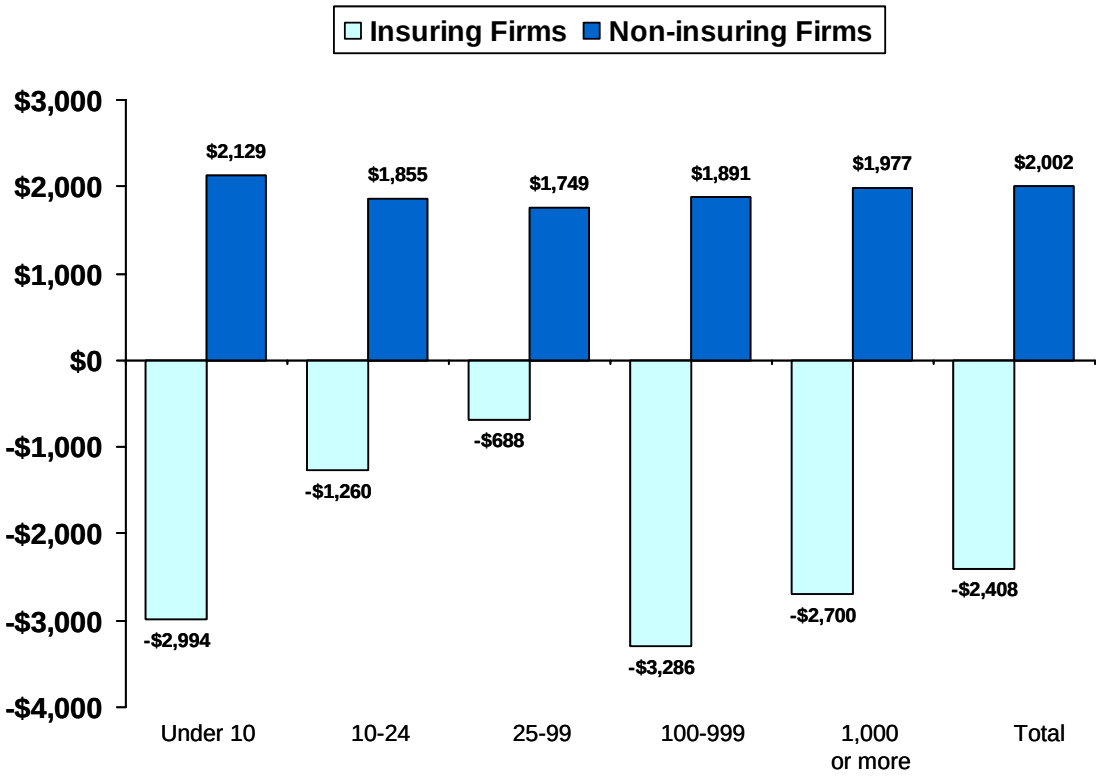
Figure 63
Changes in Private Employer Health Benefits Cost under the CHS Single Payer in 2007/2008 (millions)

	Currently Insuring Employers	Currently Non-Insuring Employers [a/]	All Employers
Private Employer Spending Under Current Law			
Current			
Workers & Dependents	$7,720	--	$7,720
Retirees	$350	--	$350
Total	**$8,070**	--	**$8,070**
Private Employer Spending Under the Policy			
Wrap-around coverage			
Workers & Dependents	$248	--	$248
Retirees	$11	--	$11
Payroll Taxes (6% to fund CHSP)	$4,344	$1,131	$5,475
Total	**$4,603**	**$1,131**	**$5,734**
Net Change (before wage effects)	**($3,467)**	**$1,131**	**($2,336)**

Source: The Lewin Group estimates using the Health Benefits Simulation Model (HBSM).

Private employer spending for firms that now provide coverage would decrease by about $2,408 per worker per year (***Figure 64***). For firms that do not now provide coverage, there would be a net increase in health spending of $2,002 per worker per year. Currently insuring firms with 10 or fewer workers would save an average of about $2,994 per worker. Costs for non-insuring firms with ten or fewer workers would pay an average of about $2,129 per worker.

Figure 64
Change in Private Employer Health Spending Per Worker by Current Insuring Status under the CSHP Single Payer in 2007/2008



Source: The Lewin Group estimates using the Health Benefits Simulation Model (HBSM).

5. *Household Impacts*

We present our analysis of household impacts under the CHS Single Payer below:

a. *Impact of CHS Single Payer on Family Health Spending*

Currently, families in Colorado spend about $885.8 million on health insurance premiums. These include payments for non-group coverage, employee contributions for ESI, Medicare Part-B premiums and Medicare supplemental coverage. Under the single payer program, family premium payments would decline by about $4.55 billion (***Figure 65***).

We estimate that family out-of-pocket spending would be about $720 under current law. This includes deductibles and co-payments under insurance plans, payments for services not covered by an insurance plan and out-of-pocket spending by uninsured people. Under the single payer program, out-of-pocket spending would drop by about $2.82 billion. Family income taxes would increase by $8.18 billion and alcohol and tobacco taxes would increase spending by $336 million. Increases in after tax wages that result from reduced costs to employers are counted as a reduction in family health spending of $1.33 billion. Overall, family health spending would decrease by $187 million under the CHS Single Payer in 2007/2008.

Figure 65
Impact of the CSHP Single Payer on Family Health Spending in 2007/2008 (millions)

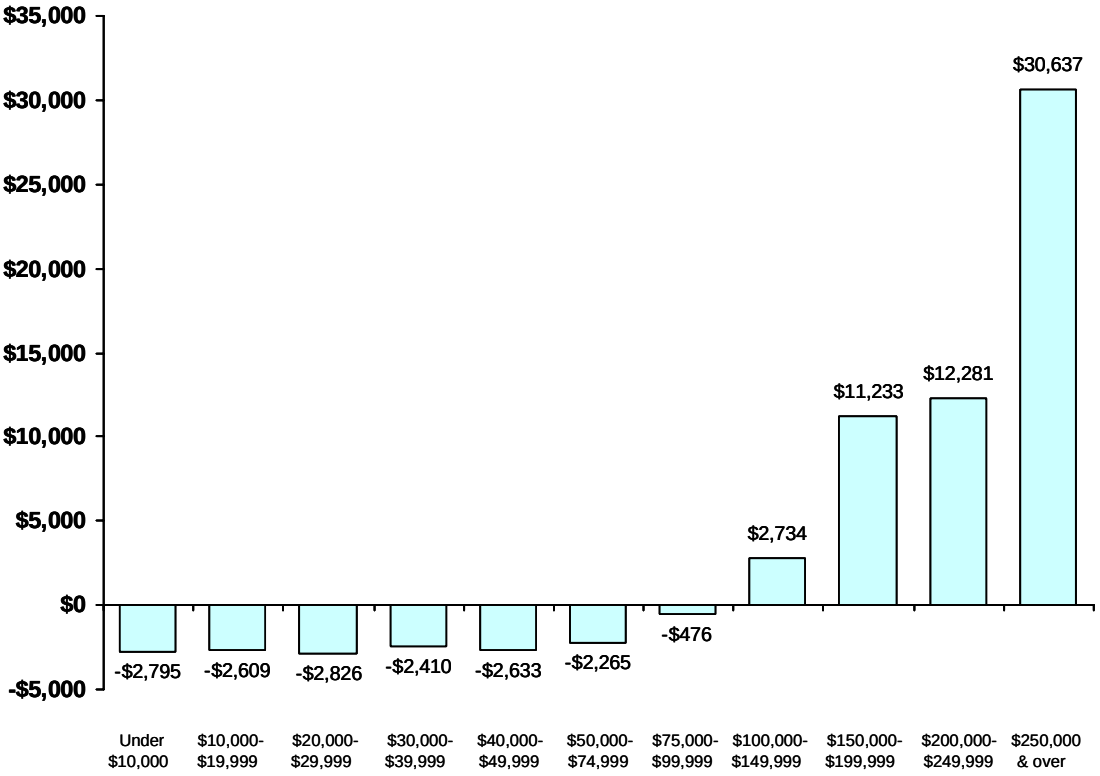
		Change in Spending
Change in Premiums		**($4,545)**
Change in Out-of-pocket Payments		**($2,820)**
Increase Individual Income Tax by 8.1%		**$8,176**
Tobacco Tax Increase [a/]	$210	**$336**
Alcohol Tax Increase [a/]	$126	
After Tax Wage Effects [b/]		**($1,334)**
Net Change		**($187)**

a/ Increase in tobacco taxes from $.84 up to $2.00 per pack; and increase in alcohol taxes as follows: spirits - from $.60 to $5.63 for a liter; wine - from $.07 to $.66 per liter; and beer - from $.05 to $.15 per 6-pack
b/ The increase in after-tax wage income resulting from reduced costs to employers are counted here as a reduction in family health spending.
Source: the Lewin Group estimates using the Health Benefits Simulation Model (HBSM).

b. Change in Average Family Health Spending Income Group

The increase in health spending is more dramatic as family income rises (***Figure 66***). Families earning between $100,000 and $150,000 would spend on average $2,734 more, compared to families earning between $200,000 and $250,000 who would spend $12,281 on average. Families earning more than $250,000 would spend $30,637 more on average. Families earning $100,000 or would less see savings. Those with incomes less than $10,000 would save $2,795, on average, and those between $75,000 and $100,000 would save, 476 per year, on average.

Figure 66
Change in Average Family Health Spending by Income Group under the CSHP Single Payer in 2007/2008

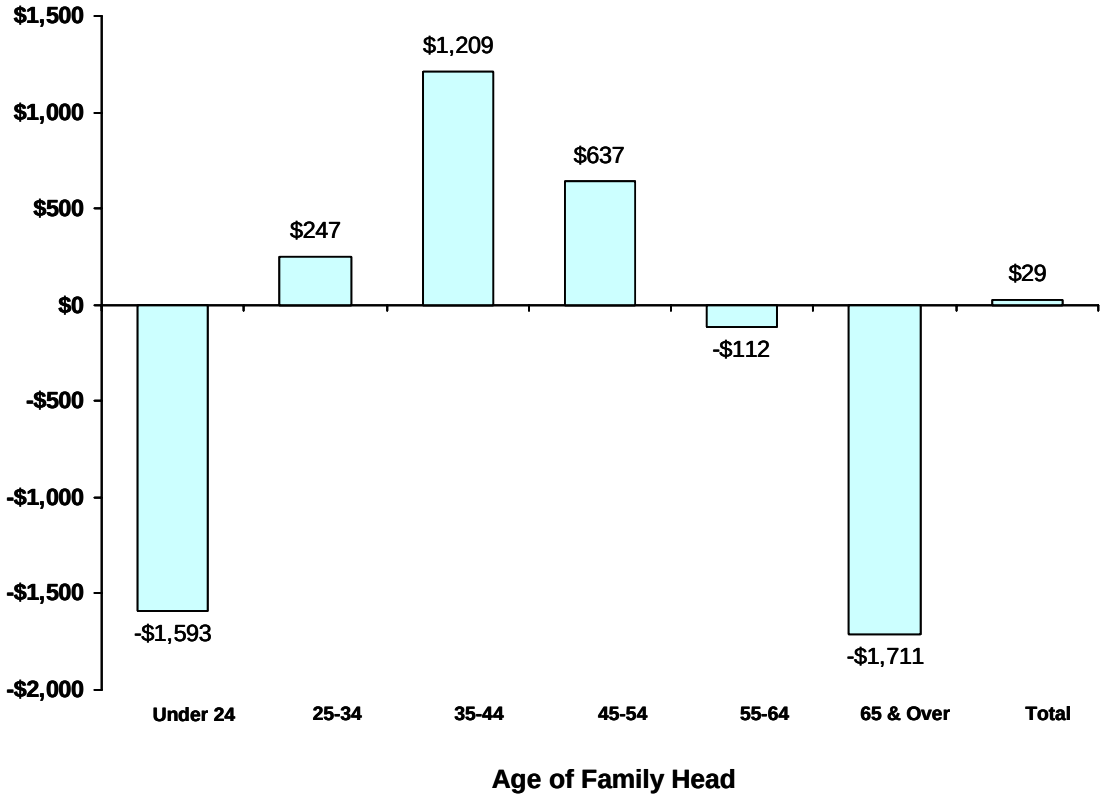


Source: The Lewin Group estimates using the Health Benefits Simulation model (HBSM)

Figure 67 shows the change in family health spending by age of the family head. Those age 65 years and older would save on average $1,711. Those under 24 years old would save $1,593.

Families between the ages of 25-54 years would see increases in spending, on average. Those with the highest increase, on average, are between ages 35-44 years. This reflects the fact that these are prime-age workers who would be required to pay most of the income tax surcharge.

Figure 67
Change in Average Family Health Spending by Age under the CSHP Single Payer in 2007/2008



Source: The Lewin Group estimates using the Health Benefits Simulation model (HBSM)

Appendix A:
Characteristics of the Uninsured

Characteristics of the Uninsured in Colorado

Draft

Prepared for:

Colorado Blue Ribbon Commission for Health Reform

June 12, 2007

Table of Contents

I. INTRODUCTION

The US Census Bureau estimates that the number of people in Colorado without health insurance for a full year averaged about 758,800 people over the 2003 through 2005 period. However, the Census Bureau estimate overstates the number of uninsured because is based upon data that underreports the number of people receiving Medicaid by about 30 percent. Once we adjust these data to reflect actual program enrollment levels, the estimated number of people without health insurance coverage for a full year drops from 758,800 people to about 562,800 people. Using these adjusted data, we estimate that there were another 506,800 people who were uninsured for part of year. We estimate that on average, about 785,200 people without insurance in any given month (also know and a "point-in-time" estimate).

In this study, we developed estimates of the number of uninsured by individual characteristics. We devote special attention to specific subgroups of the uninsured that could be targeted for specific policy interventions designed to expand insurance coverage. These include uninsured people who are eligible for but not enrolled in the current Medicaid and State Children's Health Insurance Programs (SCHIP), and workers who have declined coverage offered by their employer. We also provide data on insurance coverage by citizenship status, income, and the characteristics of the working uninsured and their dependents. Estimates are provided for the nation and by state.

The key findings of his study are:

- There were about 1.1 million Colorado residents who were uninsured sometime during 2005; and an average of 785,200 (17.2 percent) people were without health insurance in any given month;
- About 10.8 percent of the uninsured are eligible for Medicaid or the State Children's Health Insurance Program (SCHIP) but are not enrolled;
- About 21.3 percent of the uninsured are not citizens of the US;
- 11.1 percent of the uninsured have access to employer coverage as a worker or dependent but have not take the coverage;
- The uninsured are found at all income levels. While about 24.1 percent of the uninsured are living below the Federal Poverty Level (FPL), 6.5 percent of the uninsured are in families with annual income of $100,000 or more; and
- 69.5 percent of the uninsured are in a family with one or more worker.

Our analysis is presented in the following sections:

- Data and methodology;
- Coverage;
- Medicaid eligible but not enrolled;
- Access to employer coverage for the uninsured;
- Uninsured by selected policy relevant characteristics; and

II. DATA AND METHODOLOGY

Our primary data source for this study is the March Current Population Survey (CPS) conducted annually by the Census Bureau. These data are the source of the annual Census Bureau estimates of the number of uninsured in the US and by state. We pooled the Colorado sub-samples of the CPS data for 2004 through 2006 to increase the sample size to a level sufficient to provide detailed analyses for the state.

While the CPS provides the most current data on insurance coverage, it under-reports the number of people covered under the Medicaid program by roughly 30 percent, which causes these data to over-estimate the number of uninsured in the US. Consequently, we corrected the CPS data for under-reporting of Medicaid coverage to provide a more accurate count of the number of people without coverage. We also adjust the data to under-reporting of employer coverage. In this section, we describe the data sources and methodology that we used to estimate the number of uninsured in the US and by state.

A. The Current Population Survey (CPS) data

The CPS is based upon a representative sample of US residents in each of the 50 states and the District of Columbia. These date provide information on the sources of health insurance coverage for each member of each household selected for the survey. The CPS also provides detailed information on income, family relationship, employment status, citizen status, and other demographic characteristics. These data permit us to estimate the number of uninsured people by state for various socio-economic groups.

The survey asks people to indicate whether they had insurance in the prior year from each of several sources. Those who do not report being covered by any of these sources in the prior year are classified as "uninsured". Thus, the way the survey is conducted, it reports the number of people uninsured all year. The CPS 2006 estimate reports that about 44.5 million people were uninsured all year in 2005 (i.e., the year prior to the March survey).[1]

Some analysts have assumed that the CPS is actually reporting the number of people without insurance at the time of the survey, rather than their coverage status in the prior year. However, it is difficult to believe that all survey respondents are failing to answer the questions as asked, particularly after the Census Bureau has revised the survey questions to improve reporting. There are also patterns in the reporting of coverage from more than one source that is generally consistent with people reporting their coverage in the prior year.[2] Consequently, our approach in this study was to accept survey responses as indications of coverage in the prior year. We

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1 The official estimate was recently revised downward from 46.4 million people after a computer error was corrected.

2 Another reason for assuming that people are reporting their sources of coverage in the prior year is that the CPS reports over three times as many people with coverage from more than one source than do other surveys that collect data on a point in time basis, such as the Survey of Income and Program Participation (SIPP). This result is consistent with people reporting their coverage sources from the prior year, reflecting that people are often covered under one coverage source for part of the year and another source during the rest of the year.

also allocated this coverage over the 12 months in 2005 to estimate coverage levels on both an annual and an average monthly basis.

B. Correcting for Under-Reporting of Medicaid and SCHIP

A major draw back of the CPS is that it appears to dramatically under-report the number of people with Medicaid coverage, which causes it to overstate the number of uninsured. The pooled CPS reports that there was an average of about 374,000 people in Colorado who were covered under Medicaid or SCHIP sometime during the year (***Figure 1***). This is substantially lower than program data indicating that these programs cover about 565,000 people sometime during the year.

Figure 1
Pooled CPS Estimates of the Colorado Residents by Source of Health Insurance with and without Corrections for Under-Reporting (thousands) [a/]

	CPS With Corrections	Official CPS		CPS With Corrections	Official CPS
Number of Uninsured			**Medicaid Coverage and SCHIP [b/]**		
Uninsured all year	563	759	Ever covered in yea [c/]	610	374
Average monthly	785	n/a	Average monthly	447	n/a
Ever uninsured in year	1,070	n/a	Covered all year	336	n/a
Medicaid eligible not enrolled (monthly)	85	n/a	**Other Coverage Sources Ever in Year**		
Employer Coverage			Medicare	453	453
Ever in year	2,953	2,827	Retiree – Medicare	85	85
Average Monthly	2,752	n/a	Retiree – Non-Medicare	54	54
Covered all year	2,497	n/a	Non-Group - Medicare	126	126
			Non-Group Other	157	165
			TRICARE and Other	239	244

a/ Estimates were developed by distributing the reported number of months of Medicaid coverage over the year and by distributing employer coverage over the reported number of weeks worked in the year.
b/ Excludes enrollees with only partial benefits.
c/ There were 565,000 people enrolled in Medicaid sometime during and another 63,000 children enrolled in SCHIP sometime during the year. About 18,000 children were in both Medicaid and SCHIP during the year, which results in a non-overlapping number of 610,000 people enrolled in Medicaid or SCHIP sometime during the year.
Source: Lewin Group analysis of the Colorado sub-sample, 2004 through 2006 CPS data, with corrections for under reporting of Medicaid coverage.

We corrected the CPS for under-reporting of Medicaid using Lewin Group Health Benefit Simulation Model (HBSM). HBSM is a micro-simulation model of the US health care system that is designed to estimate the number of people eligible under proposed expansions in coverage under these programs. The model first allocates earnings over the number of weeks each individual worked during the prior year and creates information on income for each month of the year. The model then simulates eligibility for Medicaid and SCHIP using these monthly income data to identify people who appear to be eligible for these programs based upon the income eligibility levels actually used in these programs for various categories of eligibility (e.g., children parents etc.). The model does this in a way that accounts for changes in eligibility over the year as people move into and out of employment from month-to-month.

We then select a portion of the people who appear to be eligible for Medicaid or SCHIP to assign to enrolled status so that these data report the correct number of people participating in these programs. The first step in imputing coverage is to identify people whose source of coverage appears to have been miscoded as covered under some other source. In particular, many Medicaid participants are covered under Medicaid and SCHIP private health plans which people could easily have recorded as private coverage. These adjustments include:

- Children who appear to be eligible for the program who report having private coverage or TRICARE are reclassified as Medicaid/SCHIP enrolled if the adults in the family do not have these types of coverage; and
- People reporting they have "other coverage" who appear eligible for Medicaid are reclassified as Medicaid/SCHIP participants unless they specify that they are covered under TRICARE.

This resulted in reclassification of 35,800 people as Medicaid enrollees.

In the second step, we adjust the number of people with Medicaid or SCHIP coverage to match program data on the number of people enrolled in the program some-time during the year. We do these imputations separately for families, children, the aged and other eligibility groups.[3] We then adjust the number of months of enrollment assigned to these individuals so that these data also replicate program data for average-monthly enrollment in these programs.[4] By matching the CPS to both ever-enrolled and the average-monthly totals, we avoid overstating Medicaid enrollment on an average monthly basis. The resulting data show average monthly enrollment in Medicaid and SCHIP of 447,000 people (***Figure 1***).

C. Average Monthly Uninsured

As discussed above, the CPS reports the number of people who were without coverage from any source during all 12 months of the prior year. However, this definition omits those who were uninsured for only a portion of the year. This not only understates the number of uninsured, it would also lead us to under-estimate the cost of covering these people under various proposals to expand insurance coverage. Thus, the most appropriate measure of the uninsured for policy purpose is the average monthly number of uninsured.

As discussed above, we allocate reported coverage from each source over the 12 months of the year based upon employment and duration of enrollment data reported in the CPS. We allocate employer wages and employer health insurance coverage over the periods of work reported in the CPS. We also allocated Medicaid and SCHIP coverage over the number of months they report (or are assigned) being enrolled for months where these individuals appear to be income eligible. We assume that people reporting coverage from Medicare, TRICARE or non-group coverage are insured by these sources all year. This enables us to estimate the number of people without insurance coverage in each month.

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[3] In states that do not provide data on average-monthly enrollment, it must be estimated from other sources such as the survey of income and program participation (SIPP).

[4] These data must be estimated in states that do not maintain separate counts of average-monthly enrollment.

Using the Colorado CPS data with corrections for under-reporting, we estimate that 562,800 people were without coverage throughout the year. This compares with the unadjusted estimate of the number of uninsured reported by the Census Bureau of 758,800 people uninsured all year. About 1.1 million are uninsured sometime during the year. There was an average of about 785,200 people without coverage in any given month of the year, which is equal to about 17.2 percent of the State's population.

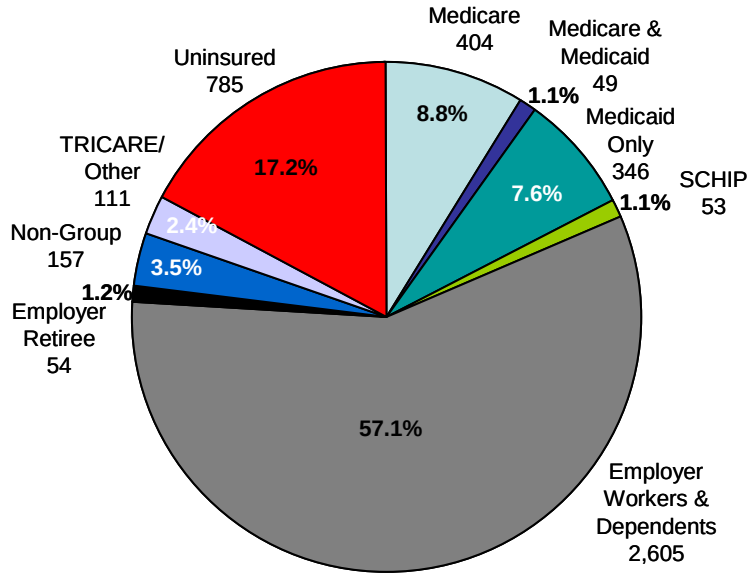
III. COVERAGE

In this section we present estimates of the distribution of uninsured people across selected socio-economic groups. All of the estimates presented in this section are based upon the 2006 CPS with the corrections for underreporting of Medicaid, and the allocation of coverage by month as discussed above. We also provide estimates of the number of uninsured people who are actually eligible for Medicaid or SCHIP but are not enrolled.

A. Primary Source of Health Insurance

Figure 2 presents our estimates of the distribution of US residents by primary source of coverage. Because many people have coverage from more than one source, we defined the primary source of coverage based on the prevailing coordination of benefits practices now in use. For example, about 49,000 aged and disabled people are covered under both Medicare and Medicaid. For these individuals, Medicare is the primary source of coverage, with Medicaid as secondary payer covering Medicare co-payments and services not covered by Medicare.

Figure 2
Colorado Residents by Average Monthly Primary Source of Health Insurance [a/]
(thousands)



Total Population = 4,564

a/ Primary payer is determined on the basis of prevailing coordination of benefits practices now in use.
Source: Lewin Group estimates using the Health Benefits Simulation Model (HBSM).

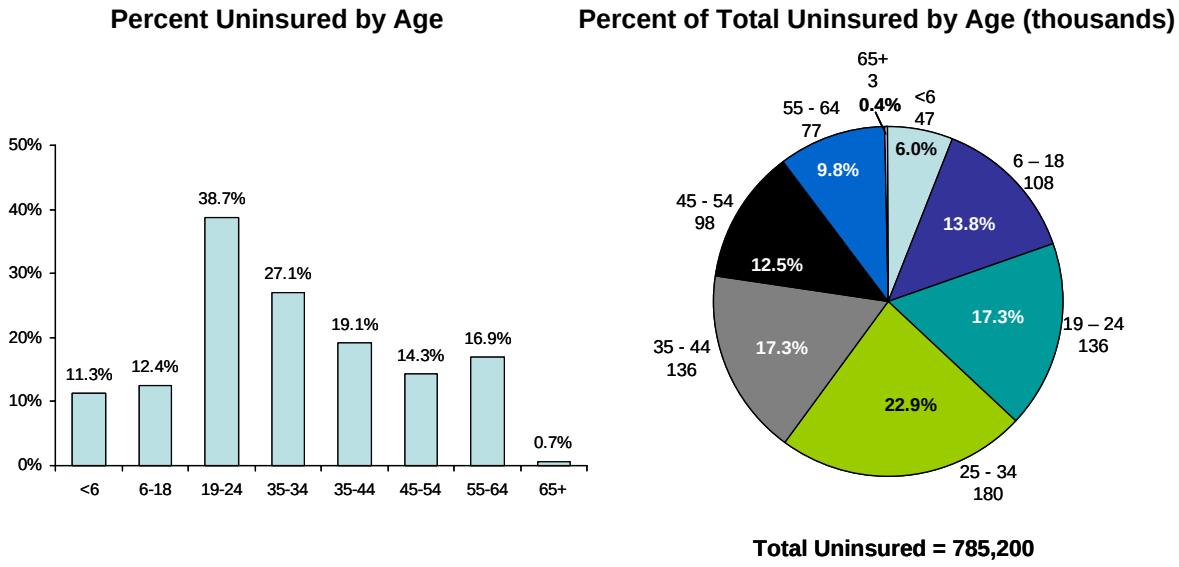
Employer-based coverage is the primary source of health insurance for most people in Colorado. More than one half of the population (57.1 percent) has employer based coverage as a worker or a dependent at any given point in time (***Figure 2***). Another 54,000 people are receiving employer coverage as an early retiree (i.e., excludes retiree supplemental coverage for Medicare eligible retirees). In addition, about 157,000 people have individually purchased non-group coverage as their primary source of coverage.

Medicare is the primary source of coverage for 453,000 aged or disabled people of whom about 49,000 are also covered under Medicaid. Average monthly enrollment in Medicaid is about 447,000, including 49,000 people who are also covered under Medicare. About 399,000 people have Medicaid as their primary source of health insurance coverage. There are about 83,000 people covered as military retirees or dependents under the TRICARE program. This leaves an average of about 785,200 uninsured people on an average-monthly basis.

B. Number of Uninsured by Age

Young adults are more likely to be without health insurance coverage than any other age group (***Figure 3***). About 38.7 percent of people age 19 through 24 are without health insurance, while about 27.1 percent of those age 25 through 34 are uninsured. About 16.7 percent of people age 55 through 64 are uninsured. Roughly 12 percent of children under the age of 19 are uninsured.

Figure 3
Percent of Colorado Residents Who are Uninsured by Age



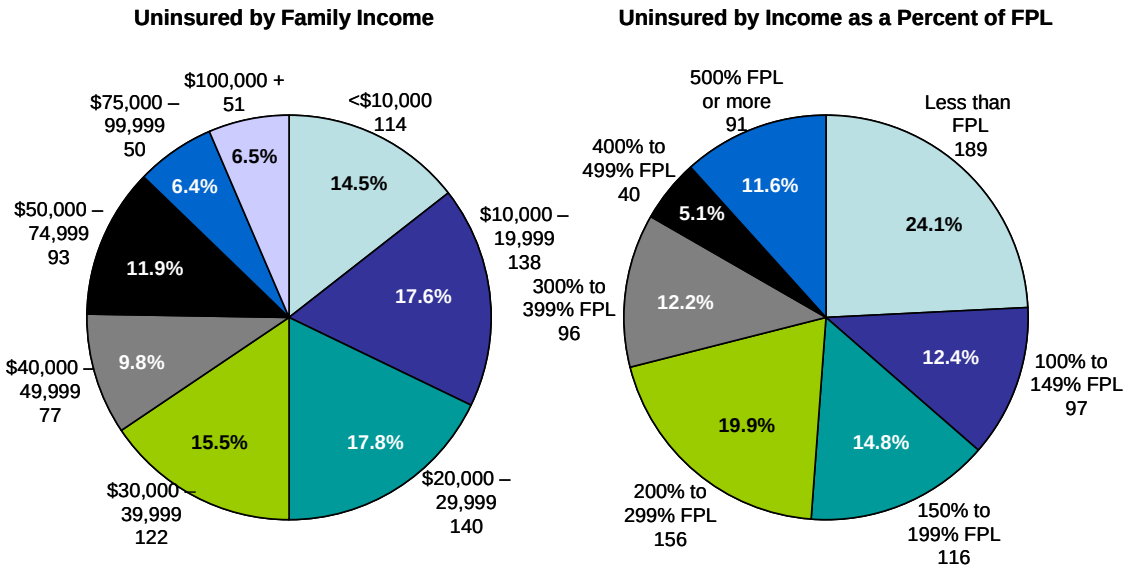
Source: The Lewin Group estimates using the Health Benefits Simulation Model (HBSM).

Of the 785,200 people without health insurance coverage, about 19.7 percent (i.e., 155,000) were children. About 40.2 percent of the uninsured are adults between the ages of 19 and 34.

C. Uninsured by Family Income

The uninsured are found in all income groups (***Figure 4***). About 24.1 percent of the uninsured live below the federal poverty level (FPL). About 47.0 percent of the uninsured have incomes between 100 percent and 300 percent of the FPL, and about 28.9 percent of the uninsured have incomes in excess of 300 percent of the FPL. In fact 6.5 percent of the uninsured have family incomes of $100,000 or more.

Figure 4
Average Monthly Uninsured in Colorado by Family Income and Income as a Percent of the Federal Poverty Level (FPL) (thousands)



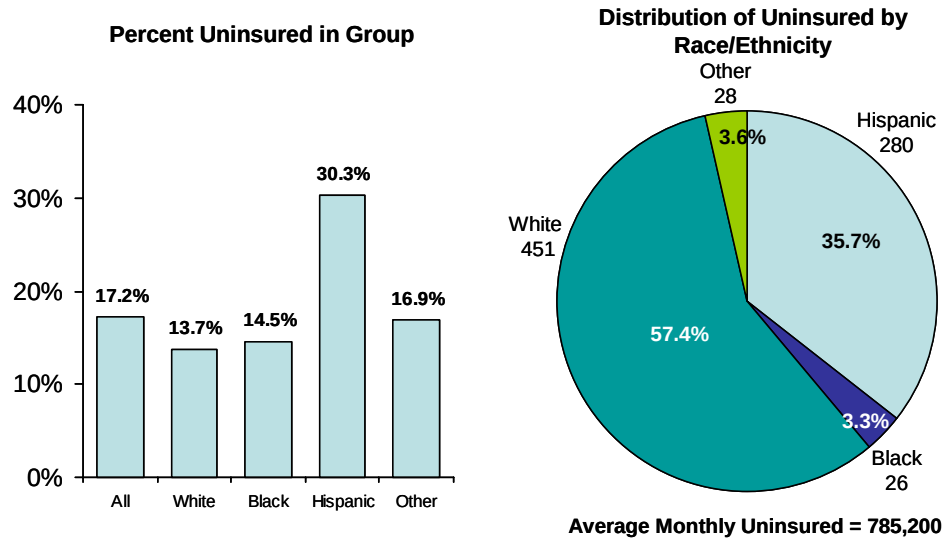
Source: Lewin Group estimates using the Health Benefits Simulation Model (HBSM).

D. Uninsured by Race and Ethnicity

The percentage of the population without coverage varies widely by race and ethnicity. As discussed above, an average of about 17.2 percent of the population is without insurance at any given point during the year. About 30.3 percent of people who report they are Hispanic are without health insurance coverage ***(Figure 5)***. About 14.5 percent of blacks are uninsured, compared with about 13.7 percent of whites.

About 57.4 percent of the uninsured are white. Hispanics account for 35.7 percent of those without health insurance. About 3.3 percent of the uninsured are black and about 3.6 percent report they are in "other" racial groups.

Figure 5
Uninsured by Race and Ethnicity in Colorado (thousands)

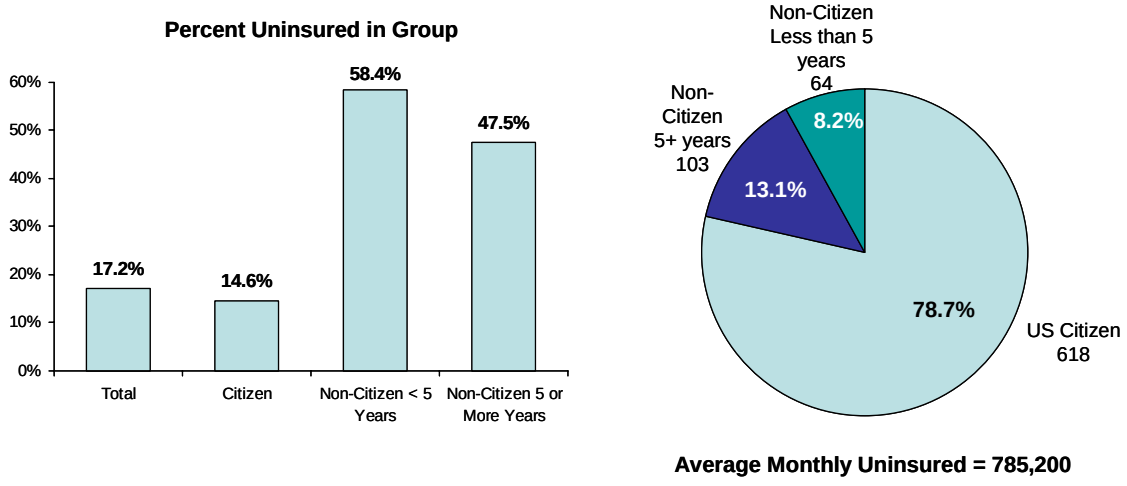


Source: Lewin Group estimates using the Health Benefits Simulation Model (HBSM).

E. Uninsured by Citizenship Status

About 167,000 of the uninsured (i.e., 21.3 percent) are not-citizens of the US (***Figure 6***). This is important in a policy context because immigrants must wait 5 years before they can qualify for Medicaid. Undocumented immigrants are ineligible for Medicaid regardless of income, except for emergency services. About 8.2 percent of the uninsured are non-citizens who have been in the US for less than 5 years and would not qualify for assistance under Medicaid or SCHIP except for emergencies. Another 13.1 percent of the uninsured are non-citizens who have been in the US for more than 5 years.

Figure 6
Uninsured in Colorado by Citizenship Status (thousands)



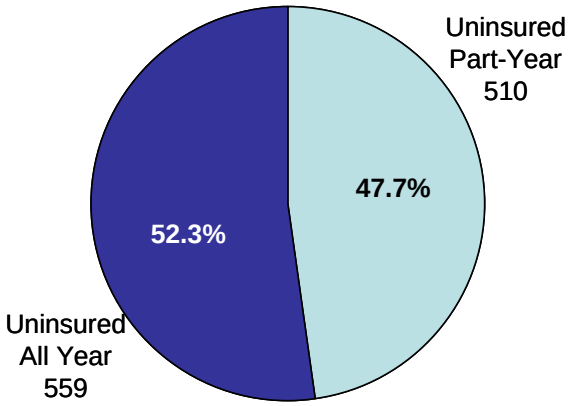
Source: Lewin Group estimates using the Health Benefits Simulations Model (HBSM)

Over half (58.4 percent) of all immigrants who have been in the country less than 5 years are uninsured. Among immigrants who have been in the US for 5 or more years, 47.5 percent are uninsured. About 14.6 percent of US citizens in Colorado are uninsured.

E. Full-year and Part-year Uninsured

As discussed above, we estimate that about 1.1 million Colorado residents were uninsured sometime during the year were uninsured all year (***Figure 7***). Of these, about 52.3 percent were uninsured for all 12 months of the year. The remaining 47.7 percent are people who were uninsured only part of the year.

Figure 7
Full-Year and Part-Year Uninsured in Colorado in 2005 (thousands)



Even Uninsured in Year = 1,069,000

Source: Lewin Group estimates using the Health Benefits Simulation Model (HBSM).

IV. MEDICAID ELIGIBLE BUT NOT ENROLLED

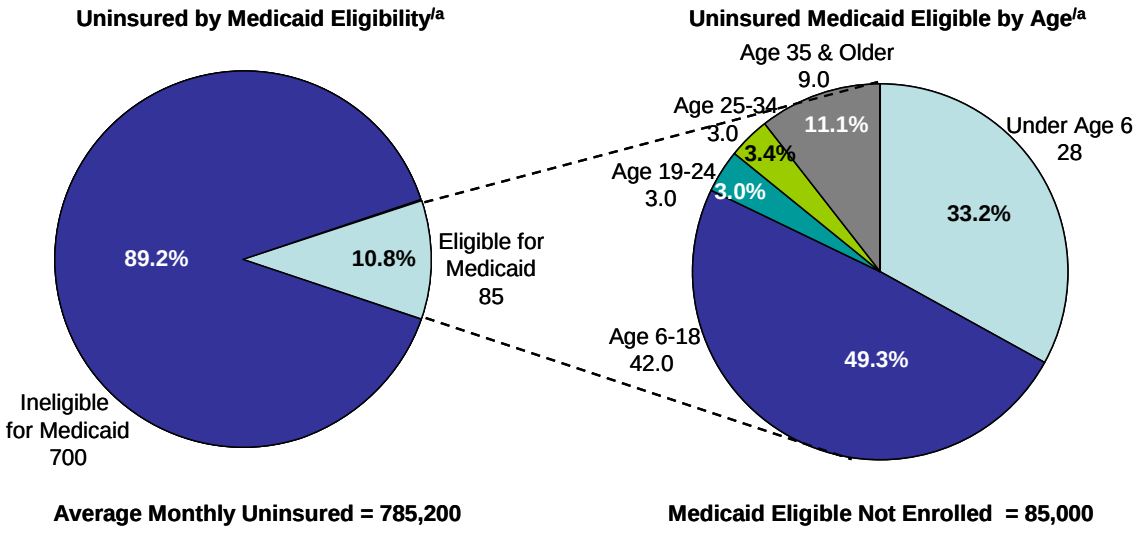
Many of those who are eligible to enroll in the Medicaid and SCHIP programs are not enrolled. Medicaid covers low-income people in certain categorical groups including children, low-income parents, the aged and the blind and disabled. Medicaid is the primary source of coverage for 8.7 percent of the Colorado population, over half of whom are children.

The Income eligibility levels for Medicaid vary by category of eligibility. Children are eligible for Medicaid if their income is below 133 percent of the FPL for children under age six, and below 100 percent of the FPL for children age six and older. SCHIP covers children living below 200 percent of the FPL who are not eligible for Medicaid. Pregnant women are covered through 200 percent of the FPL. Parents with custodial responsibilities for children are usually eligible only if their income is less than 60 percent of the FPL. Non-disabled non-aged adults without children are not covered at any income level.

As discussed above, we used HBSM to identify people and families in the Colorado sub-sample of the CPS who meet the specific income eligibility criteria for the Colorado Medicaid and SCHIP programs. The analysis showed that after correcting for under-reporting of Medicaid

coverage, there are about 85,000 uninsured people in Colorado who are eligible for Medicaid or SCHIP but are not enrolled (***Figure 8***).

Figure 8
Average Monthly Uninsured by Medicaid Eligibility Status
(thousands)



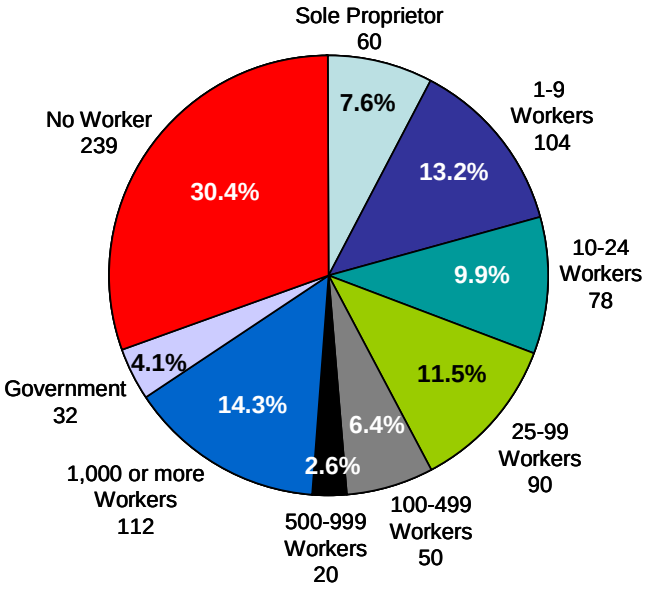
a/ Medicaid includes SCHIP
Source: Lewin Group estimates using the Health Benefits Simulation Model (HBSM).

Thus, about 10 percent of the uninsured population is actually eligible for these programs but are not enrolled. Of the eligible but not enrolled, about 82.5 percent are children. About 6,000 (6.4 percent) are young adults age 19 through 34, and another 9,000 are adults age 35 to 64.

V. ACCESS TO EMPLOYER COVERAGE

Of the 785,200 people without insurance, about 546,000 (69.7 percent) are in a family with one or more worker (***Figure 9***). About 60,000 are sole proprietors, and 182,000 are in firms with fewer than 25 workers. About 112,000 of uninsured workers and dependents are in firms with 1,000 or more workers. These are primarily part-time and temporary workers who are ineligible for coverage offered by the employer.

Figure 9
Average Monthly Uninsured Workers and Dependents in Colorado by Type of Worker (thousands)



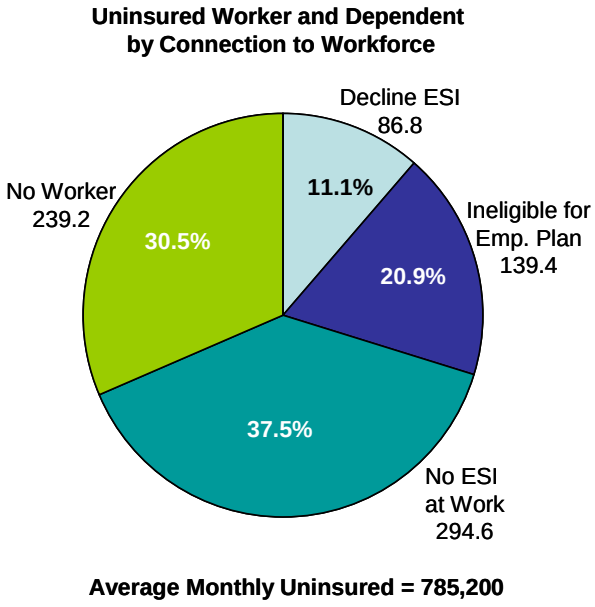
Uninsured Workers and Dependents = 785,200

Source: Lewin Group estimates using the Health Benefits Simulation Model (HBSM).

About 32.0 percent of the uninsured are in a family where one or more working family member is in a firm that offers insurance to at least some of its workforce. About 11.1 percent of uninsured workers and dependents are eligible for the coverage offered by a worker's employer, but have declined to enroll (***Figure 10***). Another 20.9 percent are ineligible for the health plan offered by their employers. About 294,600 (37.5 percent) of the uninsured are workers and dependents associated with firms that do not offer coverage to any of their workforce.

Figure 10
Average Monthly Uninsured in Colorado by Connection to Workforce
(thousands)

	Average Monthly Uninsured
Uninsured dependent of covered worker	**25.2**
Decline coverage offered through work	**86.8**
Workers	70.9
Dependents	15.9
Worker ineligible for plan at work	**139.4**
Workers	111.5
Dependents	27.9
No employer coverage at work	**294.6**
Workers	210.6
Dependents	84.0
Families with no worker	**239.1**
Total average monthly uninsured	**785.2**



Source: Lewin Group estimates using the Health Benefits Simulation Model (HBSM).

VI. UNINSURED BY SELECTED POLICY RELEVANT CHARACTERISTICS

The uninsured are composed of a wide variety of groups, each of which could be targeted for different policies to expand insurance coverage. For example, about 85,000 of the uninsured are already eligible for Medicaid or SCHIP, and about 86,800 are eligible for coverage through employment but have declined the coverage (***Figure 11***). About 16,700 are non-citizens. Also, about 148,200 of the uninsured are in families with incomes in excess of 500 percent of the FPL.

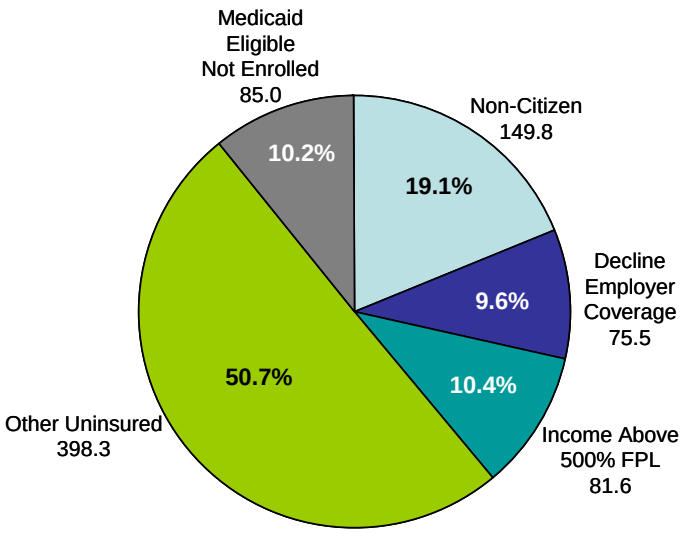
About 393,300 of uninsured Colorado residents are not associated with these characteristics. These generally include people who do not have access to a health plan at work and have incomes that are too high to qualify for Medicaid, but too low to be able to afford private insurance. This group of the uninsured accounts for about half of the uninsured population in the state ***(Figure 12)***.

Figure 11
Distribution of Uninsured People in Colorado by Policy Relevant Characteristics

	Overlapping Counts of Uninsured [a/]	Non-Overlapping Counts [b/]
Medicaid/SCHIP eligible not enrolled	85,000	85,000
Not U.S. citizen	167,000	149,800
Declined employer coverage	86,800	75,500
Incomes above 500% FPL	92,000	81,600
Other Uninsured [c/]	393,300	393,300
Total	**785,200**	**785,200**

a/ Numbers in this column do not sum to total due to overlaps in individual characteristics.
b/ The counts in this column are dependent upon the order in which individuals are classified.
c/ Includes uninsured people who are not included in the categories listed above.
Source: Lewin Group estimates using the Health Benefits Simulations Model (HBSM).

Figure 12
Colorado Uninsured Population by Policy Relevant Characteristics (thousands) [a/]



Total Uninsured at Point in Time = 785,200

a/ These counts are dependent upon the order in which individual are classified.
Source: Lewin Group estimates using the Health Benefits Simulation Model (HBSM).

VII. CONCLUSION

We estimate that an average of about 785,200 uninsured Colorado residents during any given month. About 85,000 are eligible for Medicaid or SCHIP but are not enrolled and 167,000 are non-citizens. Over two-thirds of the uninsured are in a family with one or more worker. In fact, about 86,800 workers and dependents have declined employer coverage available to them at work. Another 139,400 are in a family with a worker who is ineligible for coverage sponsored by their employer, as a part-time or temporary employee. About 239,200 are in families where there are no working family members.

About 57.1 percent of Colorado residents are covered through their employer. Another 3.5 percent have individually purchased non-group coverage. Medicare and Medicaid together cover about 18.6 percent of Colorado residents.

Appendix B:
Health Spending in Colorado

The LEWIN GROUP
an INGENIX company

Health Spending in Colorado

Draft Report

Prepared for:

Colorado Blue Ribbon Commission for Health Reform

July 20, 2007

Table of Contents

A. Introduction

The Lewin Group developed estimates of coverage and health expenditures in Colorado for Fiscal Year (FY) 2007-2008 under current-law policy. This includes current-law spending by state and local governments, employers, households and the federal government. The objective of these estimates is to develop a matrix of Colorado health spending for fiscal year 2007-2008 by service and source of funding.

Unfortunately, no single entity maintains a detailed accounting of all health expenditures in the state. A major reason for this is that our current multi-payer system does not require the kind of centralized systems for the payment of health care services that would be conducive to collecting and evaluating overall health expenditures. For example, payment systems for government health benefits programs are completely separate from private payment systems.

Also, private employer health plans generally maintain separate health data systems that are not conducive to tracking health expenditures for individual geographic areas such as states. For example, some Colorado workers are employed in firms where the corporation and its health plan are headquartered out-of-state. Similarly, some out-of-state workers may be covered under plans based in Colorado. Consequently, it is extremely difficult to obtain data on health plan expenditures under public and private health plans for any given state.

Our approach is to piece together estimates of health spending by source of payment and type of service from the limited data that are available. Throughout this analysis, we use data that are specific to health spending in Colorado. This includes data from the Colorado Medicaid, CHP+ and the Colorado Department of Insurance. We also use data collected by federal agencies that provide health spending and coverage information that is specific to the state of Colorado. These data are based upon financial reports for each hospital in Colorado, and surveys of revenues for physicians and other providers in each individual state. Thus, although the data is collected nationally, they are based upon data for individual states and provide a good source of Colorado-specific data.

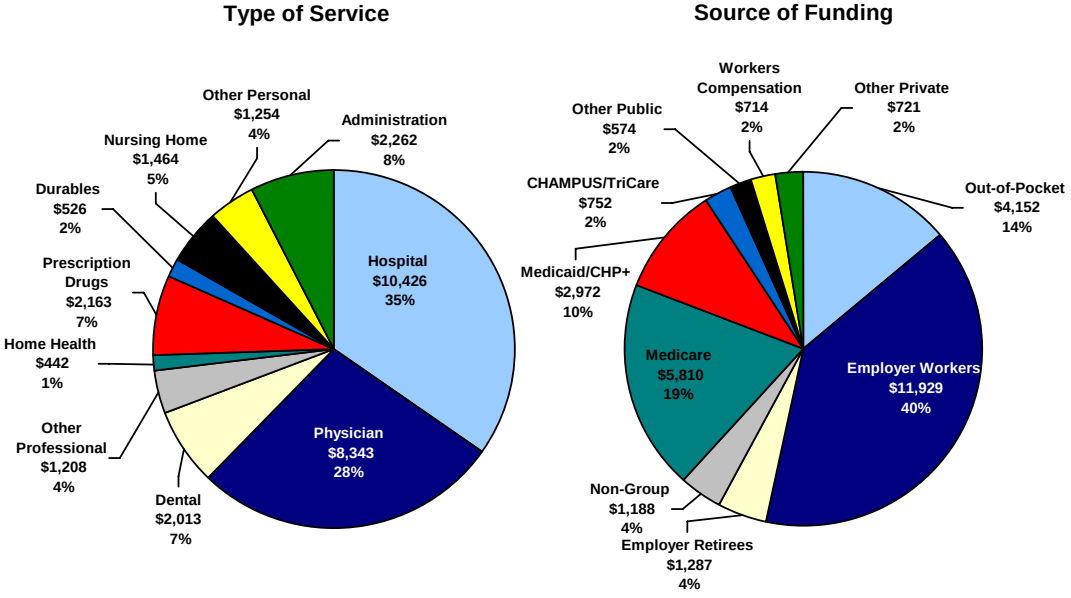
While data on spending for government programs in the state are available, comparable information on health spending under specific types of private insurance and household out-of-pocket spending generally is not available for individual states. We estimated these spending amounts using data from the Medical Expenditures Panel Survey (MEPS) data. The MEPS includes a survey of households, administered by the Agency for HealthCare Research and Quality (AHRQ), which provides information on the sources and uses of funds under private insurance and the levels of household out-of-pocket and premium expenditures. Information from all of these sources was incorporated into our analysis to develop a detailed accounting of health spending in Colorado.

Because accounting for health spending varies across insurers and government programs, we classify health spending from each payer by type of service using the service classification developed for the National Health Expenditure (NHE) accounts by the US Centers for Medicare

& Medicaid Services.[5] In addition, this process required converting some of the health spending data from these various sources to be comparable to the total health spending data reported by CMS for Colorado. This included: projecting CMS health spending estimates to FY 2007-2008; eliminating all double counting of expenditures for public programs; and adjusting the government program data to exclude non-health items that are included in national health spending estimates. We also convert some spending data from a calendar-year to state-fiscal-year dollars.

Figure 1 presents our estimates of spending by type of service and source of coverage in Colorado. Total health spending in Colorado for FY 2007-2008 is $30.1 billion, which includes administration expenditures.

Figure 1
FY 2007-2008 Estimated Spending in Colorado by Type of Service and Source of Funding [a/]
(in millions)



Total Spending = $30,100 million

Source: Lewin Group Estimates.

The following sections describe the data and methods used to estimate health spending in Colorado by type of service and source of payment.

[5] Cynthia Smith, Cathy Cowan, Stephen Heffler, Aaron Catlin the National Health Accounts Team. 2006. "National Health Spending In 2004: Recent Slowdown Led By Prescription Drug Spending." *Health Affairs*, 25(1): 186-196.

B. Health Spending by Type of Service

We estimated health spending for Colorado by type of service for FY 2007-2008 based upon historical data on actual spending in Colorado. For example, the Office of the Actuary (OACT) of the Centers for Medicare & Medicaid Services (CMS) conducts an extensive analysis of health spending by type of service that is designed to provide reliable estimates of spending for each individual state. These data are based upon hospital financial reports for each Hospital in Colorado. Data on income for physicians and other health professionals is based upon the Colorado sub-sample of surveys of businesses conducted by the Bureau of Labor Statistics.

1. Historical Spending in Colorado by Type of Service

We first estimated a control total for FY 2007-2008 health spending in the state of Colorado. We started with estimates of Colorado health spending developed by CMS for Colorado in calendar year (CY) 2004, which is their most recent year available. These estimates are available by type of service and are displayed along with national estimates in ***Figure 2***. Total health spending in Colorado was approximately $21.8 billion in 2004. This includes spending by all payers in the state including individuals' out-of-pocket payments, and spending for hospitals, physicians, other professionals, dentists, prescription drugs and long-term care.[6] It excludes insurer and program administration, research and construction, and public health spending.

Figure 2
Historical Spending in Colorado and the United States by Type of Service: 2000 and 2004 (in millions) [a/]

	Colorado			United States		
Type of Service	CY 2000	CY 2004	Average Annual Growth 2000-2004	CY 2000	CY 2004	Average Annual Growth 2000-2004
Hospital	$5,598	$7,926	9.1%	$417,049	$566,866	8.0%
Physician	$4,719	$6,599	8.7%	$288,609	$393,713	8.1%
Dental	$1,168	$1,577	7.8%	$61,975	$81,476	7.1%
Other Professional [b/]	$738	$967	7.0%	$39,072	$52,636	7.7%
Home Health	$305	$365	4.6%	$30,514	$42,710	8.8%
Prescription Drugs	$1,335	$1,846	8.4%	$120,803	$189,651	11.9%
Medical Durables	$372	$449	4.8%	$19,330	$23,128	4.6%
Nursing Home	$938	$1,192	6.2%	$95,262	$115,015	4.8%
Other Personal Care [c/]	$538	$885	13.3%	$37,076	$53,278	9.5%
Total	$15,711	$21,806	8.5%	$1,109,690	$1,518,473	8.2%

[6] "Other professional" services are those provided by health practitioners other than physicians or dentists, such as private-duty nurses, chiropractors, podiatrists, and optometrists. "Other Personal" services include industrial implant services (i.e. health care provided by employers for employees at the employer's establishment), and government expenditures for medical care not delivered in traditional medical provider sites (e.g. community centers, senior citizens centers, schools, and military field stations). Home and Community Waiver programs comprise a large portion of "Other Personal" spending.

a/ Spending in freestanding ambulatory surgical centers is recorded as physician income. For hospital based ambulatory care centers, the facilities charge is recorded as hospital income with the physician fee for non-hospital staff recorded as physician income.
b/ "Other professional" services are those provided by health practitioners other than physicians or dentists, such as private-duty nurses, chiropractors, podiatrists, and optometrists
c/ "Other Personal" services include industrial implant services (i.e. health care provided by employers for employees at the employer's establishment), and government expenditures for medical care not delivered in traditional medical provider sites (e.g. community centers, senior citizen centers, schools, and military field stations). Home and Community Waiver programs comprise a large portion of "Other Personal" spending.
Source: Centers for Medicare & Medicaid Services, Office of the Actuary.

In ***Figure 3*** we display the 2000 and 2004 health spending data in Colorado along with its adjoining States. Colorado had rather moderate growth during this time period in comparison to its neighboring States.

Figure 3
Average Annual Growth Rates of Colorado and Adjacent States: CY 2000 and 2004 (in millions)

	State Spending 2000	State Spending 2004	Average Annual Growth Rate 2000-2004
Kansas	$10,402	$14,061	7.8%
Nebraska	$7,015	$9,715	8.5%
Arizona	$15,891	$23,639	10.4%
New Mexico	$5,457	$7,644	8.8%
Colorado	$15,711	$21,807	8.5%
Utah	$6,458	$9,543	10.3%
Wyoming	$1,615	$2,231	8.4%

Source: Centers for Medicare & Medicaid Services.

2. Projected Spending in Colorado by Type of Service

In order to project Colorado spending to FY 2007-2008 from CY 2004 we first calculate the ratio of the average annual growth rate experienced in Colorado from 2000 through 2004 to the comparable national growth rate for the same time period (see ***Figure 4***). Notice that the growth is fairly similar overall (Colorado health spending grew approximately 8.5 percent annually versus 8.2 percent nationally), but there were some significant differences within certain services. For example, Colorado home health spending grew nearly half as much as it did in the US whereas nursing home spending grew nearly 30 percent faster in Colorado.

Figure 4
Projected Spending in Colorado by Type of Service: FY 2007-2008

Type of Service	Ratio State Growth/US Growth 2000-2004	Average Annual Growth – US 2004-2007	State Weighted AAG 2004-2007	State Estimate FY04-05 (in millions)	State Estimate FY07-08 (in millions)
Hospital	1.14	7.2%	8.1%	$8,243	$10,426
Physician	1.08	6.4%	6.9%	$6,824	$8,343
Dental	1.10	6.6%	7.2%	$1,633	$2,013
Other Professional	0.90	7.3%	6.6%	$998	$1,208
Home Health	0.52	10.7%	5.6%	$375	$442
Prescription Drugs	0.71	6.6%	4.6%	$1,888	$2,163
Medical Durables	1.05	4.4%	4.6%	$459	$526
Nursing Home	1.28	4.7%	6.1%	$1,228	$1,464
Other Personal Care	1.40	7.5%	10.5%	$930	$1,254
Total	1.05	6.7%	7.1%	$22,578	$27,838

Source: Lewin Group estimates using state health spending and cost projections data provided by the Centers for Medicare & Medicaid Services, Office of the Actuary. See National Health Expenditures Projections 2006-2016. http://www.cms.hhs.gov/NationalHealthExpendData/downloads/proj2006.pdf>

After calculating the ratio of Colorado to US growth in health spending, we apply that ratio to the projected US average annual growth rates for 2004 through 2007 in order to obtain Colorado weighted projected average annual growth rates. The projected US growth rates are also developed by CMS.[7] The Colorado adjusted growth rates are used to extrapolate the 2004 state health spending estimates into the future. After this process, we end up with FY 2007-2008 total health spending amounting to approximately $27.8 billion.

C. Spending under Medicare

Historical Medicare and Medicaid/SCHIP spending are also available from the State Health Accounts estimated by CMS (***Figure 5***). In 2004, Medicare spending amounted to $3.4 billion and Medicaid/CHP+ spending amounted to $2.5 billion. The Medicaid/CHP+ funding includes all programs receiving a Federal match and reported on the CMS-64 forms submitted to the Centers for Medicare & Medicaid Services. This includes the Medical Services Premiums program, Child Health Plan *Plus* (CHP+), several indigent care programs, mental health community programs, and certain programs for other medical services.

[7] Centers for Medicare & Medicaid Services, Office of the Actuary. National Health Expenditures Projections 2006-2016. <Available as of May 29, 2007 at: http://www.cms.hhs.gov/NationalHealthExpendData/downloads/proj2006.pdf>

Figure 5
Medicare and Medicaid/CHP+ Historical Spending (in millions)

	Medicare			Medicaid/CHP+		
Type of Service	**CY 2000**	**CY 2004**	**Average Annual Growth 2000-2004**	**CY 2000**	**CY 2004**	**Average Annual Growth 2000-2004**
Hospital	$1,269	$1,785	8.9%	$684	$853	5.7%
Physician	$661	$969	10.0%	$249	$385	11.5%
Dental	$2	$2	0.0%	$27	$50	16.7%
Other Professional	$71	$104	10.0%	$0	$0	0.0%
Home Health	$87	$190	21.6%	$73	$117	12.5%
Prescription Drugs	$33	$52	12.0%	$183	$271	10.3%
Medical Durables	$65	$99	11.1%	$0	$0	0.0%
Nursing Home	$100	$175	15.0%	$244	$361	10.3%
Other Personal Care	$0	$0	0.0%	$350	$440	5.9%
Total	**$2,288**	**$3,376**	**10.2%**	**$1,810**	**$2,477**	**8.2%**

Source: Centers for Medicare & Medicaid Services, Office of the Actuary.

Before projecting Medicare forward to FY 2007-2008 we model the effects of the implementation of the Medicare prescription drug program, Part D, on Medicare spending in 2004. We do this because the Part D program significantly changed the spending pattern across services under Medicare beginning in 2006. We use the HBSM to simulate the distribution of Colorado Medicare spending by type of service after implementation of Part D (***Figure 6***).

Because the Part D adjustment is done prior to projecting all the source of funding estimates to 2007 and because we have already estimated a total spending amount for prescription drugs, this methodology will automatically result in lower prescription drug spending for the other source of funds.

Once we estimate FY 2004-2005 Medicare spending adjusted for implementation of Part D, then we project total Medicare spending to FY 2007-2008 using the CMS projections of national Medicare spending adjusted for differences in historical spending between Colorado and national growth rates.

We also adjust the Medicare estimate for migration patterns. The state health accounts produced by CMS are based on the location of the provider. We want to measure Colorado health spending on a resident basis. That is, providers located in Colorado may be providing care to residents of other states. We do not want to count this spending. In contrast, we do want to count the spending that Colorado residents seek in other states. Therefore we calculate adjustments to account for these migration patterns.

In order to do this, we apply ratios, by service, of resident spending to provider spending for the state of Colorado as calculated by CMS based on 1998 Medicare data. Currently, 1998 is the

most recent year of data on which this analysis was conducted. These are the ratios that CMS uses to convert their provider-based estimates into resident-based estimates.[8]

Colorado is shown to have a slightly higher inflow (by approximately 2.5 percent) of care.[9] That is, Medicare beneficiaries residing outside of Colorado are spending more Medicare money in Colorado in comparison to what Medicare beneficiaries residing in Colorado spend outside of the state. In other words, Colorado health care providers are net exporters of health care services.[10]

Figure 6
Medicare Projections (in millions)

Type of Service	CY 2004	FY 04-05	w/ RX FY 04-05	w/ Migration FY 04-05	FY 07-08
Hospital	$1,785	$1,863	$1,863	$1,795	$2,466
Physician	$969	$1,016	$1,016	$990	$1,378
Dental	$2	$2	$2	$2	$3
Other Professional	$104	$109	$109	$106	$150
Home Health	$190	$209	$190	$189	$230
Prescription Drugs	$52	$55	$737	$737	$925
Medical Durables	$99	$104	$104	$102	$137
Nursing Home	$175	$188	$188	$186	$267
Other Personal Care	$0	$0	$0	$0	$0
Total	$3,376	$3,547	$4,209	$4,107	$5,557

Source: Lewin Estimates using the Health Benefits Simulation Model (HBSM).

D. Medicaid/CHP+ Projections

The Medicaid estimates for FY 2007-2008 are based upon the projected appropriations for programs administered by the Department of Health Care Policy and Financing (DHCPF) as reported in Senate Bill 07-239 (***Figure 7***). The Medicaid programs are administered by DHCPF. As mentioned earlier, this includes the programs for Medical Services Premiums, Child Health Plan *Plus* (CHP+), mental health community programs, indigent care programs, and other medical services.

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[8] CMS provider and resident based health estimates are available as of February 9, 2007 at: http://www.cms.hhs.gov/NationalHealthExpendData/05_NationalHealthAccountsStateHealthAccounts.asp#TopOfPage.>

[9] Note that Medicaid, Other Public and Workers Compensation spending are not migration adjusted. It is expected that this spending is already on a resident basis.

[10] It should be noted that normally, we apply this adjustment to other sources of funding as well, such as out-of pocket spending and private health insurance spending. However, after consultation with experts within Colorado, we did not feel that the Medicare based migration adjustment was appropriate for the non-Medicare population.

Program Spending in FY 07-08

In ***Figure 7*** we display all Medicaid funds from DHCPF, with the exception of certain certified public funds (CPF), which is the case with funding for Medical Services Premiums, Safety Net Providers, and School Health Services. Even though CPF money is required in order to obtain Federal matching funds, we exclude them from our estimates of spending for modeling purposes. We do this because providers may not necessarily be receiving these funds from the State. It is also possible that many of the services used to claim CPF are actually uncompensated (i.e. the provider is covering the costs).

We do include the $16.0 million in CPF funds (not shown in ***Figure 7***) for School Health Services in the Other Public Funding estimates, which we discuss later. According to the Director of the Rates and Analysis Division in DHCPF, these funds are channeled to the providers from school district tax money. This is a case where we can identify that source and verify that providers are receiving the money for specific services provided.

Figure 7
Department of Health Care Policy and Financing –
Senate Bill 07-239 for FY 2007-2008

	FY 07-08					
	Total	General Fund	General Fund Exempt[a]	Cash Funds	Cash Funds Exempt[a]	Federal Funds
Department of Health Care Policy and Financing						
Executive Director's Office	94,414,338	32,798,463		426,924	6,188,706	55,000,245
Medical Services Premiums[c]	2,129,994,845	652,535,401	343,900,000	38,256	59,859,931	1,073,661,257
Mental Health Community Programs[b]						
Capitation Payments	191,922,780	91,315,646			4,639,076	95,968,058
FFS Payments	1,489,003	744,502				744,501
Total	193,411,783	92,060,148			4,639,076	96,712,559
Indigent Care Program						
Safety Net Provider Payments[c]	74,057,497	13,090,782			-	60,966,715
The Children's Hospital Indigent Care	16,205,760	3,059,880			10,086,000	3,059,880
Health Care Services Fund Programs	4,914,000				4,914,000	
Pediatric Specialty Hospital[4]	8,328,000	3,551,000			513,000	4,264,000
Primary Care Fund	32,365,298				32,365,298	
Children's Basic Health Plan Admin	5,535,590				2,472,567	3,063,023
Children's Basic Health Plan Premium Costs	89,825,813				31,598,585	58,227,228
Children's Basic Health Plan Dental Benefit	7,104,840				2,486,694	4,618,146
Comprehensive Primary and Preventive Care	2,466,652				2,466,652	
Total	240,803,450	19,701,662			86,902,796	134,198,992
Other Medical Services						
Old Age Pension State Medical Program clients	13,974,451				13,974,451	
U of CO residency	1,903,558	951,779				951,779
Enhanced Prenatal care training	108,999	54,500				54,499
NH visitor program	3,010,000				1,505,000	1,505,000
MMA State Contribution Payment (Clawback)	76,719,821	76,719,821				
School Health Services[c,d]	15,320,792				-	15,320,792
Total	111,037,621	77,726,100			15,479,451	17,832,070
DHCPF Total	2,769,662,037	874,821,774	343,900,000	465,180	173,069,960	1,377,405,123
Department of Human Services Medicaid-Funded Programs						
Executive Director's Office	12,509,047	6,253,141				6,255,906
Office of Information Techonology	9,143,722	4,237,322			578,335	4,328,065
Office of Operations	6,002,337	3,001,169				3,001,168
Division of Child Welfare						
Admin	127,485	63,743				63,742
Child Welfare Services	34,875,613	17,437,807				17,437,806
Total	35,003,098	17,501,550				17,501,548
Mental Health and Alcohol & Drug Abuse						
Administration	371,143	185,572				185,571
Services	4,460,583	2,206,535			23,757	2,230,291
Total	4,831,726	2,392,107			23,757	2,415,862
Developmental Disability Services						
Administration	2,582,358	1,291,179				1,291,179
Services	328,759,230	161,130,055			3,217,203	164,411,972
Total	331,341,588	162,421,234			3,217,203	165,703,151
Adult Assistance Programs	1,800	900				900
Division of Youth Corrections	2,852,877	1,426,440				1,426,437
DHS Total	401,686,195	197,233,863			3,819,295	200,633,037
Total	3,171,348,232	1,039,257,174	343,900,000	38,256	170,700,549	1,523,037,915

a/ Cash Funds Exempt and General Funds Exempt are funds exempt from TABOR (Taxpayer Bill of Rights).
b/ Medicaid Anti-Psychotic Pharmaceuticals program is not included as it is reported for Informational only.
c/ Note that Medical Services Premiums, Safety Net Provider Payments and School Health Services contain certified public expenditures that are reported in Senate Bill 07-239, but are not included in these estimates. However, we also note that Federal Funds will no longer be available if CPE funds do not exist.
d/ There is $16,007,021 in CFE that comes from local school district taxes. These funds are included in the Other Public source of funding.
Source: Projected appropriations for programs administered by the Department of Health Care Policy and Financing (DHCPF) as reported in Senate Bill 07-239.

Adjustments

We adjust the totals in ***Figure 7*** to account for recent bills and that have been signed into law. This includes the Colorado Cares Rx Act, Extend Foster Care, Early Intervention, and appropriations for Tobacco litigation settlement moneys.

We also make adjustments to the budget data in order to avoid double counting with Medicare funds (***Figure 8***). This entails removing Medicare Part A and B premium payments made by Medicaid to Medicare for dual-eligible enrollees. Payments made by Medicaid to Medicare for duals' Medicare Part D coverage, known as "clawback" payments, are also excluded from the Medicaid budget estimates.

Also, Federal Disproportionate Share (DSH) funds and certain DCHPF funds not receiving a Federal match (including the Primary Care Fund, Comprehensive Primary and Preventative Care funds and Old Age Pension State Medical Program funds) are excluded from the Medicaid funding category and included in the Other Public source of funding category (***Figure 8***). We do this as these programs are not based upon utilization by the Medicaid population. The Primary Care Fund and Comprehensive Primary and Preventive Care funds are aimed at subsidizing care for the low-income non-Medicaid population. The Old Age Pension State Medical Program funds are used for a State-run program for the non-Medicaid elderly population.

Figure 8
Lump-sum Payments Separate from Payments for Direct Health Services

	Total	State	Federal
FY 2007-2008			
Clawback [a/]	$76,719,821		
DSH [b/]	$87,253,366	$125,766	$87,127,600
Part A & B premiums [c/]	$88,518,379	$53,111,027	$35,407,352
Other Public Funds [d/]	$64,813,422	$64,813,422	
Total	$317,304,988	$118,050,215	$122,534,952

a/ Source: Senate Bill 07-240
b/ Note that 87,127,600 represents the Federal Cap, which CO is expected to meet in 2007. The $125,766 is payments to private providers, which the State had to outlay in order to get matched. The $125K comes from the FY 2005-06 Colorado Indigent Care Program Annual Report.
c/ Source: February 15, 2007 Budget
d/ Includes Comprehensive Primary and Preventive Care funds, the Primary Care Fund and Old Age Pension State Medical Program funds, and CFE funds for School Health Facilities.
Source: Senate Bill 07-240.

Figure 9 provides a summary of our Medicaid/CHP+ estimates. We estimate nearly $3.0 billion in Medicaid/CHP+ funding for FY 2007-2008 including administrative expenses. Again, note that we aggregate Medical Services Premiums, Child Health Plan *Plus* and Other Programs in these estimates.

Figure 9
Summary of Medical Services Premiums, Child Health Plan *Plus*, and Other Program Funds

	FY 07-08
Administration [a/]	$156,355,232
Services	$3,030,009,739
Services w/o "clawback", Medicare premiums, and Other Public Funds including Federal DSH [b/]	$2,815,965,138
Total (Admin and Services w/ exclusions)	$2,972,320,370
Admin percent of benefits (i.e. service w/o "clawback", Medicare premiums and Other Public programs including Federal DSH)	5.55%

a/ Includes an estimate of certain administrative expenses in the Medical Services Program, such as Managed Care administrative expenses, not explicitly accounted for in Senate Bill 07-239.
b/ The "clawback" includes program savings due to the Medicare prescription drug benefit which is credited against the state's federal matching payments.
Source: Senate Bill 07-239, supplemented with conversations with agency staff.

Projections by Service and Eligibility Categories

In order to estimate the distribution of Medicaid/CHP+ spending by the service categories necessary for the HBSM model, we first projected Medicaid/CHP+ funding to FY 2007-2008 for Medicaid Services Premiums (MSP) by service and eligibility categories (***Figure 9***). We used the available FY 2007-2008 projections from the February 15th Budget document in order to obtain control totals by type of service groupings (acute care, community based long term care services, long term care and insurance, and service management) and eligibility categories reported in the Budget.

The type of service subtotals appear directly in the Budget document (see Exhibit A, page EA-1, Feb 15th Budget). The per capita costs (see Exhibit C, page EC-1) multiplied by enrollment (see Exhibit B, page EB-1) are used to calculate control totals for each eligibility category. The totals were distributed within each cell based upon the distribution of funding from the half-year spending estimates also located in the February 15th Budget Request (see Exhibit F, page EF-11, Exhibit G, page EG-4, and Exhibit H, pages EH-21 through EH-23). We used an iterative interpolation technique in order to get the totals across cells to match our control totals for eligibility groups and services.

Our final estimates of MSP appropriations by the state budget definitions for eligibility category and type of service are displayed in ***Figure 10.*** The estimates shown are adjusted in order to match the total amount of MSP appropriations requested in Senate Bill 07-239, which contains a more recent estimate of Medicaid/CHP+ appropriations in comparison to the February 15th Budget document.

We then aggregated the services reported in the Budget to match the service definitions we use in the model (***Figure 11***). These are the service definitions as defined by CMS when generating their health account matrices. This involved several assumptions as many of the Budget line-

items overlapped with multiple CMS services. For instance, any funds appropriated for managed care or Administrative Service Only (ASO) payments were based upon fee-for-service (FFS) service distributions for relevant populations and non-carved-out services. Also, Medicaid payment for Medicare premiums were distributed based upon the distribution of estimated Colorado Medicare services across Part A and Part B services.

In addition, we distributed Child Health Plan *Plus* (CHP+) funding using the distribution of spending across services reported by JEN Associates (***Figure 11***). The JEN associates analysis was based upon CHP+ FFS and encounter data from FY 2000-2003.

We also distributed the remaining funding for other Medicaid programs into the appropriate CMS-based service categories. At this point we also made adjustments for the amounts to be excluded from Medicaid/CHP+ spending and recently passed legislation. Therefore, we were able to allocate all Medicaid/CHP+ spending into our service categories and compare the distribution to the CMS CY 2004 Medicaid/CHP+ estimates (***Figure 12***). These distributions will be used to estimate our FY 2007-2008 spending. Note that the distributions for all Medicaid/CHP+ funding were not broken out into eligibility categories.

Figure 10
Medical Services Premium Funding by Eligibility Category and Service FY 2007-2008

ACUTE CARE	Adults 65 and Older (OAP-A)	Disabled Adults 60 to 64 (OAP-B)	Disabled Individuals to 59 (AND/AB)	Categorically Eligible Low-Income Adults (AFDC-A) - includes Expansion Adults	Breast & Cervical Cancer Program	Eligible Children (AFDC-C/BC)	Foster Care	Baby Care Program-Adults	Non-Citizens	Partial Dual Eligibles	All Eligibles
Physician Services & EPSDT	2,715,001	5,195,607	31,756,184	31,456,293	-	59,459,407	6,958,044	9,284,598	6,792,723	3,256	153,621,112
Emergency Transportation	82,002	182,673	1,519,679	791,996	-	1,477,291	145,429	142,510	144,854	-	4,486,434
Non-emergency Medical Transportation	(8,126)	(1,746)	(5,204)	(549)	-	(808)	(329)	(35)	(3)	-	(16,801)
Dental Services	719,234	176,905	3,104,814	2,325,684	-	39,464,488	4,589,999	264,892	4,325	2	50,650,343
Family Planning	-	-	5,325	63,029	-	80,164	31,484	4,252	569	-	184,823
Health Maintenance Organizations	13,257,988	7,367,073	59,216,860	20,478,940	-	37,114,279	819,578	1,536,777	-	-	139,791,495
Inpatient Hospitals	13,526,759	11,959,269	78,557,650	49,129,398	-	70,681,915	5,770,718	20,311,423	47,228,209	-	297,165,340
Outpatient Hospitals	2,278,443	3,945,434	33,343,501	25,078,973	-	37,170,793	4,168,943	3,066,284	1,348,946	(2)	110,401,313
Lab & X-Ray	376,379	623,993	4,158,964	6,294,013	-	4,465,317	1,280,427	1,585,119	259,171	229	19,043,613
Durable Medical Equipment	20,407,610	3,566,987	34,681,648	1,660,829	-	4,877,521	3,758,893	105,390	9,287	36,513	69,104,679
Prescription Drugs	7,760,053	11,254,213	93,082,308	23,768,511	1,798	31,516,072	20,245,188	1,389,275	58,037	354	189,075,808
Drug Rebate (Recorded quarterly as an offset to expenditures)	(2,038,230)	(2,955,991)	(24,448,673)	(6,242,954)	(472)	(8,277,901)	(5,317,529)	(364,902)	(15,244)	(98)	(49,661,993)
Rural Health Centers	42,548	91,220	704,461	716,532	-	2,922,939	200,003	204,678	3,618	2	4,886,002
Federally Qualified Health Centers	644,859	580,250	4,637,027	8,521,249	-	37,555,690	1,604,824	3,139,580	1,818,362	-	58,501,842
Co-Insurance (Title XVIII-Medicare)	8,339,056	1,116,613	4,805,296	37,192	-	1,433	6,540	14,969	-	2,240,548	16,561,648
Breast and Cervical Cancer Treatment Program	-	-	-	-	6,731,498	-	-	-	-	-	6,731,498
Administrative Service Organizations - Services	2,193,922	1,359,750	10,239,638	4,977,949	-	9,567,150	1,460,580	1,208,385	-	-	31,007,374
Other Medical Services	-	-	-	-	-	-	-	-	-	-	-
Home Health	23,912,844	6,139,384	78,054,745	378,892	-	2,563,993	8,105,221	8,448	1,154	134,200	119,298,880
Presumptive Eligibility	-	-	-	-	-	-	-	1,476,577	-	-	1,476,577
Subtotal of Acute Care	**94,210,343**	**50,601,633**	**413,414,221**	**169,435,977**	**6,732,824**	**330,639,742**	**53,828,013**	**43,378,221**	**57,654,008**	**2,415,005**	**1,222,309,988**
COMMUNITY BASED LONG TERM CARE	**Adults 65 and Older (OAP-A)**	**Disabled Adults 60 to 64 (OAP-B)**	**Disabled Individuals to 59 (AND/AB)**	**Categorically Eligible Low-Income Adults (AFDC-A) - includes Expansion Adults**	**Breast & Cervical Cancer Program**	**Eligible Children (AFDC-C/BC)**	**Foster Care**	**Baby Care Program-Adults**	**Non-Citizens**	**Partial Dual Eligibles**	**All Eligibles**
Home and Community Based Services-Case Management	88,135,008	9,676,505	38,432,871	36,570	-	-	4,907	-	-	60,419	136,346,280
Home and Community Based Services-Mentally Ill	3,114,685	1,822,410	13,015,010	-	-	-	-	-	-	4,348	17,956,452
Home and Community Based Services-Children	-	-	867,336	-	-	541	-	-	-	-	867,877
Home and Community Based Services-People Living with AIDS	17,885	12,295	479,851	-	-	-	-	-	-	-	510,032
Consumer Directed Attendant Support	8,610,562	668,221	3,117,113	79	-	-	-	-	-	-	12,395,974
Private Duty Nursing	388,196	122,113	12,245,039	-	-	511,314	3,840,380	-	-	4,127	17,111,169
Hospice	27,159,928	2,132,484	5,544,276	31,227	-	116,363	-	-	-	9,842	34,994,120
Brain Injury	87,505	317,162	11,245,930	-	-	-	-	-	-	-	11,650,597
Subtotal of Community Based Long Term Care	**127,513,769**	**14,751,189**	**84,947,426**	**67,876**	**-**	**628,218**	**3,845,288**	**-**	**-**	**78,735**	**231,832,501**
LONG TERM CARE and INSURANCE	**Adults 65 and Older (OAP-A)**	**Disabled Adults 60 to 64 (OAP-B)**	**Disabled Individuals to 59 (AND/AB)**	**Categorically Eligible Low-Income Adults (AFDC-A) - includes Expansion Adults**	**Breast & Cervical Cancer Program**	**Eligible Children (AFDC-C/BC)**	**Foster Care**	**Baby Care Program-Adults**	**Non-Citizens**	**Partial Dual Eligibles**	**All Eligibles**
Class I Nursing Facilities	420,670,291	24,714,317	68,355,018	(1,522)	-	-	-	-	-	375,228	514,113,332
Class II Nursing Facilities	108,090	-	2,036,861	-	-	-	-	-	-	-	2,144,951
Program for All-Inclusive Care for the Elderly	42,617,338	3,200,852	1,875,818	-	-	-	-	-	-	-	47,694,008
Subtotal Long Term Care	**463,395,719**	**27,915,169**	**72,267,697**	**(1,522)**	**-**	**-**	**-**	**-**	**-**	**375,228**	**563,952,291**
Supplemental Medicare Insurance Benefit	47,653,353	2,638,224	23,162,136	108,070	-	-	-	-	-	14,459,858	88,021,641
Health Insurance Buy-In Program	307,053	25,421	210,301	37,713	-	81,442	13,937	17,402	10,372	4,622	708,263
Subtotal Insurance	**47,960,406**	**2,663,645**	**23,372,437**	**145,783**	**-**	**81,442**	**13,937**	**17,402**	**10,372**	**14,464,480**	**88,729,904**
Subtotal of Long Term Care and Insurance	**511,356,125**	**30,578,814**	**95,640,134**	**144,261**	**-**	**81,442**	**13,937**	**17,402**	**10,372**	**14,839,708**	**652,682,195**
SERVICE MANAGEMENT	**Adults 65 and Older (OAP-A)**	**Disabled Adults 60 to 64 (OAP-B)**	**Disabled Individuals to 59 (AND/AB)**	**Categorically Eligible Low-Income Adults (AFDC-A) - includes Expansion Adults**	**Breast & Cervical Cancer Program**	**Eligible Children (AFDC-C/BC)**	**Foster Care**	**Baby Care Program-Adults**	**Non-Citizens**	**Partial Dual Eligibles**	**All Eligibles**
Single Entry Points	14,620,630	875,610	2,204,813	(262)	-	58	-	-	-	11,975	17,712,824
Disease Management	41,260	13,704	115,460	39,148	717	78,245	12,861	9,416	-	-	310,811
Administrative Service Organization Administrative Fee	561,372	116,457	899,801	462,855	-	2,825,360	200,142	80,539	-	-	5,146,525
Subtotal of Service Management	**15,223,261**	**1,005,772**	**3,220,073**	**501,742**	**717**	**2,903,663**	**213,003**	**89,955**	**-**	**11,975**	**23,170,161**
Estimated FY 07-08 COFRS Total	**748,303,498**	**96,937,408**	**597,221,854**	**170,149,856**	**6,733,542**	**334,253,065**	**57,900,240**	**43,485,578**	**57,664,380**	**17,345,423**	**2,129,994,845**

Source: Lewin Estimates based on data in the February 15th Budget and Senate Bill 07-239.

Figure 11
Medical Services Premiums Funding by Eligibility Category and CMS Service Definitions

Service	Adults 65 and Older (OAP-A)	Disabled Adults 60 to 64 (OAP-B)	Disabled Individuals to 59 (AND/AB)	Categorically Eligible Low-Income Adults (AFDC-A) - includes Expansion Adults	Breast & Cervical Cancer Program	Eligible Children (AFDC-C/BC)	Foster Care	Baby Care Program-Adults	Non-Citizens	Partial Dual Eligibles	All Eligibles
Hospital	49,505,237	20,222,927	146,690,414	87,564,795	6,731,498	127,650,930	10,364,502	25,004,802	48,585,894	9,111,614	531,432,613
Physician	17,978,488	8,190,664	55,595,919	55,504,862	0	123,630,391	10,505,400	16,741,687	8,876,039	4,738,783	301,762,234
Dental	721,818	180,163	3,175,621	2,405,774	0	40,777,803	4,710,587	273,051	4,325	2	52,249,146
Other Professional	1,641,909	300,922	2,618,530	937,709	0	1,748,008	151,645	152,429	144,880	522,670	8,218,701
Home Health	50,611,763	9,128,717	111,768,030	482,480	0	3,742,617	12,456,181	9,036	1,154	1,213,761	189,413,738
Prescription Drugs	5,943,386	9,400,201	79,941,720	20,661,275	1,326	27,496,626	15,565,697	1,095,670	42,801	295	160,148,997
Medical Durables	22,296,711	4,107,019	40,994,719	1,960,817	0	5,771,339	3,919,556	112,725	9,289	410,909	79,583,085
Nursing Home	483,834,241	31,772,845	85,534,239	4,626	0	0	0	0	0	1,268,860	602,414,811
Other Personal Care	99,965,645	12,496,593	67,158,111	36,649	0	541	4,907	0	0	64,766	179,727,213
Admin	15,804,301	1,137,357	3,744,551	590,867	717	3,434,810	221,764	96,178	-3	13,764	25,044,308
Total	748,303,498	96,937,408	597,221,854	170,149,856	6,733,542	334,253,065	57,900,240	43,485,578	57,664,380	17,345,423	2,129,994,845

Source: Lewin Estimates based on data in the February 15th Budget and Senate Bill 07-239.

Figure 12
DHCPF Funding by CMS Service Definitions for MSP, CHP+ and Other Programs [a/]

	Spending Amounts				Percent Distribution				
Service	**MSP**	**CHP+**	**Other Programs**	**All Funding**	**MSP**	**CHP+**	**Other Programs**	**All Funding**	**CMS 2004**
Hospital	$523,667,680	$26,540,250	$285,808,415	$836,016,346	24.95%	25.90%	34.50%	28.13%	34.44%
Physician	$234,713,062	$38,566,433	$22,589,325	$295,868,819	14.17	37.64	2.73	9.95	15.54
Dental	$52,249,146	$7,104,840	$0	$59,353,986	2.45	6.93	0.00	2.00	2.02
Other Professional	$1,174,154	$1,230,079	$3,118,999	$5,523,232	0.39	1.20	0.38	0.19	0.00
Home Health	$183,488,993	$2,633,692	$0	$186,122,685	8.89	2.57	0.00	6.26	4.72
Prescription Drugs	$160,148,997	$16,793,667	$4,816,597	$181,759,261	7.52	16.39	0.58	6.12	10.94
Medical Durables	$79,583,085	$4,061,311	$0	$83,644,395	3.74	3.96	0.00	2.81	0.00
Nursing Home	$601,679,829	$0	$0	$601,679,829	28.28	0.00	0.00	20.24	14.57
Other Personal Care	$179,727,213	$381	$386,270,895	$565,998,488	8.44	0.00	46.63	19.04	17.76
Admin	$25,044,308	$5,535,590	$125,773,430	$156,353,328	1.18	5.40	15.18	5.26	
Total	$2,041,476,466	$102,466,243	$828,377,661	$2,972,320,370	100.0%	100.0%	100.0%	100.0%	100.0%

a/ We include Mental Health Community Programs, certain Indigent Care Programs, and programs for Other Medical Services in the "Other" category. Note that adjustments for double-counts (e.g. Medicare premiums and "clawback" funds), recent legislation and exclusions (e.g. Other Public funds and Federal DSH funds) are taken into account in these estimates.
Source: Lewin Estimates based on data in the February 15th Budget and Senate Bill 07-239.

E. Other Public and Safety Net Programs

There are several public programs or funding sources that are not accounted for by Medicare, Medicaid/CHP+ and our other funding categories such as TRICARE. Many of these other public programs act as "safety net" programs for residents of Colorado. Most of the funding for these programs is financed through various Colorado State Departments.

1. Department of Human Services

Total funding appropriated for direct health care services by the Department of Human Services (DHS) is $688.0 million (see ***Figure 13***). DHS funds the following "health" and related services: mental health services[11], substance abuse treatment services, community supports and long term care services for people with developmental and other disabilities, and certain prevention and health education programs.

[11] Note that the mental health programs under DHS are separate from the Medicaid Mental Health Community programs.

Figure 13
Department of Human Services – Senate Bill 07-239 for FY 2007-2008

Program Name	Totals excluding double-count	ITEM & SUBTOTAL	TOTAL GENERAL FUND (GF)	GENERAL FUND EXEMPT (GFE)	CASH FUNDS (CF)	CASH FUNDS EXEMPT (CFE)	FEDERAL FUNDS (FF)
ADMINISTRATIVE EXPENSES							
Executive Director's Office, Health Life and Dental (excluding estimate of HCPF/Medicaid dollars)[b]	14,070,881	18,761,175					
8 (A) Mental Health and Drug Abuse Services Administration (p. 92 pers & Op service only)[a]	1,348,105	1,761,336	747,893			413,231	600,212
8 (D) Alcohol and Drug Abuse Division (p. 94) (excludes $54,088 from CFE from Medicaid)[a]	2,896,922	2,951,010	91,746		52,873	540,051	2,266,340
(9) (A) (1) (a) Services for People with Disabilities Administration (p. 96)[a]	305,365	2,887,723	305,365			2,582,358	
TOTAL ADMINISTRATIVE EXPENSES	**18,621,273**	**26,361,244**	**1,145,004**	**-**	**52,873**	**3,535,640**	**2,866,552**
TREATMENT EXPENSES							
(8) (B) Mental Health Community Programs (p. 93) (exlcudes 117,464 from CFE from Medicaid)[a]	44,535,202	44,652,666	37,465,205			1,204,253	5,983,208
(8) (C)Mental Health Institutes (exlcudes Medicaid and patrient revenue CFE)[a]	81,449,095	93,726,790	72,774,413		4,844,403	16,107,974	
(8) (D) (2) Community Programs (a) Treatment Services (p. 95)	26,184,617	27,183,334	13,242,247		1,336,834	1,889,423	10,714,830
Preventative Dental Hygiene	63,386	63,386	59,725			3,661	
TOTAL TREATMENT EXPENSES	**152,232,300**	**165,626,176**	**123,541,590**	**-**	**6,181,237**	**19,205,311**	**16,698,038**
PREVENTION/HEALTH EDUCATION EXPENSES							
(8) (D) (2) Community Programs (b) Prevention and Intervention (pp. 95-96)	16,611,586	16,611,586	220,788		867,532	343,715	15,179,551
(9)(A)(1) (C) Federal Special Education Grants for Infants, Toddlers and Their Families	6,906,966	6,906,966					6,906,966
TOTAL PREVENTION/HEALTH ED EXPENSES	**23,518,552**	**23,518,552**	**220,788**	**-**	**867,532**	**343,715**	**22,086,517**
COMMUNITY SUPPORT/LTC SERVICES							
(9) (A) (1) (b) Services for People with Disabilities Program Costs (excludes Medicaid Funds[a]	66,833,368	348,625,078	30,747,830			317,877,248	
Federally -matched Local DD Program Costs (excludes Medicaid Funds)[a]	-	3,641,910				3,641,910	
(9)(A)(2) Regional Centers (excludes Medicaid Funds)[a]	2,880,466	44,938,497	244,460		2,636,006	42,058,031	
(9)(C) Homelake Domiciliary and State and Veterans Nursing Homes (exclude info purpose only amount)[a]	10,956,476	46,971,651	916,440			36,015,175	10,040,036
10(C)Aid to the Needy Disabled Programs	17,428,495	17,428,495	11,421,471			6,007,024	
10(C)Home Care Allowance	10,880,411	10,880,411	10,336,390			544,021	
TOTAL COMMUNITY SUPPORT/LTC EXPENSES	**108,979,216**	**472,486,042**	**53,666,591**	**-**	**2,636,006**	**406,143,409**	**10,040,036**
GRAND TOTAL	**303,351,341**	**687,992,014**	**178,573,973**	**-**	**9,737,648**	**429,228,075**	**51,691,143**

a/ Cash Funds Exempt funds are accounted for elsewhere, such as the Medicaid/CHP+ budget.
b/ These funds are accounted for elsewhere, such as the Medicaid/CHP+ budget.
Source: Senate Bill 07-239.

After removing funding that is already accounted for elsewhere, such as the Medicaid/CHP+ budget, $303.4 million is left as DHS funding for direct health care services, which will be counted as other public spending. Administrative expenses amount to $18.6 million of that total.

Department of Public Health and Environment

The Department of Public Health and Environment (DPHE) funds several programs involved in the provision of direct health care services, including the Ryan White program. In ***Figure 14,*** we list the programs and funding associated with the DPHE.

Figure 14
Department of Public Health and Environment –
Senate Bill 07-239 for FY 2007-2008

Program Name	Totals excluding double count	ITEM & SUBTOTAL	TOTAL GENERAL FUND (GF)	CASH FUNDS (CF)	CASH FUNDS EXEMPT (CFE)	FEDERAL FUNDS (FF)
(2) (B) (9) (B) (3) Ryan White Act						
Personal Services	317,686	317,686	26,303			291,383
Operating Expenses[b]	9,329,404	12,207,165	1,357,404		2,877,761	7,972,000
TOTAL Ryan White		**12,524,851**	**1,383,707**	**-**	**2,877,761**	**8,263,383**
(2) (B) (10) Prevention Services Division (pp 196-200)						
(2) (B) (10) (A) Prevention Program						
(2) (B) (10) (A) (1) Programs and Administration						
Prevention, Early Detection, and Treatment Fund Expenditures[b]	-	41,671,200			41,671,200	
Prevention, Early Detection, and treatment Grants[a,b]	2,000,000	35,982,588			35,982,588	
Indirect Cost Assessment	988,999	1,007,459			18,460	988,999
(2) (B) (10) (A) (3) Chronic Disease and Cancer Prevention Grants	5,643,152	5,643,152				5,643,152
(2) (B) (10) (B) Women's Health- Family Planning						
Personal Services[b]	1,095,285	1,274,727	424,655		179,442	670,630
Operating Expenses	3,355	3,355	3,355			
Purchase of Services[b]	3,408,709	3,434,214	1,229,003		25,505	2,179,706
Breast and Cervical Cancer Screening	7,286,960	7,286,960			3,660,960	3,626,000
(2) (B) (10) (C) Rural- Primary Care						
Dental Programs[b,c]	570,935	1,108,918	570,935		200,000	337,983
(2) (B) (10) (E) (2) Child, Adolescent, and School Health						
School-based Health Centers	499,810	499,810	499,810			
Federal Grants	533,000	533,000				533,000
TOTAL PREVENTION (mostly MCH)		**98,445,383**	**2,727,758**	**-**	**81,738,155**	**13,979,470**
(2) Center for Health and Environmental Information						
(2) (B) Information Technology Services						
(2) (B) (4) Local Health Services						
(2) (B) (4) (A) Local Liaison (p. 184)						
Public Health Nurses in areas not served by local health departments	962,731	962,731	962,731			
Specialists in areas not served by local health departments	242,358	242,358	242,358			
Local, District and Regional Health Department Distributions pursuant to Section 25-1-516, C.R.S.	5,000,000	5,000,000	5,000,000			
TOTAL Local Liason		**6,205,089**	**6,205,089**			
(2) (B) (4) (B) Community Nursing (p. 184-185)						
Personal Services[c]	236,381	458,659	236,381			222,278
Operating Expenses	16,705	16,705	16,705			
TOTAL Community Nursing		**475,364**	**253,086**	**-**	**-**	**222,278**
(2) (B) (11) (C) (3) Emergency Medical Services Grant Program	1,928,793	1,928,793			1,928,793	
Total - All Programs	40,064,263					

a/ Based upon conversations with CDPHE Chief Fiscal and Policy Officer, we assume that only $2 million is used for direct health care services.
b/ Cash Funds Exempt funds are accounted for elsewhere, such as the Medicaid/CHP+ budget or another line item within the DPHE section of Senate Bill 07-239.
c/ Federal Funds Exempt funds are accounted for elsewhere, such as the Medicaid/CHP+ budget or another line item within the DPHE section of Senate Bill 07-239.
Source: Senate Bill 07-239.

Total DPHE funding for programs involved in the direct provision of health care services amounts to $40.0 million after excluded funds accounted for elsewhere.

Safety Net Programs

There are many safety net programs that are not administered by State Departments, but may receive public funding. We are primarily interested in the Other Public (i.e. public funds excluding Medicare, DHCPF, DHS, DPHE, workers compensation, and TRICARE/CHAPMPUS funding). ***Figure 15*** lists the safety net programs in Colorado for which we were able to obtain revenue estimates that are used to subsidize care for Colorado residents. It includes data for the four largest clinics in the state of Colorado (Marillac, Doctors Care, Clinica Tepeyac, and Inner City Health). We obtained financial data from each of the four clinics. Most of the data was for

FY 2006. We projected the revenue estimates to FY 2007-2008 based on the average annual growth rates of spending for physician services.

Figure 15
Other Public Safety Net Spending: FY 2007-2008

	Other Public Spending
Federally Qualified Health Centers (All – including Denver Health)	$60,346,698
Private Clinics	
Marillac	$870,742
Doctors Care	$0
Clinica Tepeyac	$154,150
Inner City Health Clinic	$898,037
Family Practice Residency Programs	$9,781,576
Rural Health Centers	$6,542,055
Total	$78,593,257

Source: Lewin Estimates based on clinic financial reports, UDS and CMS-64 data.

Data for the Federally Qualified Health Centers (FQHCs) were obtained from the Unified Data System (UDS) from the Colorado Community Health Network for 2005. We estimated rural health center (RHC) funding by applying the ratio of FQHC other public funding to Medicaid funding to RHC Medicaid funding. The Medicaid funding estimates were derived from the CMS-64 form for 2005.

Summary of Other Public

Figure 16 summarizes the funding from other public sources. DHS funding comprises the vast majority of Other Public spending.

Note that Other Public also includes funding from DHCPF as well. These are the programs aimed at care for the non-Medicaid low-income and non-Medicaid elderly populations (i.e. the Primary Care Fund, Comprehensive Primary and Preventative Care funds and Old Age Pension State Medical Program funds). This also includes $16.0 million for School Health Services that are channeled to the providers from school district tax money.

Figure 16
Summary of Other Public Spending

	Services	Administration	Admin Percentage
DPHE	$40,064,263		
DHS	$284,730,068	$18,621,273	6.5%
Clinic/Safety Net Funding	$78,593,257		
Federal Medicaid DSH	$87,127,600		
School Health Services	$16,007,021		
DHCPF	$48,806,401		
Total	**$555,328,610**	**$18,621,273**	**3.4%**

Source: Summary of Lewin estimates.

Workers Compensation

The main source for medical benefits paid under workers compensation insurance is the National Academy of Social Insurance (NASI). This is the same source used by CMS for their workers compensation estimates. NASI estimates medical benefits for Colorado to be $406.9 million (excluding Administration costs) in 2004. These funds included spending from private carriers, State funds, and self-insured funds. It should be noted that in FY 2007-2008, the State fund no longer exists and has been replaced by a private carrier, Pinnacol Assurance, but still remains the largest source of coverage.

We project the 2004 figure to FY 2007-2008 using CMS national projections. Workers compensation estimates are included in the CMS estimates of historical health spending; however, workers compensation spending is aggregated with other sources in the "other state and local" category under their health accounting framework for their projection estimates. Therefore, we use other state and local projections by type of service and assume that the portion of other state and local spending attributable to workers compensation remains constant from the last year of available historical data through 2007. This provides us with a growth rate from 2004 through FY 2007-2008 and a service distribution estimate of worker's compensation in FY 2007-2008 at the national level. We assume that the national growth of total workers compensation spending, as well as its service distribution is similar to that experienced in Colorado (see ***Figure 17***).

Figure 17
Projected Colorado Workers Compensation Spending by Type of Service FY 2007-2008

	Spending
Hospital Services	$124,740,540
Physician Services	$250,723,863
Other Prof Services	$63,650,949
Prescription Drugs	$39,288,239
Durables	$6,035,099
Administration	$229,638,307
Total	$714,076,997

Source: Lewin estimates based on data from National Academy of Social Insurance.

Through discussions with the Director of the Colorado Division of Workers Compensation, we expected medical benefits to amount to approximately $500 million in CY 2007. Our estimate is $484 million for FY 2007-2008.

F. Employer Sponsored Insurance

This category of spending includes expenditure for health services for workers and dependents, including both private and public employers. There is no one source that provides us with information on employer health spending. Therefore, we need to piece together data from multiple sources. In this section, we present our estimates separately for private, state and local and federal employees.

Figure 18summarizes our estimates of spending for employer-sponsored insurance. These amounts include both the employer and the employee shares of the premium, which includes both benefits costs and insurer administrative costs. We estimate that total premiums will be $13.2 billion in FY 2007-2008.

Figure 18
Total Premium and or Revenue Amounts for Employer-Sponsored Insurance FY 2007-2008

	Total Premiums			
Employer Type	**Total**	**Private**	**State and Local**	**Federal**
Group - workers	$11,928,642,727	$9,930,317,974	$1,532,143,580	$466,181,172
Retirees	$1,287,232,744	$772,549,516	$263,072,019	$251,611,208
All Enrollees	$13,215,875,471	$10,702,867,491	$1,795,215,600	$717,792,380

Source: Summary of Lewin estimates

In this section, we explain how we developed estimates of employer health spending for active workers and their dependents. Our estimates of employer spending for retiree benefits are presented below in a separate section.

Private Workers

We obtain data for private sector employer sponsored insurance premiums by firm size from the Medical Expenditure Panel Survey-Insurance Component (MEPS-IC). ***Figure 19*** displays average premiums and employee and employer contributions by firm size and individual/family coverage. Also shown are the 2007 projections of the number of covered workers using data from the Current Population Survey (CPS) administered by the US Census Bureau. We multiply the average premiums and number of insured workers by firm size and individual/family coverage status in order to calculate a 2004 total premium amount. We then grow the 2004 amount by the CMS projected trend in private insurance growth in order to obtain FY 2007-2008 employer sponsored insurance funding for workers.[12]

[12] Note that we apply the same adjustment as we did for total health spending to account for the relative difference in Colorado and US average annual growth in health care spending.

Figure 19
Private Sector 2004 MEPS-IC and CPS Data [a/]

	Total Premium (MEPS)	Employee Contribution (MEPS)	Employer Contribution	2007 Estimated Number of Insured Workers CPS	Total 2004 Employer Premiums ($1,000s)	Est. FY2007-08 Spending ($1,000s)
Individual Coverage						
Under 10	$4,118	$649	$3,469	91,587	$377,155	$469,286
10-24	$3,664	$580	$3,084	62,352	$228,458	$284,265
25-99	$3,837	$814	$3,023	80,248	$307,912	$383,128
100-999	$3,772	$644	$3,128	102,364	$386,117	$480,437
1000 or more	$3,537	$682	$2,855	214,303	$757,990	$943,151
Total	**$3,684**	**$677**	**$3,007**	**550,854**	**$2,057,631**	**$2,560,267**
Family Coverage						
Under 10	$10,586	$2,459	$8,127	86,156	$912,047	$1,134,841
10-24	$9,238	$2,972	$6,266	56,218	$519,342	$646,206
25-99	$9,399	$3,488	$5,911	78,835	$740,970	$921,974
100-999	$11,210	$3,094	$8,116	116,114	$1,301,638	$1,619,601
1000 or more	$10,085	$2,542	$7,543	242,851	$2,449,152	$3,047,429
Total	**$10,228**	**$2,768**	**$7,460**	**580,174**	**$5,923,150**	**$7,370,051**
Total				**1,131,028**	**$7,980,781**	**$9,930,318**

a/ The MEPS data contains information on employees enrolled in both fully insured and self-funded plans.
Source: Lewin Group estimates based upon the Colorado sub-sample of the Insurance Component of the Medical Expenditures Panel Survey (MEPS) data.

We also note that according to the MEPS data, approximately two-fifths of covered workers were enrolled in fully-insured purchased plans, whereas as three-fifths were enrolled in self-insured (i.e. ERISA) plans.

State and Local Workers

We were able to obtain data on health insurance premiums and enrollment for a large portion of State employees in Colorado through the Department of Personnel & Administration, Division of Human Resources (***Figure 20***). This data is not inclusive of all State employees, as it only includes "state classified" employees. It is possible that employees of State universities and local education systems do not participate in the state employee health program. Instead, there is some other arrangement. For example, in some cases, state schools can band together and offer their own health insurance package. In this case, the DPA really has no control in the design of the health benefit package, and State monies are not explicitly allocated for the employer portion of the premium. However, some State dollars may indirectly (through general school grants) be used to subsidize health insurance coverage for these "non-classified" state employees.

Figure 20
Enrollment and Premium Data for Colorado State Employees
Administered by the Department of Personnel & Administration

	Enrollment as of April 1, 2007	Total Premiums	State Contribution	Employee Share	Percent Paid by State	Percent Paid by Employees
Medical						
Self-funded Plans	15,786	$106,585,238	$78,685,570	$27,899,668	73.8%	26.2%
Fully-funded Plans	10,641	$78,232,752	$50,844,273	$27,388,479	65.0%	35.0%
Total	26,427	$184,817,990	$129,529,844	$55,288,147	70.1%	29.9%
Dental						
Self-Funded	28,578	$16,849,008	$8,863,308	$7,985,700	52.6%	47.4%
Medical and Dental		$201,666,999	$138,393,152	$63,273,847	68.6%	31.4%

Source: Department of Personnel & Administration, Division of Human Resources.

Because we are not able to obtain administrative data for all employees for the State, we used an estimate of spending for State and Local government employees developed by the Agency for HealthCare Research and Quality (AHRQ). AHRQ developed an estimate of government employee health insurance data using the Medical Expenditure Panel Survey Insurance Component (MEPS-IC). The MEPS data is for State and Local government employees combined. This data should include information on all employees for state and local employers (***Figure 21***).

Figure 21
MEPS 2004 State and Local Employee data for Colorado

	Total Premium Costs	Employer Contribution	Employee Contribution	Total Covered Workers
Colorado	$1,011,125,629	$737,779,509	$273,346,120	156,041

a/ This data includes information on both State and Local government employees.
Source: Unpublished data provided by the US Agency for Healthcare Quality and research (AHRQ) based upon the Colorado sub-sample of the Insurance Component of the Medical Expenditures Panel Survey (MEPS) data.

In order to estimate FY 2007-2008, we use the 2004 MEPS per capita premium estimates projected to FY 2007-2008, using the CMS private insurance per enrollee projections, multiplied by the estimate of the number of state and local enrollees based on the CPS (***Figure 22***).

Figure 22
FY 2007-2008 State and Local Employee Estimates for Colorado

	Average Premium From MEPS	Average Employer Contribution	Average Employee Contribution	Total Covered Workers (2007 - CPS)	Total Premiums
FY 2007-2008	$8,063	$5,883	$2,180	190,027	$1,532,143,580

Source: Lewin Group projections based upon health spending for state and local government workers reported in the 2004 MEPS data.

Federal Workers

Figure 23 displays our estimates of premiums for Federal employees working in the state of Colorado. We use the projected average premium amounts for State and local employees and multiply that figure by the estimated number of Federal enrollees based on the CPS.

Figure 23
FY 2007-2008 Federal Employee Estimates for Colorado

	Average Premium From MEPS	Average Employer Contribution	Average Employee Contribution	Total Covered Workers (2007 - CPS)	Total Premiums
FY 2007-2008	$8,063	$5,883	$2,180	57,819	$466,181,172

Source: Lewin Group Estimates.

Comparisons with MSEC data

We reviewed the premium estimates from the Mountain States Employer Council (MSEC) Health and Welfare Plans Surveys data and found it to be reasonably close to the MEPS premium estimates. The 2004 estimates for single coverage were $3,684 using MEPS versus $3,737 using MSEC data. The comparable family coverage estimates were $10,228 versus $10,854, respectively.

We projected the MEPS data to calendar year 2007 using the national trend in private health insurance growth, as described above. Using this approach, the single and family premium estimates for 2007 are $4,387 and $12,180. The 2007 MSEC estimates are fairly comparable at $4,401 and $12,897.

Given that the MSEC data is a sample of private and public employers and may over-sample small employers, we would expect some discrepancy in the premium estimates. In this case, the MEPS estimates are only based upon private employers.

G. Employer Sponsored Retiree Coverage

This group includes coverage provided under employer-sponsored health plans for both government and privately insured retirees. This includes full coverage for non-Medicare eligible retirees (i.e., early retirees). It also includes supplemental coverage for retirees enrolled in Medicare, which covers Medicare co-payments and services not covered under Medicare.

Private Retirees

The Agency for HealthCare Research and Quality (AHRQ) estimated private sector retiree premiums and enrollments for the state of Colorado in 2004 using the MEPS-IC (***Figure 24***).

Figure 24
Private Sector Retiree 2004 MEPS-IC Premium and Enrollment Data

	Covered Workers	Total Premiums	Employer Contributions
Colorado			
Single Retirees Under 65	11,148	$52,173,245	$25,027,660
Single Retirees 65 and Over	29,593	$69,119,579	$37,359,622
Married Retirees Under 65	28,387	$278,340,383	$118,037,410
Married Retirees 65 and Over	43,717	$221,248,072	$100,396,901
Total	**112,845**	**$620,881,279**	**$280,821,593**
United States			
Single Retirees Under 65	1,017,421	$4,721,135,499	$2,674,518,655
Single Retirees 65 and Over	1,858,178	$5,517,746,088	$3,387,160,743
Married Retirees Under 65	1,562,288	$15,825,101,911	$8,458,937,377
Married Retirees 65 and Over	1,698,844	$11,208,571,116	$6,335,803,746
Total	**6,136,731**	**$37,272,554,614**	**$20,856,420,521**

Source: Agency for Healthcare Research and Quality, U.S. Department of Health and Human Services, using 2004 data from the Medical Expenditure Panel Survey Insurance Component (MEPS-IC) and US Census Bureau.

We project premiums to FY 2007-2008 using the national growth rate in private health insurance costs. Total premiums for FY 2007-2008 amount to $772.5 million.

State and Local Retirees

The Agency for HealthCare Research and Quality (AHRQ) also estimated state and local sector retiree premiums and enrollments for the state of Colorado in 2004 using the MEPS-IC (***Figure 25***).

Figure 25
State and Local Retiree 2004 MEPS-IC Premium and Enrollment Data [a/]

	Covered Retirees	Total Premiums	Employer Contributions
Colorado			
Single Retirees Under 65	3,761	$17,664,428	$7,205,258
Single Retirees 65 and Over	3,079	$7,351,146	$4,026,778
Married Retirees Under 65	1,918	$21,986,348	$5,552,931
Married Retirees 65 and Over	1,219	$7,456,857	$1,644,117
Total	**9,977**	**$54,458,779**	**$18,429,084**
United States			
Single Retirees Under 65	593,409	$2,767,879,468	$1,829,989,909
Single Retirees 65 and Over	1,029,597	$3,600,950,998	$2,686,699,410
Married Retirees Under 65	577,795	$6,199,638,142	$4,159,921,344
Married Retirees 65 and Over	608,981	$5,059,099,717	$3,546,529,570
Total	**2,809,782**	**$17,627,568,325**	**$12,223,140,233**

a/ MEPS government retiree estimates do not include State employees.
Source: Agency for Healthcare Research and Quality, U.S. Department of Health and Human Services, using 2004 data from the Medical Expenditure Panel Survey Insurance Component (MEPS-IC) and US Census Bureau.

We also have CY 2006 data for state and local retirees from the Colorado Public Employee's Retirement Association, PERA (***Figure 26***). The number of covered retirees as of March 2007 is 42,486. There is a fairly large difference in the amount of retirees enrolled in the PERA program and the number reported in MEPS. The MEPS data only covers Local employees. State employers are not given the retiree survey. It should be noted that there are other public retiree programs for certain employees in the city of Denver.

Figure 26
State and Local Retiree 2006 PERA data

	Total Premiums	Employer share/Subsidy	Employee Share
CY 2006	$237,275,977	$81,498,564	$155,777,413
FY 2007-2008	$263,072,019	$90,358,881	$172,713,138

Source: Lewin estimates based upon PERA data

We use the PERA data for our estimates. The FY 2007-2008 estimates are also projected using the growth in national private health insurance spending. Using this approach, we estimate State and Local retiree premiums are estimated to be $263.1 million in FY 2007-2008.

Federal Retirees

In order to estimate premiums for retirees from federal employers, we use the average premium per State and Local retiree as described above and multiplied that amount by the estimate of the number of Federal retirees in Colorado using the CPS data. This amounts to an estimated $251.6 million in retiree premiums for Federal workers for FY 2007-2008.

H. Individually Purchased Non—Group Insurance

In this analysis, we define the non-group market to include the state's high risk pool, people purchasing individual coverage from insurers and the Medicare Supplemental insurance market.

1 High Risk Group – CoverColorado

Leif Associates, Inc. performs projected enrollment, revenues and expenses for the CoverColorado Board of Directors. Their latest projections are shown below (see ***Figure 27***). Medical benefits are projected to reach slightly over $63 million in FY 2007-2008, while administration expenses amount to $4.0 million.

Figure 27
CoverColorado Enrollment, Revenues and Expenses

	CY 2007	FY 07-08
Enrollees	6,262	7,038
Revenue		
Beginning Balance	$40,245,063	$33,454,440
Interest	$1,645,743	$1,344,043
Premium Earned	$24,654,743	$28,666,506
Revenue from Unclaimed Property Fund	$11,922,938	$20,042,473
Carrier Assessments	$0	$0
Other Funding/Grants	$6,790,056	$6,998,531
Total	**$78,468,487**	**$83,507,462**
Expenses		
Medical	$52,912,287	$63,079,458
Admin	$3,088,704	$4,045,817
Total	**$56,000,991**	**$67,125,275**

Source: Leif Associates, Inc. projections of enrollment, revenues and expenses developed for the CoverColorado Board of Directors.

2. Individual Market

We use data on health care insurance plans from the Colorado Insurance Industry Statistical Report (see ***Figure 28***) in order to estimate premiums and benefits for the individual insurance market. Assuming losses incurred is a proxy for medical benefits and extrapolating to FY 2007-2008 using the CMS projection of the national trend in private insurance growth leads to an estimated amount of $610.8 million in health care services funded by individual market health plans.

Figure 28
Individual Market Premiums and Benefits

	Premiums Earned	Losses Incurred
CY 2005[1]	$799,605,000	$525,592,000
FY 2007-2008	$929,223,291	$610,791,988

Source: Colorado Department of Regulatory Agencies, Division of Insurance. *Colorado Insurance Industry Statistical Report* (as of December 31, 2005).

Medicare Supplemental Insurance Market

Similarly to the individual market, we use data from the Colorado Insurance Industry Statistical Report (see ***Figure 29***) in order to estimate premiums and benefits for the Medicare supplemental insurance market. We estimate an amount of $147.8 million in health care services funded by Medicare supplemental insurance plans.

Figure 29
Medicare Supplemental Insurance

	Premiums Earned	Losses Incurred
CY 2005[1]	$165,141,000	$127,219,000
FY 2007-2008	$191,910,835	$147,841,569

[1]Source: Colorado Department of Regulatory Agencies, Division of Insurance. *Colorado Insurance Industry Statistical Report* (as of December 31, 2005).

I. Household Out-of-Pocket, Other Private and CHAMPUS/TRICARE

Independent estimates of health spending in Colorado are not available for household out-of-pocket spending, spending for military personnel, veterans, CHAMP/VA, TRICARE, and other private spending. As mentioned earlier, other private spending includes philanthropic funds. We estimated these amounts by taking the difference between total spending and the spending amounts estimated for the various payer sources above, and allocating this residual amount to these various sources based upon the distribution of such spending as reported in the Medical Expenditures Panel Survey (MEPS) data.

For these allocations, we estimated the distribution of health spending by type of service and source of payment using the MEPS household survey data. We controlled our estimates for these sources of funds to the control total of aggregate personal health care spending by type of service described above (i.e. $27.8 billion) less the amounts from the other sources of funds. We assumed the remainder of spending for personal health care services in Colorado was distributed by source of payment and type of service as shown in the HBSM/MEPS data after it is adjusted to reflect CPS population data. This provided us with estimates of spending for: household out-of-pocket expenditures, other private and TRICARE/CHAMPUS.

We estimate spending for these three sources of funding in FY 2007-2008 to be approximately $5.6 billion. This includes $4.2 billion in household out-of-pocket spending, $720 million in TRICARE/CHAMPUS spending and $713 million in other private health spending. These figures exclude administrative spending, which will be discussed in more detail below.

J. Program administration and the Net Cost of Providing Insurance

Insurance plans and government health benefits programs incur costs for administering coverage. For private insurers, estimates of overall administrative costs can be derived from data reported by the Department of Insurance for those who obtain coverage through a fully-insured plan (i.e., the insurer is at-risk for claims). Data for self-funded plans can be estimated from other sources. In addition, the various government programs can generally provide information on their cost of administration, including eligibility determinations for income-tested programs. In this section, we explain how we estimated administrative costs for public programs and private insurers.

1. Private Insurance

CMS estimates administrative costs for private insurance as the differences between benefits incurred and premiums earned. This typically includes claims administration, general administration, agent and broker commissions and insurer profits. It also includes premium taxes, net investment income, net realized capitol gains, reinsurance recoveries and net income. ***Figure 30*** displays estimates of the net-cost ratio for various insurance markets. The net cost ratio is calculated as the difference between premiums earned and losses incurred as a proportion of premiums earned.

Insurer administrative costs vary widely with the size of the group purchasing insurance. For example, according to a report published by the Colorado Department of Regulatory Agencies, Division of Insurance, Colorado individual accident and health insurers have administrative and other costs equal to approximately 34 percent of benefit payments (see ***Figure 30***). By contrast, the equivalent figure for group accident and health insurers is 15 percent of earned premiums.

Figure 30
Estimates of the Net Cost of Insurance: CY 2005

	Premiums Earned	Losses Incurred	Net Cost ratio
Workers Compensation	$901,008,000	$611,255,000	0.32
Health Insurance	5,297,472,000	4,328,196,000	0.18
Medicare Supplemental	165,141,000	127,219,000	0.23
Group	4,332,726,000	3,675,385,000	0.15
Individual	799,605,000	525,592,000	0.34

Source: Colorado Department of Regulatory Agencies, Division of Insurance. Colorado Insurance Industry Statistical Report (as of December 31, 2005).

These net cost ratios shown in ***Figure 30*** were used to estimate the amount of administration expenses for the various insurance markets. Further assumptions were made based on national studies on the administration for self-funded plans and retiree plans.

2. Government Program Administration

Administrative costs for government programs have increased in recent years. Public program administrative costs as a percentage of benefit payments are projected by CMS to increase from 5.2 percent in 1998 to 6.5 percent in 2007. Much of this growth in program administrative costs reflects rapid growth in the number of Medicaid/CHP+ beneficiaries and recent expansions in eligibility for children under the SCHIP programs, as well as the expansion of coverage under Medicare.

Estimates for the costs of administering the Medicaid/CHP+ and other public programs are available through the data in budget documents. Estimates for Medicare and CHAMPUS/TRICARE are based on national averages as reported in the CMS data.

K. Uncompensated Care

We define uncompensated care as free care provided to uninsured individuals. It does not include bad debt from individuals who are insured. Hospitals are by far the largest providers of indigent care, a large portion of which goes unpaid.

For our analysis we used data on uncompensated care provided by hospitals from the Colorado Hospital Association (CHA). We estimate other uncompensated care spending, such as care provided in community clinics and physician offices from CMS and MEPS data using the Colorado version of the HSBM.

According to the CHA data, uncompensated care in hospitals amounted to $1,244.8 million, based on charges, for 2005. CHA also reports that $521.2 million was due to bad debt and $723.6 million due to charity care. We then aged these data to FY 2007-2008 based on historical growth in the hospital industry and adjusted the figures to a cost basis using a cost to charge ratio calculated from the CHA data. Using these assumptions, we estimate FY 2007-2008 hospital statewide uncompensated care attributable to charity care, on a cost basis, to be $375.2 million. As mentioned earlier, there is approximately $777.1 million in uncompensated charity care across all providers.

L. Health Spending for Corrections Programs

We do not include health care spending for people in Corrections Programs in our modeling analysis, but do report it for information purposes (***Figure 31***). We do not make any adjustment for double counting or exclude any money reported elsewhere in this report. For instance, there are Medicaid/CHP+ funds appropriated to the community programs under DHS. Total funds for Corrections amount to $226.0 million in FY 2007-2008.

Figure 31
Funding for Corrections Programs - Senate Bill 07-239 for FY 2007-2008

Program	Funding
Department of Corrections	
(2) Institutions	
(2)(E) Medical Services Subprogram	$71,787,543
(2)(K) Mental Health Subprogram	$6,304,645
(4) Inmate Programs	
(4)(D) Drug and Alcohol Treatment Subprogram	$6,023,425
(4)(E) Sex Offender Treatment Subprogram	$2,991,999
Department of Human Services	
Division of Youth Corrections	
(11) Division of Youth Corrections	
(11) (A) Administration	$1,279,262
(11) (B) Institutional Programs	$57,818,241
(11) (C) Community Programs	$79,766,820
Total	$225,971,935

Source: Senate Bill 07-239

M. Health Spending for Indian Health Services

We assume that Indian Health Services (IHS) spending for health care provided to Native Americans residing in Colorado is equal to a portion of national spending under the IHS program. The national estimates for 2005, $2,212 million are available from CMS. These numbers are based on data provided from the national IHS office in Rockville, MD. We assume that the Colorado portion is equivalent to the portion of all Native Americans living in the US who reside in Colorado. Based on data from US Census, we estimate the portion of all Native Americans in Colorado to be approximately 1.6 percent.[13] Therefore, our estimate of IHS spending for FY 2007-2008 amounts to $40 million after projecting the 2005 CMS estimate forward. The projection was simply based on the average annual growth rate of IHS spending from 2000-2005. This estimate includes spending for services provided at IHS facilities, such as the Southern Colorado Ute Service Unit, as well as contract services provided at non-IHS facilities but reimbursed under IHS.

N. Summary of Health Spending in Colorado

The results of this analysis are a detailed accounting of health expenditures in Colorado showing total state expenditures by type of service and source of payment. As shown in ***Figure 32***, we estimate total health spending in Colorado to be about $ 30.1 billion in FY 2007-2008.

Estimated spending is broken down as follows:

[13] Statistical Information Staff, Population Division, U.S. Census Bureau <Available as of June 28, 2007 at: http://www.census.gov/population/estimates/state/rank/aiea.txt.>

- Household out-of-pocket spending for health services (i.e., coinsurance, deductibles and self-pay) will be $4.2 billion.
- Total private insurance expenditures are projected to be $15.1 billion, of which:
  - About $11.9 billion will be for employer coverage of workers (including government workers);
  - About $1.3 billion will be for employer coverage of retirees (including government retirees);
  - About $1.2 billion will be spent in non-group coverage; and
  - There is also expected to be about $721 million in other private health spending.
- We estimate Medicare and Medicaid/CHP+ spending in Colorado will be $8.8 billion in FY 2007-2008:
  - Medicare is estimated to be about $5.8 billion;
  - Medicaid/CHP+ is estimated to be $3.0 billion; and
  - Spending for other public programs is estimated to be $574 million.
- We estimate spending for workers compensation and CHAMPUS/TriCare in Colorado to be $1.5 billion FY 2007-2008.

Also note that in ***Figure 32*** we created a separate category for revenues from other private sources other than health care programs or insurance. The other private funds category includes spending from philanthropic sources as well as "other sources of income;" for example, home health agencies, skilled nursing facilities and hospitals collect revenue from gift shops, parking lots and investment income. These "other sources of income" are not accounted for in the MEPS database. Therefore we estimate other private spending attributed to the "other sources of income" and remove them from the total spending amounts for modeling purposes. The adjustment is based on a report prepared by CMS and AHRQ staff about cross-walking estimates between the NHE and MEPS health expenditure estimates.[14] The estimate of other private sources of funds from "other sources of income" amounts to $420 million.

[14] Sing, M. et al. 2006. Reconciling Medical Expenditure Estimates from the MEPS and NHEA, 2002. Health Care Financing Review, 28(1): 25-40. We decreased hospital, home health, and nursing home spending by 3.16, 1.75 and 2.74 percent respectively.

Figure 32
Personal Health Care Spending in Colorado by Type of Service and Source of Funding: FY 2007-2008 (in millions)[a]

	Total - PHC	Hospital[d]	Physician	Dental	Other Profes-sional[b]	Home Health	Prescrip-tion Drugs	Durables	Nursing Home	Other Personal[c]	Adminis-tration	total spending - incl admin
Out-of-Pocket	$4,152	$386	$925	$832	$376	$6	$240	$238	$539	$611	$0	$4,152
Employer Workers	10,825	4,369	4,370	1,004	486	0	553	44	0	0	1,104	11,929
Employer Retirees	1,193	574	407	55	49	0	101	7	0	0	94	1,287
Non-Group	822	364	341	37	40	0	30	9	0	0	367	1,188
Medigap[g]	148	63	67	3	6	0	6	3	0	0	44	192
CoverColorado and Individual Market	674	301	274	34	34	0	24	6	0	0	322	996
Medicare	5,557	2,466	1,378	3	150	230	925	137	267	0	254	5,810
Medicaid	2,816	836	296	59	5	186	182	84	602	566	156	2,972
Medicaid: Medical Services Premiums	2,016	524	235	52	1	183	160	80	602	180	25	2,041
CHP+	97	27	39	7	1	3	17	4	0	0	6	102
Other Medicaid Programs	703	286	23	0	3	0	5	0	0	386	126	828
CHAMPUS/TriCare	720	555	128	0	0	0	37	0	0	0	32	752
Other Public	555	257	124	3	16	8	55	2	15	76	19	574
Workers Compensation	484	125	251	0	64	0	39	6	0	0	230	714
Other Private[i]	713	495	122	20	21	12	2	0	42	0	7	721
TOTAL	$27,838	$10,426	$8,343	$2,013	$1,208	$442	$2,163	$526	$1,464	$1,254	$2,262	$30,100
Free-From-Provider	$777	$375	$166	$160	$70	$0	$0	$6	$0	$0	$0	$777
Exclusions and Double-Counts												
Medicaid DSH (included in Other Public)[e]	$87	$74	$13	$0	$0	$0	$0	$0	$0	$0	$0	$87
Medicaid State-only Programs (included in Other Public)[h]	65	35	30	0	0	0	0	0	0	0	0	65
Medicaid Payments to Medicare[f]	165	8	67	0	7	6	77	0	1	0	0	165
Other Private (Revenue from "Other Sources")	420	370	0	0	0	8	0	0	42	0	0	420

a/ Spending in freestanding ambulatory surgical centers is recorded as physician income. For hospital based ambulatory care centers, the facility charges are recorded as hospital income with the physician fee for non-hospital staff recorded as physician income. Additional health spending exists for the Department of Corrections ($226 million) and Indian Health Services ($40 million).
b/ "Other professional" services are those provided by health practitioners other than physicians or dentists, such as private-duty nurses, chiropractors, podiatrists, and optometrists
c/ "Other Personal" services include industrial inplant services (i.e. health care provided by employers for employees at the employer's establishment), and government expenditures for medical care not delivered in traditional medical provider sites (e.g. community centers, senior citizens centers, schools, and military field stations). Home and Community Waiver programs comprise a large portion of "Other Personal" spending.
d/ Hospital spending includes $6.5 billion in inpatient care and $3.9 billion in outpatient care.
e/ Distribution based on charges in Medically Indigent and Colorado Indigent Care Program Report
f/ Medicare premium payments distributed based on Part A and Part B service distributions. Assumed 90 percent of funding for Part B premiums.
g/ Total from Colorado Department of Regulatory Agencies, Division of Insurance. Distribution modeled with HBSM.
h/ Other Public DHCPF funding includes the Primary Care Fund, Comprehensive Primary and Preventative Care funds and Old Age Pension State Medical Program funds, as well as $16.0 million for School Health Services that are channeled to the providers from school district tax money.
i/ Includes philanthropic funds as well as other sources of other private funds including revenue from parking lots, gift shops and cafeterias, as well as investment income. The funds from other sources are not included in the model and are displayed in a separate line in the figure.
Source: Lewin estimates.

O. Administrative Costs for Hospitals and Physicians

The Hospital revenue and expense report (***Figure 33***) was calculated using the Colorado Hospital Medicare Hospital Cost report data for 2004 and a projection of 2007 revenues based on the CMS national health expenditures. The Medicare cost report was used to create the distribution of expenses across the cost centers and provide a base for total expenses to be projected to 2007.

In the Medicare cost report, hospital costs are allocated into the cost centers based on the line identification in the cost report. The total costs for each cost center were taken from worksheet B, column zero, lines 1 through 100. The first 24 lines of the worksheet are dedicated to hospital administration or education costs specific to the cost center. Lines 25 through 94 represent cost centers where 100% of the expense was attributed to patient care with no administrative component.

With the exception of line 6 (general administration) each of the first 24 lines are aligned to a particular cost center activity. The Medicare cost report allows hospitals to report line 6 as either a consolidated line item or in activity specific sub-item lines. When hospitals reported sub-items in line 6, the categories included communications, data processing, other general services, general accounting, patient accounting, credit & collection, admitting, other fiscal services, hospital administration, purchasing, or other administrative services.

Thus, there were two steps in distributing the operating expenses into the cost centers. The first was to develop a method for allocating costs reported in line 6 into all the sub-categories that were reported. Although every hospital did not report every sub-category, we assumed that the functions did occur and the costs were embedded in the subset of reported sub-categories. To disaggregate the costs into all the sub-categories, we developed an approach that utilized all the information available in the report to properly allocate the costs. The second step was to develop a distribution across all the cost centers, including the re-allocated sub-categories reported in Line 6.

The algorithm to allocate costs to the line 6 sub-categories accommodates three conditions that occurred in the data. The first condition occurs where a hospital only reported line 6 sub-categories. The second was the case where a consolidated line 6 was reported as well as some sub-category lines. The third condition occurs where only a consolidated line 6 is reported.

To distribute reported costs across all the reportable sub-categories, an average for each sub-category was calculated for the subset of hospitals that reported at least five of the sub-categories and did not report a consolidated line 6. The averages were summed and a share was calculated for each sub-category based on its share of the total. The resulting derived distribution was than applied to that same subset of hospitals to reallocate the total of the reported sub-categories into the full set of sub-categories. For the hospitals that reported a consolidated total for line 6 as well as sub-categories, the reported sub-category shares were preserved and the residual of the total was allocated using the derived distribution. For the case where only a consolidated line 6 was reported, the derived distribution is used to allocate the total across the sub-categories.

Once line 6 was allocated into the sub-categories they were treated as cost centers and were used to create the distribution across the other administrative cost centers reported in lines 1-24. We used the resulting distribution to allocate a projected value of total hospital operating expenses for 2007 into the cost centers. The share attributed to patient care was derived and the final value allocated to administration was calculated.

The share attributed to patient care was derived as follows. Dietary, Laundry Linen, and other general services were assumed to be 100 percent attributed to patient care. Based on interviews with industry analysts, we assumed about 40 percent of social services functions are associated with arranging coverage under Medicaid/CHP+ or other public programs. The remainder is attributed to patient care functions such as discharge planning and interpreting social problems as they relate to medical conditions and hospitalization. We also assume that expenses for plant and maintenance are attributed to administrative functions in proportion to the percentage of hospital costs attributed to general administration (13%). The value allocated to administration was then calculated by subtracting the expenses attributed to patient care column from the cost column.

1. Physician Revenues and Expenses

The Colorado Physician revenue and expense report (***Figure 34***) was calculated using the 2006 Medical Group Management Association (MGMA) cost survey (based on 2005 data). The survey includes responses from 335 physician practices nationwide. We used the distribution of operating costs for non-hospital or IDS (Integrated Direct Service) multi-specialty practices. To generate the distribution of costs we applied the Western region's distribution to the share of Lewin's 2007 estimate of physician revenue attributable to operating costs.

The share of costs attributable to direct patient care were derived as follows. Based upon interviews with industry analysts and physician office managers, we assume that 10 percent of nurses' time is devoted to complying with insurer utilization management program requirements. Building and furniture expenditures were attributed to administrative functions in proportion to the allocation of other physician costs to administrative functions (approximately 35 percent). Remaining shares were based on interviews with industry analysts.

Figure 33
Allocation of Colorado Hospital Revenues by Cost Center and Patient Care Function in FY 2007-2008 (in Millions) a/

	Hospital Care Expense	Expenses Attributed to Patient Care	Value Allocated to Administration
Total Adjusted Hospital Operating Revenue b/	$10,426.0	$7,139.7	$3,286.3
Daily Hospital and Ancillary Services Cost	5,119.6	5,119.6	0.0
Research Costs	137.4	0.0	137.4
Education Costs	92.9	0.0	92.9
General Costs	665.4	474.6	190.8
Non-Patient Food Services	3.8	0.0	3.8
Dietary	147.6	147.6	0.0
Laundry and Linen	30.5	30.5	0.0
Social Work Services d/	19.1	11.5	7.6
Purchasing and Stores	21.6	0.0	21.6
Housekeeping e/	85.2	75.1	10.2
Plant Operations & Maintenance e/	194.7	169.2	25.4
Communications	20.4	0.0	20.4
Data Processing	101.8	0.0	101.8
Other General Services	40.7	40.7	0.0
Fiscal Services	433.8	0.0	433.8
General Accounting	17.8	0.0	17.8
Patient Accounting	273.5	0.0	273.5
Credit & Collection	17.8	0.0	17.8
Admitting	30.5	0.0	30.5
Other Fiscal Services	94.1	0.0	94.1
Administrative Services	706.1	0.0	706.1
Hospital Administration	334.6	0.0	334.6
Personnel	1.3	0.0	1.3
Medical Records	137.4	0.0	137.4
Nursing Administration	87.8	0.0	87.8
Other Administrative Services	145.0	0.0	145.0
Unassigned Costs	960.6	0.0	960.6
Depreciation and Amortization e/	376.6	323.9	52.7
Insurance – Hospital and Prof. Malpractice	2.5	0.0	2.5
Taxes	2.5	0.0	2.5
Interest – Working Capital	2.5	0.0	52.2
Interest – Other	52.2	0.0	75.1
Employee Benefits (non-payroll related)	75.1	0.0	451.7
Total Operating Expenses	8,115.9	0.0	2,521.7
Net Operating Revenue	2,310.1	0.0	764.6

a/ A projected value for total hospital operating revenues, based on CMS Health Accounts data for Colorado, was allocated to cost centers based on the Medicare cost report data.
b/ Includes gross patient revenues less contractual adjustments, bad debts, and charity care as well as non-patient operating revenue and non-operating revenue such as interest income.
c/ Includes direct costs associated with all inpatient and outpatient care functions. Direct expenses include salaries and wages, employee benefits, professional fees, supplies, purchased services, equipment depreciation/leases/rentals, other direct expenses, and transfers.

d/ Based upon interviews with industry analysts, we assume that about 40 percent of social services functions are associated with arranging coverage under Medicaid and other public programs. The remainder is attributed to patient care functions such as discharge planning and interpreting social problems as they relate to medical conditions and hospitalization.
e/ Data is not available allocating facilities costs to administrative and non-administrative functions. We assume that expenses for plant maintenance, housekeeping, depreciation, and leasing and rental expense are attributed to administrative functions in proportion to the percentage of hospital income attributed to administration (13 percent).
Source: Lewin Group estimates.

Figure 34
Estimated Physician Revenues and Expenses for Colorado in FY 2007-2008 (in Millions)

	Total Revenues by Expenses [a/]	Direct Patient Care Expenses	Expenses attributed to Administration [b/]
Total Non—Physician Salaries and Benefits c/	$2,831.6	$1,007.8	$1,823.8
General administrative	226.9	0.0	226.9
Patient accounting	211.9	0.0	211.9
General accounting	47.6	0.0	47.6
Managed care administrative	60.1	0.0	60.1
Information technology	74.3	0.0	74.3
Housekeeping, maintenance, security	31.7	0.0	31.7
Medical receptionists	298.7	0.0	298.7
Med secretaries, transcribers	69.2	0.0	69.2
Medical records	111.0	0.0	111.0
Other admin support	63.4	0.0	63.4
Registered Nurses d/	219.4	197.5	21.9
Licensed Practical Nurses d/	101.8	89.6	12.2
Med assistants, nurse aides d/	318.7	283.6	35.1
Clinical laboratory	141.8	141.8	0.0
Radiology and imaging	151.8	151.8	0.0
Other medical support services	143.5	143.5	0.0
Total employee supp staff benefits	457.2	0.0	457.2
Tot contracted support staff	101.8	0.0	101.8
Total general operating cost	2,467.9	1,466.6	1,001.3
Information technology	150.2	0.0	150.2
Drug supply	382.1	382.1	0.0
Medical and surgical supply	148.5	148.5	0.0
Building and occupancy e/	545.6	409.2	136.4
Furniture and equipment e/	99.3	76.4	22.9
Administrative supplies and services	164.4	0.0	164.4
Professional liability insurance	192.7	0.0	192.7
Other insurance premiums	15.9	0.0	15.9
Outside professional fees	61.7	0.0	61.7
Promotion and marketing	37.5	24.8	12.7

	Total Revenues by Expenses [a/]	Direct Patient Care Expenses	Expenses attributed to Administration [b/]
Clinical laboratory	159.4	159.4	0.0
Radiology and imaging	137.7	137.7	0.0
Other ancillary services	128.5	128.5	0.0
Billing purchased services	69.2	0.0	69.2
Management fees paid to MSO	0.0	0.0	0.0
Misc. operating cost	176.0	0.0	176.0
Cost allocated to practice from parent	0.0	0.0	0.0
Total operating and Non-Physician Expenses	5,299.5	2,474.4	2,825.1
Physician Expense f/	3,043.5	2,800.0	243.5
Patient Care g/	2,878.2	2,877.1	1.0
General Administration	99.2	0.0	99.2
Medical Records	14.6	0.0	14.6
Pre-Service Utilization Mgmt	14.6	0.0	14.6
Utilization Review	63.8	0.0	63.8
Claims Denial and Adjudication	86.0	0.0	86.0
Total Net Patient Revenues	8,343.0	5,274.4	3,068.6

a/ Our estimates of national physician net patient revenues under current policy were allocated across physician expense and physician income categories based upon the distribution of net patient revenues by these expense groups reported in "The Cost and Production Survey report," Medical Group Management Association (MGMA), Denver, CO in the Western Region.
b/ Physician expenses attributed to administration were estimated by allocating costs to expense categories not directly attributable to providing patient care.
c/ Non-physician staff expenses include wages, salaries, and payroll taxes. Additionally, benefit costs and contracted/temporary labor costs were allocated proportionally across all non-physician subcategories. Management fees paid out were allocated across all non-medical staff subcategories.
d/Data are not available on physician office nurses' time devoted to administrative functions. Based upon interviews with industry analysts and physician office managers, we assume that 10 percent of nurses' time is devoted to complying with insurer utilization management program requirements.
e/ Building and furniture expenditures were attributed to administrative functions in proportion to the allocation of other physician costs to administrative functions (approximately 35 percent).
f/ Physician expense is net physician revenue, which includes physician salary, fringe benefit costs, and net proceeds for physicians.
g/ The physician expense attributed to patient care is based on the American Medical Association's (AMA) estimate of the hours spent on patient care activities (approximately 92 percent). The remaining hours were divided between administrative functions based upon interviews with industry analysts and the AMA's estimates of physician time spent per claim filed. See: "Socioeconomic Characteristics of the Medical Practice," American Medical Association, 2001.
Source: Lewin Group estimates.

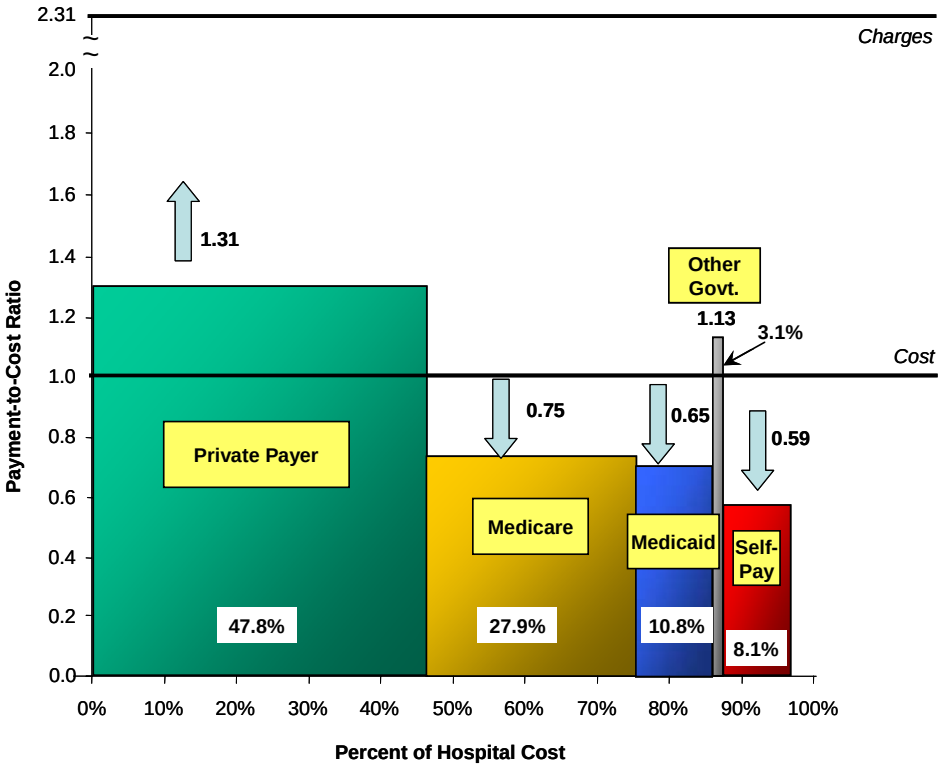
Appendix C:
Provider Payment Levels in Colorado

Provider Payment Levels in Colorado

Figure 1 compares hospital payment levels in Colorado that is driven by shortfalls from government payers and the uninsured. The data source used to generate the Cost-Shift graphic was the FY 2004 Colorado DATABANK Hospital Data Set. The data is prepared annually by the Colorado Hospital Association (CHA) and includes general, financial and utilization information at the facility level for 62 Colorado hospitals in fiscal year 2004.

The data was used to calculate payment to cost ratios for each payer source as well as calculate the relative share each payer represented of total hospital costs in Colorado. The report includes aggregate gross revenue, net revenue and expense information. Gross and net patient revenue information is also provided by source of payer. In order to derive payer level cost information, an aggregate cost to charge ratio (RCC) is calculated for each hospital. The RCC is then applied to each payer's gross revenue to calculate payer level costs for each hospital. Net patient revenues and costs are than aggregated across hospitals to generate a payment to cost ratio for each payer at the state level. In addition, the charges line is calculated by taking the inverse of the average RCC. This helps provide some insight to the relative discount accrued to each payer source. The payer sources included Private, Medicare, Medicaid, other Government, and uncompensated care.

Figure 1
Comparison of Provider Payment Levels in Colorado



Source: The Lewin Group analysis of Colorado Hospital Association data.

1. Private Payers

Includes the total gross patient revenue billed to group and individual accident and health insurance sources, employer self-funded plans, other organization self-funded plans, Health Maintenance Organizations (HMOs), other alternative health care payment systems, persons who do not have health insurance coverage (self-pay), Workers' Compensation, and any other non-government source.

2. Public Programs

Payments for Medicare in ***Figure 1*** include the total gross patient revenue billed to Medicare and to HMO's reimbursed by Medicare. The Medicaid estimates in ***Figure 1*** are based upon total gross patient revenue billed to Medicaid and HMO's covering people from those programs. Revenues from TRICARE and CoverColorado are also included in the Other Government payer source.

3. Self Pay

Self pay is broken into two components – self pay and charity care. Charity care is health services that were never expected to result in cash inflows. Charity care results from a provider's policy to provide health care services free of charge or at reduced charges to individuals who meet certain financial criteria. Charity care is measured on the basis of revenue foregone, at full established rates. Self pay is the provision where no third party payer is responsible for the patient charges.

Any facility with negative values in reported revenue or expense fields were excluded from the analysis. No hospitals were excluded as a result of this criterion. The calculations for each component of the cost to pay ratios were as follows.

Cost to Charge Ratio (RCC)

RCC = (Total Expenses)/(Total Revenue + Total of Other Operating Revenue)

Cost Calculations

Private = (Commercial Total Charges + Managed Care Total Charges + Others Total Charges)* RCC
Medicare = Medicare Total Charges * RCC
Medicaid = Medicaid Total Charges * RCC
Other Govt. = (Champus Total Charges) * RCC

Self Pay = (Self Pay Total Charges) *RCC

Revenue Calculations

Private = Commercial Total Charges + Managed Care Total Charges + Others Total Charges – Commercial Total Contractuals – Managed Care Total Contractuals – Others Total Contractuals

Medicare = Medicare Total Charges – Medicare Total Contractuals

Medicaid = Medicaid Total Charges – Medicaid Total Contractuals
Other Govt. = Champus Total Charges – Champus Total Contractuals
Self Pay = Self Pay Total Charges – Self Pay Total Contractuals - Charity Care **+** Tax Subsidies

Appendix D:
Methodology and Key Assumptions

Summary Description of the Health Benefits Simulation Model (HBSM)

January 29, 2007

Summary Description of the Health Benefit Simulation Model (HBSM)

The purpose of this document is to provide a summary of the data and methods used in the Lewin Group Health Benefits Simulation Model (HBSM). We begin by summarizing the overall modeling approach used to simulate the cost and coverage impacts of programs to expand insurance coverage. We also provide a discussion of key components of the model that are most relevant to some of the policy proposals that have emerged in recent years. A more detailed documentation of the full model is available upon request.

We present our summary of HBSM in the following sections:

- Modeling Approach;
- Database;
- Medicaid Expansions;
- *Employer and Employee Take-up;*
- Insurance Markets Model; and
- Tax simulations.

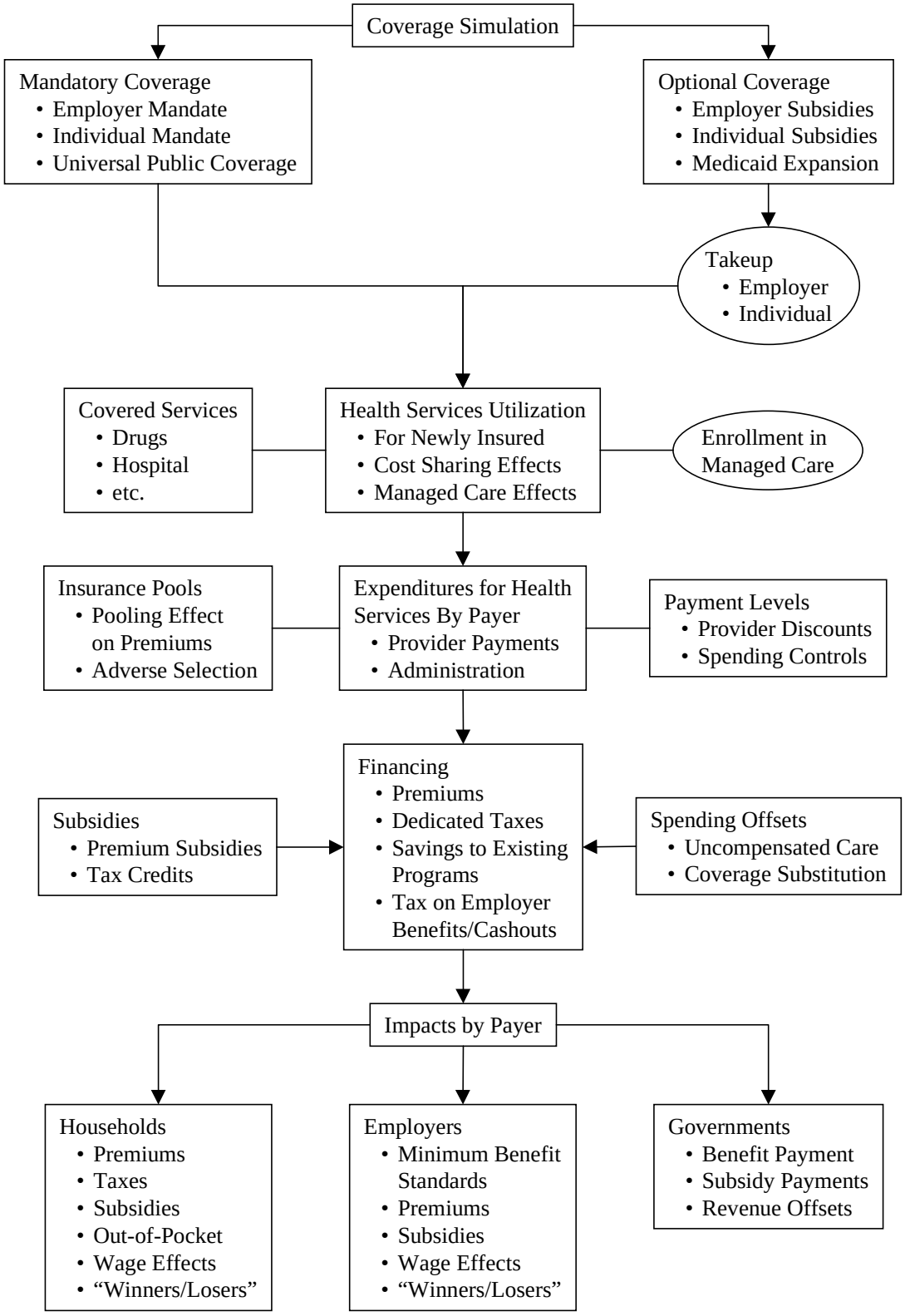
A. Modeling Approach

The Health Benefits Simulation Model (HBSM) is a micro-simulation model of the U.S. health care system. HBSM is a fully integrated platform for simulating policies ranging from narrowly defined Medicaid coverage expansions to broad-based reforms such as changes in the tax treatment of health benefits. The model is also designed to simulate the impact of numerous universal coverage proposals such as single-payer plans and employer mandates. The use of a single modeling system for these analyses helps assure that simulations of alternative proposals are executed with uniform and internally consistent methodologies.

HBSM was created to provide comparisons of the impact of alternative health reform models on coverage and expenditures for employers, governments and households. The key to its design is a "base case" scenario depicting the distribution of health services utilization and expenditures across a representative sample of households under current policy for a base year such as 2006. We developed this base case scenario based upon recent household and employer data on coverage and expenditures. We also "aged" these data to be representative of the population in 2006 based upon recent economic, demographic and health expenditure trends. The resulting database provides a detailed accounting of spending in the U.S. health care system for stakeholder groups. These base case data serve as the reference point for our simulations of alternative health reform proposals.

The model first simulates how these policies would affect sources of coverage, health services utilization and health expenditures by source of payment **(*Figure 1*)**. Mandatory coverage programs such as employer mandates or single-payer models can be simulated based upon the detailed employment and coverage data recorded in the database. The model also simulates enrollment in voluntary programs such as tax credits for employers and employees, based upon multivariate models of how coverage for these groups varies with the cost of coverage (i.e., modeled as the premium minus the tax credit). In addition, the model simulates enrollment in Medicaid and SCHIP expansions based upon a multivariate analysis of take-up rates under these programs, including a simulation of coverage substitution (i.e., "crowd out").

Figure 1
Flow Diagram of the Health Benefits Simulation Model (HBSM)



HBSM is designed to facilitate comparisons of alternative health reform initiatives using uniform data and assumptions. For example, take-up rates for Medicaid and various tax credit/premium voucher proposals are simulated using uniform take-up equations and modules. Uniform methods are also used to simulate changes in health services utilization attributed to changes in coverage status and cost-sharing parameters. The model uses a series of uniform table shells for reporting the impacts of these policies on households, employers and governments. This uniform approach assures that we can develop estimates of program impacts for very different policies using consistent assumptions and reporting formats. The use of uniform processes also enables us to simulate the impact of substantially different policy options in a short period of time.

Once changes in sources of coverage are modeled, HBSM simulates the amount of covered health spending for each affected individual, given the covered services and cost-sharing provisions of the health plan provided under the proposal. This includes simulating the increase in utilization among newly insured people and changes in utilization resulting from the cost sharing provisions of the plan. In general, we assume that utilization among newly insured people will increase to the level reported by insured people with similar characteristics. We also simulate the impact of changes in cost sharing provisions (i.e., co-payments, deductibles, etc.) on utilization.

HBSM is based upon a representative sample of households in the U.S., which includes information on the economic and demographic characteristics of these individuals as well as their utilization and expenditures for health care. The HBSM household data are based upon the 1999 through 2001 Medical Expenditures Panel Survey (MEPS) that we use together with the March 2005 Current Population Survey (CPS). We also used the Kaiser/HRET survey of employers for policy scenarios involving employer level decisions. We adjusted these data to show the amount of health spending by type of service and source of payment as estimated by the office of the Actuary of the Centers for Medicare and Medicaid Services (CMS) and various agencies. The methods used to develop these baseline data are discussed below.

Changes in employer costs are assumed to be passed-on to workers in the form of changes in wage growth over time. For example, policies that increase employer costs would result in a corresponding reduction in wages for affected workers, with a corresponding reduction in income and payroll tax revenues. Similarly, reductions in employer costs are assumed to be passed on to workers as wage increases. HBSM includes a tax module that simulates tax effects due to these changes in wages as well. The model will simulate wage pass-through under varying assumptions on how long it would take for the labor markets to adjust.

The model includes a simulation of health insurance premiums in the private small group and individual markets using the range of rating practices permitted in each state. This permits us to simulate the impact of options for implementing rate compressions proposals. It is also designed to simulate "adverse selection" that may result under policies that give employers and/or individuals a choice of alternative insurance pools with their own unique rating practices.

For example, some of the proposals analyzed in this study would give employers the option of enrolling in a public insurance pool at a community-rated premium. This would tend to attract

employers and individuals with high health care costs who find that the community-rated premium is less than the cost of an experience-rated plan for that group in the private market. The HBSM insurance market simulation is based upon a "synthetic firm" methodology, which we present below.

B. Baseline Database

The key to simulating changes in the health care system is to develop a baseline database that depicts the U.S. health care system in detail. Our HBSM baseline data is based upon the 1999 through 2001 Medical Expenditures Panel Survey (MEPS) data, which provide information on sources of coverage and health expenditures for a representative sample of the population. These data are adjusted to reflect the population and coverage levels reported in the 2005 Current Population Survey (CPS) data (with adjustments for under-reporting discussed below). We also statistically match workers in these data to the Kaiser/HRET survey of employers which provides additional detail on coverage provided through work.

The creation of the baseline data for the model is presented in the following sections:

- Household data;
- Employer data; and
- Benchmarking data.

1. Household Database

The HBSM baseline data is derived from a sample of households that is representative of the economic, demographic and health sector characteristics of the population. HBSM uses the 1999 through 2001 MEPS data to provide the underlying distribution of health care utilization and expenditures across individuals by age, sex, income, source of coverage and employment status. The use of data for three years substantially increases sample size, thus permitting us to develop more stable estimates of narrowly defined policy options.

We re-weighted the MEPS household data to reflect population control totals reported in the 2005 March CPS data. These weight adjustments were performed with an iterative proportional-fitting model, which adjusts the data to match approximately 250 separate classifications of individuals by socioeconomic status, sources of coverage and job characteristics in the CPS.[15] Iterative proportional fitting is a process where the sample weights for each individual in the sample are repeatedly adjusted in a stepwise fashion until the database simultaneously replicates the distribution of people across each of these variables in the state.[16]

This approach permits us to simultaneously replicate the distribution of people across a large number of variables while preserving the underlying distribution of people by level of

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[15] To bolster sample size for state level analyses, we have pooled the CPS data for 1998 through 2001. This is important when using the model to develop state-level analyses.

[16] The process used is similar to that used by the Bureau of the Census to establish final family weights in the March CPS.

healthcare utilization and expenditures as reported in MEPS. These data can be further "tuned" in the re-weighting process to reflect changes in health service utilization levels (e.g., hospitalizations).[17] This approach implicitly assumes that the distribution of utilization and expenditures within each of the population groups controlled for in this re-weighting process are the same as reported in the MEPS data.

We also "aged" the health expenditure data reported in the MEPS database to reflect changes in the characteristics of the population through 2006. These data are adjusted to reflect projections of the health spending by type of service and source of payment in the base year (i.e., 2006). These spending estimates are based upon health spending data provided by CMS and detailed projections of expenditures for people in Medicare and Medicaid spending across various eligibility groups. The result is a database that is representative of the base year population by economic and demographic group, which also provides extensive information on the joint distribution of health expenditures and utilization across population groups.

2. Employer Database

We re-weighted the MEPS household data to reflect population control totals reported in the 2005 March CPS data. The model includes a database of employers for use in simulating policies that affect employer decisions to offer health insurance. We used the survey of employers conducted by the Kaiser Family Foundation and the Health Research and Educational Trust (HRET). These data include about 2,000 randomly selected public and private employers with 3 or more workers, which provide information on whether they sponsor coverage and the premiums and coverage characteristics of the plans that insuring employers offer.

We statistically match each MEPS worker with one of the firms in the Kaiser/HRET data. Experience has shown that it is important that the individuals assigned to each firm be consistent with the employer's workforce characteristics. The Kaiser/HRET data provide information on the distribution of workers by wage level. However, additional information such as age of worker and family/single status for insured people are not included in the database. To use these data in our analysis, we statistically matched the Kaiser/HRET data with employers surveyed in the 1991 Health Insurance Association of America (HIAA) employer survey data, which provides detailed information on the characteristics of each employer's workforce including number of workers by: [18]

Full-time/part-time status;

- Age;
- Gender;
- Coverage status (eligible enrolled, eligible not enrolled and ineligible);
- Policy type for covered people (i.e., single/family); and
- Wage level;

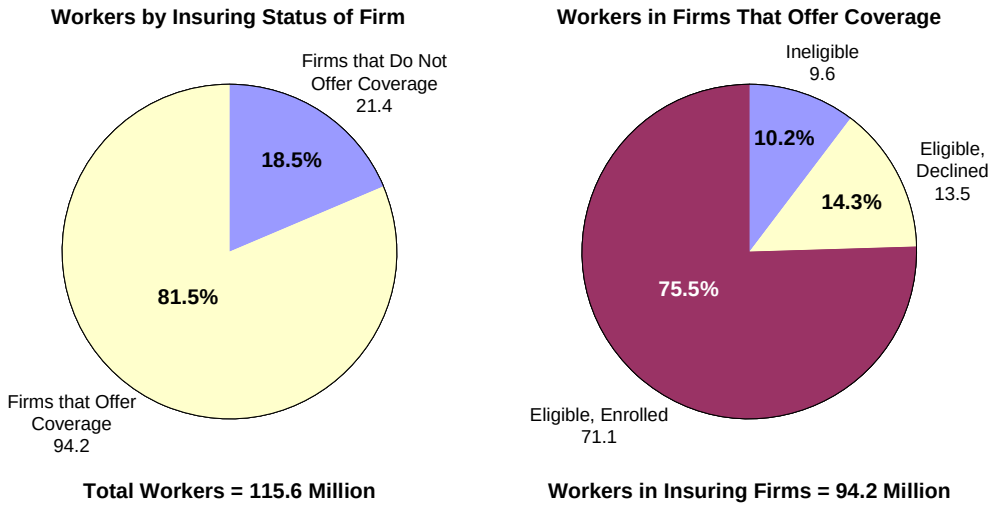
The employer health plan eligibility data in the database is important to simulations of policies affecting employers. One important consideration is that many of those who do not have employer coverage work for a firm that offers coverage to at least some of their workers. About

[17] Feature not used for RWJF study.

[18] We controlled for worker wage levels, industry, firm size and other characteristics when matching these firms.

81.5 percent of all workers are employed by a firm that covers at least some of their workers (***Figure 2***). However, only about 75 percent of these people are eligible and enrolled. About 10.2 percent are ineligible and about 14.3 percent are eligible but have declined coverage.[19]

Figure 2
[20]Workers by Employer Insurance Status (in millions)



The model controls for the workforce characteristics for each firm in matching individuals to firms. While the firm data provide information on the number of people in the firm with these characteristics, they do not provide the "joint distribution" across these groups (e.g., by age, sex, income etc.). We estimate the joint distribution for each firm using a process called "iterative proportional fitting." In this approach, we begin with the joint distribution of workers across these variables as reported nationally in the CPS, and scale them in an iterative process so that in the aggregate they replicate the aggregate number of workers in the firm for each worker characteristic. Each non-zero cell of the joint distribution matrix for each firm is treated as an individual worker, who is matched to MEPS individuals based upon these individual characteristics.

Thus, if a firm reports that it employs mostly low-wage female workers, the firm tended to be matched to low-wage female workers in the MEPS data. This approach helps assure that Kaiser/HRET firms are matched to workers with health expenditure patterns that are generally consistent with the premiums reported by the firm. This feature is crucial to simulating the effects of employer coverage decisions that impact the health spending profiles of workers going into various insurance pools. Controlling for the joint distribution of workers within firms is crucial to simulations of program impacts because premiums and behavioral responses vary

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[19] HBSM baseline data based upon Lewin Group Analysis of the February and March CPS data for 1997.

[20] For example, it tells us how many workers there are in each of four age groups and the number of workers who are male and female, but it does not tell us how many of the people in each age group are males and how many are females.

widely by age, wage level, part time/full-time status and the number of workers with dependents.

C. Medicaid Eligibility Expansion Simulations

HBSM simulates a wide variety of changes in Medicaid and SCHIP eligibility levels for children, parents, two-parent families, and childless adults. It models changes in: certification period rules, deprivation standards (i.e., hours worked limit for two-parent families), "deeming" of income from people outside the immediate family unit and other refinements in eligibility. As under the program, the model simulates eligibility on a month-by-month basis to estimate part-year eligibility.

The model estimates the number of people eligible for the current Medicaid program and under various eligibility expansions using the actual income eligibility rules used in each state for Medicaid and SCHIP. The model then simulates the decision to participate based upon a multivariate analysis of how program participation varies with income, availability of employer coverage, income and demographic characteristics and health status. As discussed above, the model estimates program costs based upon the per-member per-month (PMPM) costs in the existing program in each state by eligibility group, which we adjust to reflect the unique age and sex composition of the newly eligible population.

Our estimates indicate that only about 72 percent of people eligible for Medicaid enroll, although enrollment varies widely by eligibility group (e.g., children, parents, aged etc.). Thus, not all eligible people are expected to enroll in Medicaid when they become eligible. Based upon our multivariate participation analysis, we estimate the on average, Medicaid enrollment for non-disabled adults and children would average about 70 percent for uninsured people and about 39 percent for people with access to employer-sponsored insurance (ESI). Based upon a multivariate model of participation rates in programs requiring a premium, we estimate that premiums reduce participation by 37 percent or more, depending upon the amount of the premium (***Figure 3***).

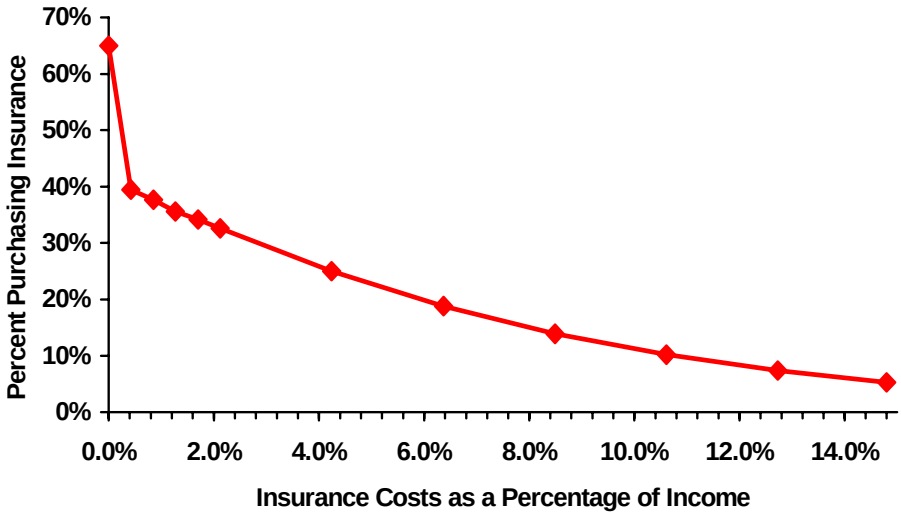
Our estimates of "crowd-out" (i.e., people shifting from ESI to public coverage) are derived directly from our multivariate model of participation. As discussed above, we estimate that the participation rate for people with access to ESI is about 39 percent. We developed this estimate of take-up rates for people with access to ESI based upon coverage information on children who are eligible under the children's Medicaid eligibility expansions to the FPL implemented in the early 1990s. Using the 1997 March CPS data, we were able to identify children with a parent who was covered by ESI. Because virtually all employer plans provide family coverage as an option - although workers often pay up to the full cost – we assumed that all of these children were eligible for ESI. This provided a basis for estimating separate participation rates for children with and without access to ESI, thus enabling an estimate of "crowd-out" for each policy simulation.

Many eligibility expansion proposals would include a waiting period requirement, which means that individuals must be without employer coverage for at least 12 months to be eligible. The MEPS household data include the information required to simulate the impact of this

provision, including exemption for people changing jobs. This approach provides an impact of potential crowd-out with and without the waiting period requirement.

Finally, we estimate an increase in enrollment among the currently eligible but not enrolled population resulting from expansions in eligibility for Medicaid and SCHIP, which has been called the "spill-over." This estimate is based upon evaluations of programs that expand coverage for children to higher income groups. One study of a coverage expansion for children in California indicated that for each newly eligible child enrolled, up 0.86 currently eligible but not enrolled children also enrolled. Similar results have been reported for SCHIP outreach programs around the country. These results are used as a basis for modeling the spill-over effect associated with Medicaid eligibility expansions.[21]

Figure 3
Estimated Percentage of People Who Will Take Subsidized Coverage by Premium Cost as a Percentage of Family Income



a/ Based upon percentage of people eligible to participate in Medicaid who enroll.
b/ Probabilities of enrollment initially based upon the percentage of people without insurance who purchased non-group coverage by family income as a percentage of income.
Source: Lewin Group Estimates.

[21] Christopher Trenholm and Sean Orzol,"The Impact of the Children's Health Initiative (CHI) of Santa Clara County on Medi-Cal and Healthy Families Enrollment," (report to the Davil and Lucile Packard Foundation), Mathematica Policy Research, inc., September 2004.

D. Employer and Employee Take-up Simulations

HBSM models the effects of proposals designed to expand coverage by changing the cost of insurance to the employer and the employee. These include employer tax credits, premium subsidies and other programs that subsidize and/or reduce the cost of insurance to the employer. We assume that premium subsidies will be viewed by employers and employees as a reduction in the cost of insurance, resulting in a price response by both employers and workers. We estimate these price responses using Lewin Group multivariate analyses that measure how the likelihood of offering and taking coverage carries with the price of coverage.

In this section, we explain how we simulate employer and employee take-up in proposals that provide premium subsidies, and present some illustrative results.

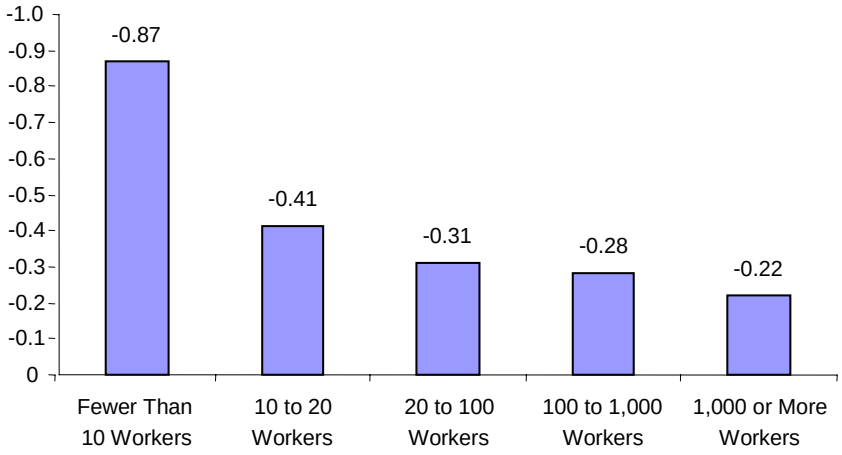
1. Employer Decisions to Provide Coverage

We developed a multivariate model of the employer decision to offer coverage which reflects the impact of price on the employer's purchase decision. We used the 1997 RWJF Survey of Employers which provides data on a representative sample of establishments. These data include information on the size of the firm, industry and workforce characteristics of establishments. Data include both firms that offer insurance and those that do not. It also provides information on the characteristics of the health plans offered by each employer including premium costs and the share of the premium paid by the employer. These data were used to estimate a multivariate model that shows how the likelihood that a firm will offer coverage varies with wage level, workforce composition, firm size, industry, other firm characteristics and the price of health insurance.[22]

The effect of price on the purchase of a good or service is typically summarized by what economists call "price elasticity." For example, the implicit price elasticity for firms with under ten employees is -.87. This means that for each 1.0 percent reduction in price, there is an increase of 0.87 percent in the number of firms offering insurance. The implicit price elasticity declines as firm size increases to -0.41 for firms with 10 to 20 workers, and -0.22 for firms with 1,000 or more workers (***Figure 4***).

[22] While the RWJF data includes premium information for employers that offer coverage, no data is provided on the premiums faced by firms that do not offer coverage. To model the price effect we imputed premiums to non-insuring firms with a multivariate model of how premium levels vary with the workforce and firm characteristics that we estimated from the RWJF data on insuring establishments.

Figure 4
Employer Health Insurance Price Elasticity Estimates by Firm Size [a/]



a/ Based upon multivariate analysis of the 1997 Robert Wood Johnson Foundation (RWJF) Survey of Employer Characteristics. "Health Benefits Simulation Model (HBSM)," The Lewin Group, August 2003. Source: Lewin Group estimates using the Health Benefits Simulation Model (HBSM).

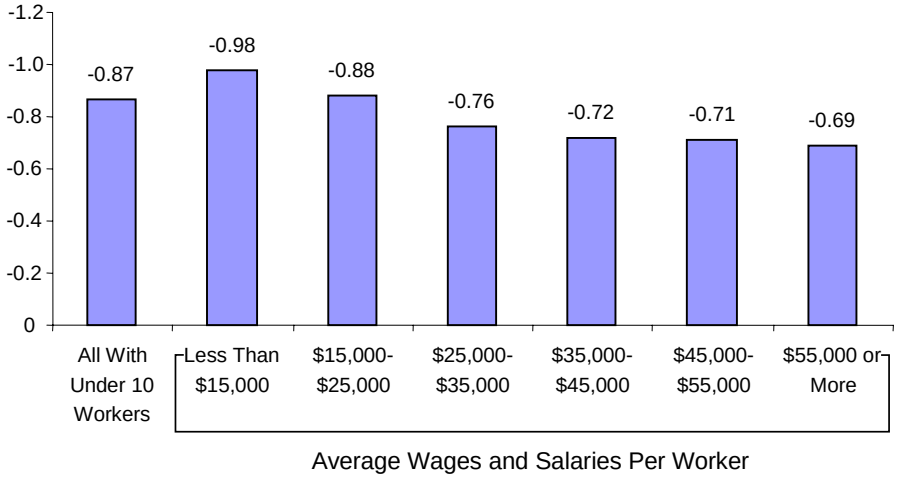
The model simulates the effect of employer premium subsidies using this multivariate model of the employer decision to offer coverage. For each non-insuring employer in the data, we estimate the change in the price of insurance resulting from the premium subsidies. The model then simulates the decisions to offer coverage based upon the predicted price elasticity for the employer.

The model reflects variations in firm price elasticity depending upon the characteristics of the firm. For example, the model shows that the firm price elasticity tends to decline as age and income rise, as shown in ***Figures 5*** and ***6***. This results in a lower estimated price elasticity among currently insuring firms -- averaging about -0.56 for firms with 10 or fewer workers -- because the employers that offer coverage tend to have older and more highly compensated workers.

In addition, we estimated multivariate models predicting the percentage of the premium paid by the worker using the RWJF employer data. These equations measure how premium shares vary with the characteristics of the firm, their workforce and the amount of the total premium. These amounts are used to estimate the cost of insurance for workers in each firm selected to offer coverage in response to the program.

Once firms are selected to offer coverage, we simulate enrollment among workers assigned to these plans. The enrollment decision is simulated with a multivariate model of the likelihood that eligible workers will take the coverage offered to them based upon data reported in the 1996 MEPS data for people offered coverage through an employer. The model measures how take-up varies with the characteristics of the individual as well as the employee premium contribution required by the employer.

Figure 5
Employer Health Insurance Price Elasticity Estimates for Firms with Under 10 Workers by Average Wages and Salaries per Worker [a/]



a/ Based upon multivariate analysis of the 1997 Robert Wood Johnson Foundation (RWJF) Survey of Employer Characteristics. "Health Benefits Simulation Model (HBSM)," The Lewin Group, August 2003.
Source: Lewin Group estimates using the Health Benefits Simulation Model (HBSM).

Figure 6
Employer Health Insurance Price Elasticity Estimates for Firms with Under 10 Workers by Age of Workers [a/]

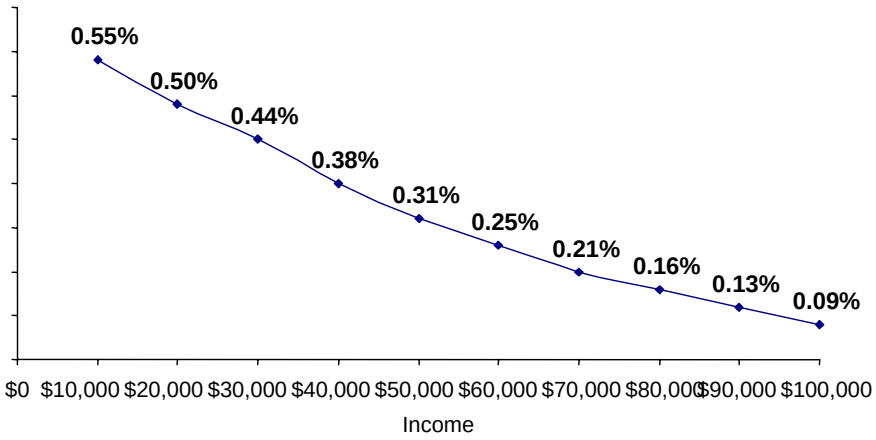
a/ Based upon multivariate analysis of the 1997 Robert Wood Johnson Foundation (RWJF) Survey of Employer Characteristics. "Health Benefits Simulation Model (HBSM)," The Lewin Group, August 2003.
Source: Lewin Group estimates using the Health Benefits Simulation Model (HBSM).

2. Individual Take-up of Health Insurance

Also, some proposals provide tax credits to individuals for the purchase of private coverage, which can include employee contributions for ESI and premium payments for non-group coverage. We simulate the impact of these proposals based upon a multivariate analysis of how the likelihood that an individual will take coverage varies with the amount of the premium. This estimate is based upon a pooled time-series cross-section analysis of private employer coverage reported in the Current Population Survey for the 1987 through 1997 period.[23] These analyses indicate a price elasticity of -0.34 percent, which means that on average, a one percent real reduction (i.e., inflation adjusted) in private employer premiums, corresponds to an increase in the percentage of people with insurance of 0.34 percent.[24]

Our price elasticity estimates vary by age, income and other demographic characteristics. For example, the percentage increase in coverage resulting from a one percent reduction in premiums ranges from a high of 0.55 percent among people with incomes of $10,000 to 0.09 percent among people with incomes of $100,000 ***(Figure 7)*** (i.e. a price elasticity of –0.55 to –0.09). Similarly, the percentage increase in coverage resulting from a one percent reduction in premiums ranges from 0.46 percent for people age 20 to 0.30 percent among people age 60 ***(Figure 8)*** (i.e. a price elasticity of –0.46 to –0.30). Thus, the model shows that older people and people in higher income groups are less sensitive to changes in price than other population groups.

Figure 7
Percentage Change in Coverage Resulting from a One-Percent Reduction in Premiums by Income Level (in percentages) ***a/***

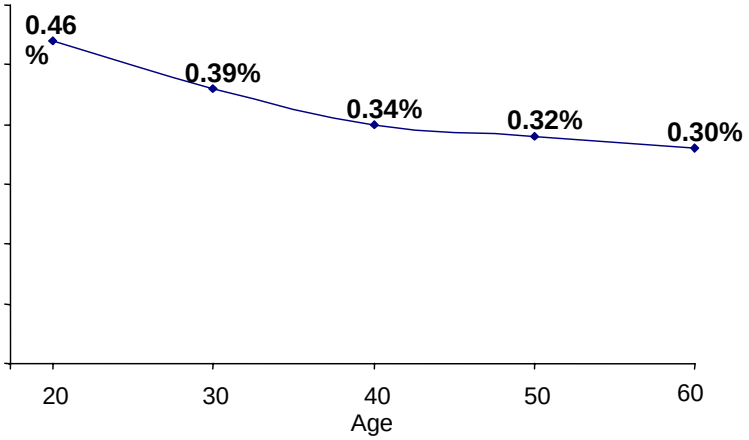


a/Indicates a price elasticity ranging between –0.55 to -0.09 by income.
Source: Lewin Group estimates.

[23] This required imputing premiums based upon employer survey data developed by the Kaiser Family Foundation (KFF) and the Health Research and Education Trust.

[24] See Sheils, J., Haught, R., "Health Insurance and Taxes: The Impact of Proposed Changes in Current Federal Policy", (report to The National Coalition on Health Care), The Lewin Group, October 18, 1999.

Figure 8
Percentage Change in Coverage Resulting from a One-Percent Reduction in Premiums by Age (in percentages) *a/*



a/ Indicates a price elasticity ranging between –0.46 and –0.30 by age.
Source: Lewin Group estimates.

3. Reinsurance proposals

Some proposal would subsidize the cost of insurance for selected groups through reinsurance as under the "Healthy New York program." This program permits insurers to provide a streamlined benefits package that includes a government sponsored subsidy to reduce the cost of the benefits. Under the original Healthy New York program, the subsidy comes in the form of a reinsurance mechanism where the state reimburses insurers for 90 percent of costs over $30,000 up to the maximum of $100,000 ($100,000 is the maximum covered amount under the policy).[25]

To illustrate, ***Figure 9*** presents our estimates of the premiums by age for the health New York benefits package and a typical state worker benefits package with the reinsurance subsidy used in the Healthy New York program. We simulate take-up for employers based upon the amount of the reduction in the premium using the employer price response model discussed above.

[25] New York recently revised the reinsurance component of the program to cover 90 percent of costs over $5,000 per person up the $75,000.

Figure 9
Estimated Cost of Selected Health Benefits Plans [a/]

Age group	Percent of Population By Age	Projected PMPM Premiums With Reinsurance in 2006	
		State Worker PPO Plan (Coventry)	Healthy New York
Premiums by Age for Program Net of Reinsurance Subsidy			
<1	0.5%	$1,502.26	$1,236.79
01-04	4.6%	$200.47	$165.05
05-09	7.2%	$94.75	$78.01
10-14	9.6%	$88.06	$72.50
15-17	6.5%	$109.03	$89.77
18-19	4.4%	$129.09	$106.27
20-24	6.0%	$130.40	$107.36
25-29	3.3%	$220.93	$181.89
30-34	6.1%	$235.72	$194.08
35-39	7.9%	$235.42	$193.81
40-44	9.4%	$263.25	$216.72
45-49	10.6%	$313.22	$257.86
50-54	10.3%	$405.72	$334.02
55-59	8.2%	$469.40	$386.45
60-64	5.4%	$650.45	$535.50
Average Premium to Participant PMPM		**$266.04**	**$219.05**
Single		**$312.49**	**$257.54**
Family		**$784.26**	**$646.35**
State Subsidy PMPM		**$31.44**	**$27.45**
Total Cost PMPM		**$297.48**	**$246.50**

a/ Estimates include benefits and administrative costs.
Source: Lewin Group estimates.

4. Wage Effects

We assume that changes in employer costs for health benefits are passed-on to workers in the form of changes in wages. Thus, increases in employer costs are assumed to be passed-on to workers in the form of reduced wages while decreases in health benefits expenses are passed-back to employees in the form of increased wages. We assume that this wage adjustment would occur among government employers as well, assuming that government compensation packages over-time would be adjusted to remain competitive in the labor markets. Economists expect these wage adjustments will occur in both unionized and non-unionized workplaces.

Our pass-through assumption is based upon the economic principle that the total value of employee compensation, which includes wages, employer payroll taxes, health benefits and other benefits, is determined in the labor markets. Thus, for example, a reduction in the cost of one form of compensation would cause wages and other compensation to be bid up in the labor markets resulting in an eventual pass-through of these savings to the worker. Similarly, increases in compensation costs would lead to reductions in wage growth or other benefits to reflect the change in costs.

There is considerable agreement among economists that these wage adjustments would occur in response to changes in employer benefits costs. However, there is disagreement over the period of time over which these adjustments would occur. It is likely that these adjustments would often take the form of reduced wage growth over-time. However, the full amount of the wage pass-through could take two or more years to fully materialize. For illustrative purposes, we assume that these wage effects occur in the first full year of the program. We also present our wage change estimates on an after-tax basis.

We assume that changes in employer costs for retiree health benefits would not be passed-through to workers as changes in wages. This is because retiree benefits costs are related to prior employer commitments that have little impact on the current labor markets. Thus, savings in retiree benefits are assumed to accrue to the employer. While these changes in employer profits could affect investor incomes, we do not model these effects here.

5. Employer Price Elasticity Estimates Compared

Our firm price elasticity estimates are similar to those estimated by several researchers. For example, Hadley and Reschovsky estimated a price elasticity of -0.63 for firms with fewer than ten workers, and -0.30 for firms with between 10 and 24 workers.[26] They showed variations in firm price elasticity by age and income. Gruber estimated a firm price elasticity of between -0.66 to -0.99 for firms with fewer than 50 workers.[27] However, some studies show larger firm price elasticity estimates. For example, Feldman estimated a firm price elasticity of between -3.9 and -5.5.[28] Blumberg and Nichols recently estimated a firm price elasticity of up to -1.8 for firms with fewer than 10 workers, dropping to -0.66 for firms with 10 to 24 workers and -0.25 for firms with 100 or more workers.[29]

However, all of these price elasticity estimates yield very little change in the number of people with coverage. In all of these studies, the estimated price elasticities are large only for the smallest firms. For example, a 25 percent reduction in premiums (e.g., in the form of a tax credit) for firms with under 50 workers would cover about 3.0 million workers using our price

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[26] Hadley, J. and Reschovsky, J., "Small Firms' Demand for Health Insurance: The Decision to Offer Insurance," *Inquiry* 39:118-137, 2002.

[27] Gruber, J., Lettau, M., "How Elastic is the Firm's Demand for Health Insurance?," (report to the National Bureau of Economic Research), Working Paper 8021, November 2000.

[28] Feldman, R., et al., "The Effect of Premiums on the Small Firm's Decision to Offer Health Insurance," *Journal of Human Resources*, vol. 32, no. 4 (fall 1997), pp. 637-658.

[29] Blumberg, B., et al., "The Health Insurance Reform Simulation Model (HIRSM): Methodological Detail and Prototypical Simulation Results," (report to the U.S. Department of Labor), The Urban Institute, July 2003.

elasticity assumptions, which is only about 10.1 percent of workers without coverage in this firm size group (***Figure 10***). Results are similar under the various firm price elasticity estimates.

The estimated impact is small because the price elasticity yields a percentage increase in the number of people with coverage in each firm size group, which is already quite small. There are about 19.2 million workers in firms with under 50 workers who had insurance in 2003. In this example, the estimated percent increase for all with under 50 workers was 15.5 percent [i.e., the weighted average price elasticity for under 50 workers (-0.64) multiplied by the percent change in premiums (25 percent)]. This is then applied to the number of people in the affected group who now have coverage (about 19.2 million workers) to estimate the change in coverage, which we estimate to be about 3.0 million workers (i.e., 15.5 percent increase over 19.2 million covered workers).

Figure 10
Comparison of Firm Price Elasticity Estimates

	Lewin [a/]	Gruber [b/]	Blumberg [c/]	Hadley & Reschousky [d/]
Estimated Price Elasticity				
Less than 10 Workers	-0.87	--	-1.8	-0.63
10-24 Workers	-0.41	--	-0.66	-0.30
25-100 Workers	-0.31	--	-0.25	-0.135 [e/]
Weighted Average for 1-50 Workers	-0.64	-0.66	-1.18	-0.45
Impact of a 25 Percent Reduction in Premiums for Firms With 50 or Fewer Workers				
Change in Number of Workers With ESI (thousands)	2,986	3,079	5,505	2,162
Percent of Workers in Non-insuring Firms Who Become Covered Under ESI	10.1%	10.4%	17.2%	7.3%

a/ John Sheils and Randall Haught, "Covering America: Cost and Coverage Analysis of Ten Proposals to Expand Health Coverage," Appendix A, (report to the Robert Wood Johnson Foundation (RWJF)), October 2003.
b/ Gruber, J., Lettau, M., "How Elastic is the Firm's Demand for Health Insurance?," (report to the National Bureau of Economic Research), Working Paper 8021, November 2000.
c/ Blumberg, B., et al.,"The Health Insurance Reform Simulation Model (HIRSM): Methodological Detail and Prototypical Simulation Results," (report to the U.S. Department of Labor), The Urban Institute, July 2003.
d/ Hadley, J. and Reschovsky, J., "Small Firms' Demand for Health Insurance: The Decision to Offer Insurance," *Inquiry* 39:118-137, 2002.
e/ Weighted average for the 25 to 50 worker and 50 to 100 worker firm size groups.
Source: Illustrative analysis by the Lewin Group.

E. Insurance Market Simulation Model

A number of proposals have emerged in recent years that would offer people a community rated alternative to private coverage, resulting in shifts in coverage and possibly adverse selection. Other proposals would alter the way in which insurance is regulated that would have differential impacts by age of policy-holder and other health risk groups. Examples of these policies include proposals to permit small employers to purchase coverage through the Federal Employees Health Benefits Program and creation of "association health plans (AHPs)" that are exempt from state insurance rating regulations.

We developed HBSM into a model of insurance markets. We did this by creating an employer database that holds information on both firm characteristics and the demographic and health spending information for each individual in those firms. Because no such database now exists, we matched firms in the KFF/HET data to individuals in the HBSM MEPS household data such that for each firm, there is one MEPS worker for each of the workers that each firm reported they employed. This type of database is typically referred to as a "Synthetic Firm" database.

Using these data, we can simulate the premiums each firm would be charged in their market based upon the rating practices and state regulations that apply in each state. The health

expenditure data in the database permits us to simulate experience rating and medically underwritten premiums. These data provide a basis for estimating how employer premiums would be affected by changes in regulation of premiums. It also permits simulation of the potential for adverse selection under proposals creating government sponsored insurance pools.

In this section, we describe the creation of the synthetic firm data and the methods used to simulate the effect of proposed health reforms. Our discussion is presented in the following sections:

- Creating Synthetic Firm Database;
- Rating methods for insurance pools;
- Take-up for non-insuring firms;
- Employer shift to less comprehensive coverage;
- Worker take-up; and
- Example policy simulation.

1. Synthetic Firms

To be able to simulate employer decisions under alternative health reform plans, it is necessary to develop a database of "synthetic firms" that include both detailed information on employer health plans and the health service use of each worker and dependent in each firm. We create one synthetic firm for each worker in the MEPS data. Once the worker is assigned to one of the KFF/HRET employers, we populate the firm by statistically matching each firm to a sample of workers randomly drawn from the MEPS data for 1999 through 2001, who match the workforce profiles estimated for each firm in the database.[30]

The model simulates health insurance premiums for each synthetic firm based upon the rating rules used in each state and reported health expenditures for workers and dependents assigned to each firm. Premiums are estimated for each firm based upon the rating rules that apply in the firm's state of residence. This includes the use of age rating and rating bands in the small group market where applicable, experience rating for larger firms and costs for self-funded plans. This simulation of the premiums employers face in the marketplace is crucial to analyses of proposals that would modify rating practices, or offer coverage alternatives such as small employer pools using their own rating methods.

Figure 11 presents the distribution of employers in the Lewin model by average benefits costs per-member-per-month (PMPM) under a standard benefits package. We estimate average premiums of about $283 PMPM in 2006, which includes benefits and administrative costs for employer health plans over the number of covered workers and dependents. There is wide variability in health plan costs due to differences in administrative costs, claims experience, health status rating and variations in rating practices across states.

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[30] For example, an insuring firm with five low-wage females who work part-time would be matched to five low-wage females in MEPS who are working part-time and have employer coverage.

Figure 12 illustrates that the variability in PMPM premium costs varies widely across employers by size of group. For example, among firms with fewer than 10 workers, PMPM premiums range from about $460 for firms in the 10 percent most costly firms compared with average costs of $157 for firms in the 10 percent least costly firms. By comparison, PMPM premiums in firms with 1,000 or more workers vary from $372 for the 10 percent most costly groups to $215 for the least costly 10 percent of firms.

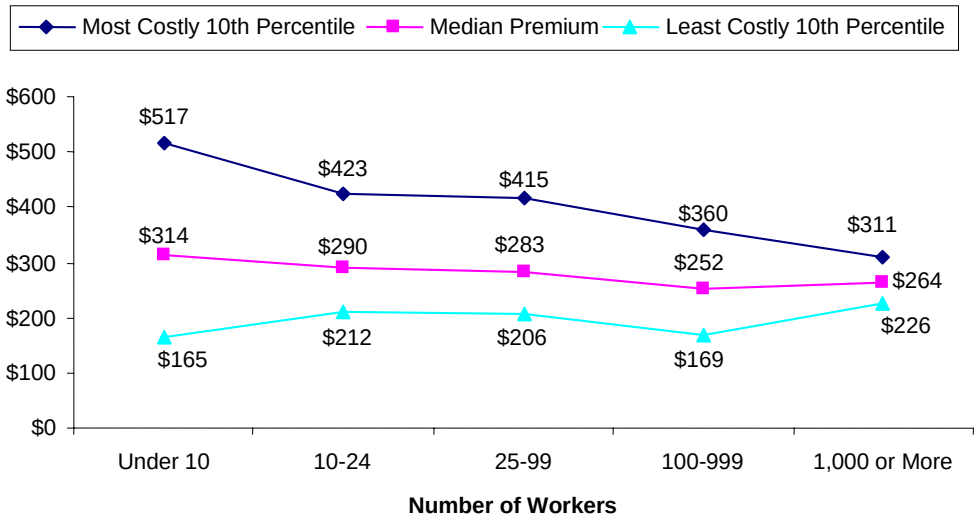
2. Modeling the Effect of Insurance Pools

One of the most crucial elements of insurance pooling models is the manner in which pool premiums are determined. As discussed above, group premiums in today's market typically vary with the age of the worker, health status and experience (i.e., claims history). Many proposals would use mechanisms for determining premiums in the pool that differ from those used in the insurance markets. This can have a dramatic effect on coverage and premiums in both the pool and the traditional insurance market. There are three ways in which premiums are set under most small group proposals. They include:

Figure 11
All Insuring Employers by Premium Cost PMPM in 2006:
Includes Benefits and Administration [a/]

a/ Estimates for a standard benefits package.
Source: Lewin Group estimates using the Health Benefits Simulation Model (HBSM).

Figure 12
Estimated Average Health Insurance Costs (PMPM) for Most Costly and Least Costly 10 Percent of Employer Groups in 2006: Includes Benefits and Administration [a/]



a/ Estimates for a standard benefits package.
Source: Lewin Group estimates using the Health Benefits Simulation Model (HBSM).

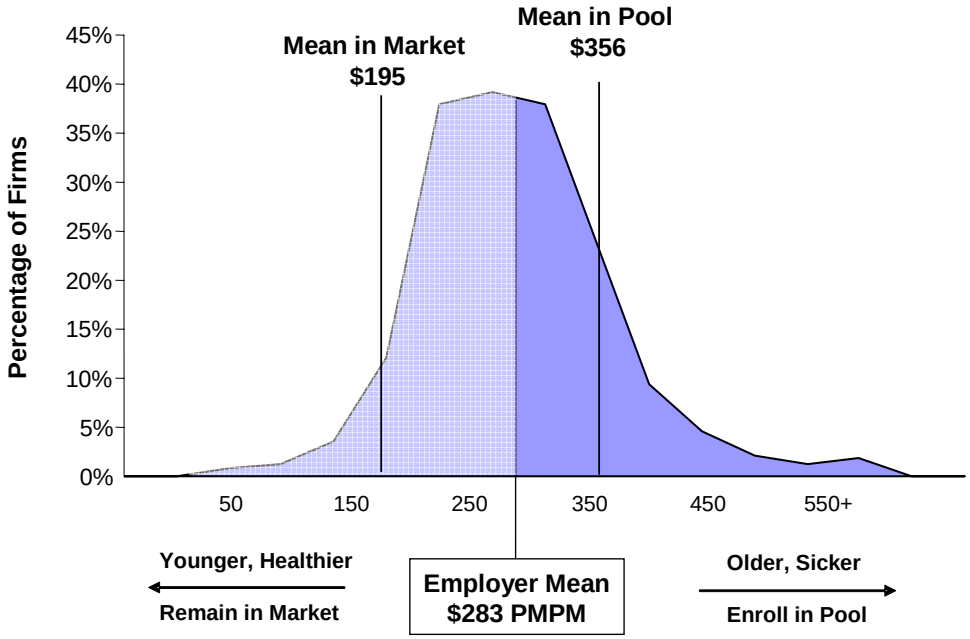
- **Uniform Pool Premium:** In this model, premiums in the pool are set at a single amount per enrollee regardless of age and risk factors. Some of those proposals that would extend FEHBP to small groups would permit plans to charge only a single uniform premium that varies only with family status (i.e., single vs. family etc.). This approach would tend to attract higher cost groups that find the premium in the pool to be less than what they are paying in the traditional insurance market.
- **Risk factor rating of pool premiums:** In this model, plans in the pool are free to set premiums according to any risk factors they choose. This means that pools can fully adjust for health status and age even in states that limit the use of health status and age ratings in the traditional market. Under this model, groups with younger and healthier members would tend to enroll in the pool because they can offer these groups lower premiums than can be charged in the traditional market. Premiums in the traditional market typically increase due to the migration of lower-cost people to the pool.
- **State rating laws apply in pool:** Under this approach, plans selling coverage in the pool must follow the same rating rules that apply to coverage sold in the traditional market, including limit on age and health status rating. Under this model, premiums in the pool are expected to be the same and in the insurance markets, except to the extent that the pool can achieve savings in administration and/or benefits costs.

Thus, if the pool is less able to vary premiums with risk factors than the insurers in the traditional market, the pool will tend to acquire a disproportionate share of high-cost groups,

with lower cost people remaining in the traditional market. Conversely, if rating variation in the pool is permitted to be greater than is required in the traditional insurance market, the pool will acquire lower-cost people that left the higher-cost population in the traditional insurance market. This phenomenon - known as "adverse selection" - can have significant implications for the distribution of groups across the pool and traditional insurance markets. This, in turn, will result in premium adjustments in the pool and the traditional insurance market, which will result in further shifts in coverage.

Figure 13 illustrates how the model would simulate a pool that is required to set its premiums based upon the average cost of people enrolled in the pool, regardless of risk characteristic. The figure shows the distribution of insuring firms based on the premiums the firms would pay per-member per-month (PMPM) under current insurer rating practices. If the pool were established with a uniform premium of $283 – which is our estimate of the average premium in the small group market in 2006 – firms with premiums in excess of that amount would enroll in the pool with the rest remaining in the traditional market. Under this example, the premium in the pool would need to be increased to $356 PMPM to collect premiums sufficient to meet pool costs.

Figure 13
All Insuring Employers by Premium Cost PMPM in 2006:
Includes Benefits and Administration [a/]



a/ Estimates for a standard benefits package.
Source: Lewin Group estimates using the Health Benefits Simulation Model (HBSM).

The model simulates these effects on the equilibrium price of insurance in an iterative process. For example, in this example the small pool premium is reset at $356 PMPM while the premium

for those who remain in the traditional insurance market is adjusted to reflect the migration of more costly groups to the pool. Similarly, premiums in the traditional market are adjusted to reflect the accumulation of lower-cost people in the pool. Enrollment in the pool and the private market is then re-simulated at these premium levels. This process is repeated multiple times to arrive at an equilibrium pool enrollment and premium estimate (equilibrium is defined to be the point where total costs are roughly equal to the cost of benefits and administration for the pool).

The model can also simulate the effect of permitting greater variation in premiums by risk factors than is permitted in the traditional market. Under this model, the pool would tend to accumulate lower-cost groups with higher-cost groups remaining in the traditional market. We simulate the resulting changes in premiums in the pool and the insurance markets using the iterative process described above; the pool and the insurance market are in equilibrium (i.e., premiums equal costs).

Pool premiums are affected by other factors as well. For example, some non-insuring employers are expected to enroll as coverage at a lower premium is made available to them. Also, some small group pool proposals permit the sale of coverage that is exempt from state regulations of insurance such as mandatory benefits and solvency standards. This would tend to attract lower-cost groups that are more willing to accept the reduction in benefits in exchange for the lower premium. Our approach to modeling these effects is summarized below.

3. Employer Decision to Shift to Lower Cost Plans

The impact of insurance pools on firms that already offer coverage is more complex in cases where benefits under the pool differ from those now offered by the employer. For example, the President has proposed the creation of small group insurance pools – called "Association Health Plans (AHPs)" – that would be exempt from state minimum benefits requirements. While the exemption from mandated benefits reduces the cost of insurance (estimated to be 5.0 percent to 7.5 percent), many employers will prefer to continue with their existing benefits.

We simulate the employer decision to shift to the less comprehensive coverage offered in the pool based upon studies of how people respond to changes in the price of insurance in employer groups offering a choice of health plans.[31] One study estimated that a 1.0 percent decrease in the price of an alternative source of coverage was associated with a 2.47 percent migration of enrollees to the alternative health plan (i.e., a cross-price elasticity of -2.47). However, these elasticity estimates vary by age and health status such that older and sicker people are less likely to switch plans in response to a given change in price (***Figure 14***).

These elasticity estimates are used to simulate the employer decision to shift into the pool. Using these assumptions, the model tends to shift younger and healthier groups into the pool, leaving higher cost groups in the private insurance market. This causes premiums to increase for those who remain in the traditional insurance markets. Costs for firms shifting into the pool are included when recalculating small group pool premiums.

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[31] Stombom, B., Buchmueller, T., Feldstein, P. "Switching Costs, Price Sensitivity and Health Plan Choice," *Journal of Health Economics*, 21 (2002), 89-116.

Figure 14
Plan Switching Price Elasticity Estimates Used in HBSM

Age of Participant	Low Risk	High Risk a/
Under 31	-3.50	-2.78
31 to 45	-2.54	-2.54
Over 45	-2.07	-1.38

a/ People in the 90th percentile of health spending.
Source: Stombom, B., Buchmueller, T., Feldstein, P. "Switching Costs, Price Sensitivity and Health Plan Choice," *Journal of Health Economics*, 21 (2002), 89-116.

4. Employer Decision to Offer Insurance

Pooling proposals are typically designed to increase coverage among employers who do not currently offer insurance. However, if a significant portion of lower-cost groups migrate to the pool, premiums would increase for those left in the private market. This increase in private market premiums would result in a partially offsetting reduction in coverage among those with the highest costs.

The model simulates these changes in coverage for insuring and non-insuring firms. The model does this by calculating the difference between the premium they would pay for comparable coverage in today's insurance markets and the amount they would be charged under the rating methods used by the pool. Non-insuring firms are simulated to take the coverage based upon the change in price and our estimated firm price elasticity estimates presented above. Similarly, these price elasticity estimates are used to simulate the discontinuations of coverage among those facing premium increases in the private market.

5. Example Policy Simulation

President Bush has proposed the creation of AHPs which are essentially small group insurance pools. AHPs could be established to provide health insurance coverage to small employers (typically defined as firms with under 100 workers), within or across state boundaries. Costs within AHPs would be reduced by exempting these plans from state regulation of insurance, including mandatory benefits and solvency rules. Savings may also result from administrative efficiencies and large group purchases of health services. However, it is unclear whether the AHPs would be exempt from state regulations of rating practices.

We simulated the impact of this proposal under two alternative assumptions. In the first scenario, the AHPs are assumed to be required to rate policies in the same way they are rated in the private market under current law. This means that the primary cost advantage of the AHPs is that they are exempt from state mandated benefits and certain other regulations. In the second scenario, we assume that AHPs are exempt from state regulation and are permitted to set premiums for older and sicker groups at higher levels than are permitted under current state rating regulations. This means that the pool would have an additional cost advantage, in that they can charge younger and healthier groups a lower premium than is permitted in private insurance markets.

Under the first scenario (i.e., under current state rating laws), we estimated that AHP enrollment nationally would be about 6.0 million people. The number of uninsured would be reduced by about 400,000 people (***Figure 15***). We estimate that premiums in the AHPs would be about 5.2 percent lower than in the traditional insurance market resulting in about 490,000 uninsured people enrolling in the AHPs. However, premiums in the traditional market would actually increase by about 0.5 percent resulting in a partially offsetting reduction in coverage of about 90,000 people.

Figure 15
Summary Comparison of Alternative Estimates of AHP Impacts [a/]

	AHPs Subject to State Rating Regulations [b/]	AHPs Exempt from State Rating Regulations [c/]
Reduction (Increase) in Number of Uninsured (1,000s)	400	726
Uninsured Who Gain Coverage (1,000s)	490	924
Insured Who Lose Coverage (1,000s)	-90	198
Percent Changes in Premiums	-0.1%	1.0%
People Covered in AHP	-5.2%	-14.1%
People in Traditional Insurance Market	0.5%	2.5%
AHP Enrollment (1,000s)	5,990	13,388
Newly Insuring Firms (1,000s)	490	924
Firms Shifting to AHP (1,000s)	5,500	12,464

a/ The CBO and The Lewin Group studies assume that AHPs are open only to firms with fewer than 50 workers.
b/ Assumes AHPs are exempt from minimum benefits and reserve requirements but not exempt from state ratings regulations. See "Bush and Kerry Health Care Proposals: Cost and Coverage Compared," The Lewin Group, September 2004.
c/ The Lewin Group estimates of AHP impacts assuming that AHPs are exempt from state rating regulation.
Source: Compiled from published estimates.

In the second scenario, we permit AHPs to vary premium with risk factors beyond what is permitted under current state laws. Under this scenario, about 13.4 million people would be induced to take coverage through the AHPs. About 924,000 uninsured would obtain coverage. This would be partially offset by a reduction in coverage of about 198,000 people. These are people in firms facing an increase in premiums in the traditional market. There would be a net reduction in the number of uninsured of about 726,000 people under this scenario.

This example illustrates the model's ability to simulate the impacts of changes in the rating practices permitted under small group pools.

F. Tax Policy Simulations

The Current Population survey data provide information on tax payments and marginal income tax rates. These data are used to impute average and marginal tax rates for households in

MEPS. These data are used to estimate the tax expenditure for health benefits and to estimate the value of tax deductions for health benefits.

Based upon an analysis of the CPS data on tax filings, we estimate that about 40 percent of all uninsured have no tax liability and are not required to file a tax return. However, about half of these people file even though not required to do so, presumably so that they can obtain any refund they are entitled to.

Figure 16
Distribution of Insured and Uninsured Tax Filers by Marginal Tax rate in 2004

	With Earnings	Without Earnings	Total	With Earnings	Without Earnings	Total
All Tax Filing Units in the US				**Uninsured Tax Filing units in US**		
Total Potential Filers	**119,981**	**39,367**	**159,348**	**23,004**	**5,016**	**28,020**
Non-Filers	**9,451**	**20,377**	**29,828**	**2,848**	**3,330**	**6,178**
All Filers by Marginal Tax Rate				**Uninsured Filers by Marginal Tax Rate**		
0	18,855	11,203	30,068	5,982	648	6,630
10	15,679	2,470	18,149	4,992	354	5,346
15	43,914	3,447	47,361	7,389	484	7,873
27	25,537	1,394	26,931	1,424	140	1,564
30	4,437	359	4,796	242	43	285
35	870	60	930	60	9	69
39	1,235	54	1,289	67	7	74
Total Filers	**110,530**	**18,990**	**129,520**	**20,156**	**1,686**	**21,842**

Source: Lewin Group Estimates Using the 2005 Current Population Survey (CPS) Data.

Summary of Data and Methods used to Develop Estimates of Revenues under Alternative Proposal for Financing Health Reform Proposals in Colorado

Summary of Data and Methods used to Develop Estimates of Revenues under Alternative Proposal for Financing Health Reform Proposals in Colorado

In this study, we estimated the amount of revenues that could be raised under several proposed sources of revenues. In this Appendix, we describe the methodology used to estimate revenue from possible tax provisions including:

- Increasing the cigarette tax from $0.84 to $2.00 per pack
- Increasing alcohol taxes as follows:
    - Spirits: from $0.6026 to $5.63 per liter
    - Wine: from $0.073 to $0.66 per liter
    - Beer: from $0.08 to $0.26 per gallon
- A nutritional sales tax on consumable food items that have little or no nutritional value as follows:
    - Carbonated Soft Drinks: range from 2.0% to 5.0%
    - Salty Snack Foods: range from 2.0% to 5.0%

A. Cigarette Tax

Currently, the tax per pack of cigarettes in Colorado is $0.84 per pack. An author proposed increasing the tax to $2.00 per pack. In ***Figure 1***, we display the estimated increase in revenue associated with such a tax increase - $210.6 million for FY 2007-2008. We assume that the average pack of cigarettes in the State of Colorado is currently $4.13, which includes the current tax of $0.84.[32]

According to monthly estimates by the Colorado Department of Revenue there were 220,865,760 packs of cigarettes that were charged the $0.84 tax in FY 2006-2007. We trend this number forward using the projected growth in cigarette tax revenue from FY 2006-2007 to FY 2007-2008 reported in the June 2007 Revenue Forecast by the Office of State Planning and Budgeting (OSPB).[33] Our estimate of FY 2007-2008 packs is 214,272,752. We apply the current tax rate to the number of packs to estimate tax revenue under current law, which amounts to approximately $180.0 million.

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[32] Ann Boonn, July 1, 2007. *Campaign for Tobacco-Free Kids, State Cigarette Prices, Taxes, and Costs per Pack*. Available as of July 8, 2007 at http://tobaccofreekids.org/reports/prices.

[33] The growth rate was -3.0 percent. The report was available as of July 8, 2007 at http://www.state.co.us/gov_dir/govnr_dir/ospb/economics/cep/2007/cep2007-06.pdf.

Figure 1
FY 2007-2008 Estimate of Additional Revenue from Cigarette Tax Increase

Status Quo - $0.84 per pack	
Average Price per Pack	$4.13
Packs	214,272,752
Cigarette Tax Revenue	$179,989,112
Proposed Tax - $2.00 per pack	
New Average Price per Pack	$5.29
Percent Increase Price per Pack	28.09%
Price Elasticity of Demand for Cigarettes	-0.315
Percentage Decrease in Utilization	-8.85%
Packs	195,315,061
Cigarette Tax Revenue	$390,630,123
Additional Tax Revenue	**$210,641,011**

Source: Lewin Estimates

Applying a $2.00 tax increases the average price of cigarettes in Colorado by 28.1 percent to $5.29 per pack. Studies have shown that increases in the price of cigarettes will decrease the demand for cigarettes. According to estimates reported in Farelly et al., the price elasticity of demand for cigarettes ranges from -0.30 to -0.33.[34] We use the midpoint of that range, -0.315 for our estimates. Therefore, for every 1.0 percent increase in price, we estimate a 0.315 percent decrease in the demand for cigarettes. This leads to an 8.85 percent decrease in the number of packs that are taxed in FY 2007- 2008. We apply the proposed $2.00 tax to the estimated number of packs under the proposed tax scenario, 195,315,061, and obtain an estimate of $390.6 million in total cigarette tax revenue. This amounts to an estimated $210.6 million in additional cigarette tax revenue.

B. Alcohol Tax

Figure 2 displays our estimates for the increases in beer, wine and spirit taxes. We begin with the FY 2006-2007 tax collections for beer, wine and spirits reported by the Colorado Department of Revenue and calculate implied utilization statistics by dividing the total tax collections by the corresponding current tax rate. Note that beer utilization is in gallons and wine and spirits are in liters. The taxes are applied similarly; that is, the beer tax is per gallon while the wine and spirit tax is per liter.

[34] Farrelly, M.C. et al. 2003. The impact of tobacco control program expenditures on aggregate cigarette sales: 1981-2000. *Journal of Health Economics*, 22: 843-859.

Figure 2
FY 2007-2008 Estimate of Additional Revenue from Beer, Wine and Spirit Tax Increases

	Current Tax rate	FY 2006-2007 Tax Collections	Implied Utilization w/o tax increase	Price Elasticity of Demand for Alcohol	New Tax Rate	Average Price Before the New Tax Rate	New Utilization	Proposed FY 2007-2008 tax revenue	FY 2007-2008 Additional Revenue from Tax Increase
Beer [a]	$0.08	$8,742,155	109,276,938	-0.30	$0.26	$12.89	$108,615,681	$28,240,077	$19,497,922
Wine	$0.07	$3,793,661	51,755,266	-1.00	$0.66	$8.34	$47,658,447	$31,454,575	$27,660,914
Spirits	$0.06	$21,297,741	35,343,082	-1.50	$5.63	$17.00	$17,785,886	$100,134,539	$78,836,798
Total		**$33,833,557**						**$159,829,191**	**$125,995,634**

a/ Includes hard cider.
Source: Lewin Estimates.

As with the cigarette tax, we take into account the offsetting effect of reduced demand due to price increases. We use elasticity estimates of -0.3, -1.0 and -1.5 for beer, wine and spirits respectively, which are based on estimates reported in Chaloupka et al.[35] We estimate the current average price for one gallon of beer and one liter of wine and spirits to be $12.89,[36] $8.34,[37] and $17.00[38] respectively. Using the percentage increase in price due to the proposed tax increases and the elasticity estimates just described we are able to calculate utilization figures under the new tax structure. In order to estimate FY 2007-2008 tax revenue, we multiply the new tax rates with the new utilization figures.

Total tax revenue for FY 2007-2008 is estimated to be $159.8 million. Since we did not assume any new utilization (i.e. the utilization would have been the same in FY 2007-2008 if not for the tax increase), we estimate the additional tax revenue from the new taxes as the difference between the FY 2007-2008 and FY 2006-2007 amounts. This estimate is $126.0 million.

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35 Chaloupka, F.J., et al. 2002. The Effects of Price on Alcohol Consumption and Alcohol-Related Problems. Alcohol Reseach and Health, 26(1): 22-34. The elasticity estimates are actually based upon a meta-analysis of economic studies on alcohol demand: Leung, S.F. and Phelps, C.E. *"My Kingdom for a Drink…?" A Review of Demand for Alcoholic Beverages*. InHilton, M.E. and Bloss, G., eds. *Economics and the Prevention of Alcohol-Related Problems*. NIAAA Research Monograph No. 25, NIH Pub. No 93-3513.

36 This estimate for beer is based upon the national average price for one gallon of Corona as reported by the American Water Works Association. Available as of July 9, 2007 at http://www.awwa.org/Advocacy/news/info/PricePerGallon.

37 We used two reports to get data on average prices for wine in Colorado. (1) Thilmany, D. et al. May 2006. *The Economic Contribution of the Colorado Wine Industry*. Cooperative Extension, Colorado State University, Department of Agricultural and Resource Economics: Fort Collins, CO. Available as of July 11, 2007 at http://dare.colostate.edu/csuagecon/extension/docs/impactanalysis/edr06-08.pdf. (2) Colorado Wine Statististics. November 2, 2006. *Colorado Wine Production and Market Share*. Available as of July 11, 2007 at http://www.coloradowine.com/pdf/COWineStats.pdf.

38 The estimate of the average price for one liter of liquor is based upon best guesses by the analysts.

C. Nutrition Tax

In order to estimate possible revenue obtained from nutrition taxes, we estimated a range, of impacts for taxes on carbonated soft drinks and on snack foods. At the bottom end of the range we analyzed a 2.0 percent tax and at the top a 5.0 percent tax. These are the magnitudes for nutrition taxes proposed by one of the authors.

1. Carbonated Soft Drinks

Figure 3 displays our results for taxes on carbonated soft drinks (CFDs). We first estimate FY 2007-2008 per household expenditures for CSDs. We base this estimate on 2004 and 2005 estimates of the total national retail value of CSDs ($65.9 billion and $68.1 billion respectively)[39] divided by the corresponding total estimated number of US households (112.0 million and 113.1 million respectively).[40] This division gives us per household estimates for 2004 ($588) and 2005 ($602) which we trend forward using the percent change from these two years. The estimate of per household CSD expenditures is $630 for FY 2007-2008.

Figure 3
FY 2007-2008 Estimate of Additional Revenue from Tax on Carbonated Soft Drinks

Per Household CSD Expenditures	Households in Colorado	Total CSD spending	Tax Elasticity of Spending	Revenue from 2% Tax	Revenue from 5% Tax
$630	1,990,000	$1,253,262,407	0.5	**$12,532,624**	**$31,331,560**

Source: Lewin Estimates

We also estimate the total number of households in Colorado using data from the Current Population Survey and our Health Benefit Simulation Model. We multiply the total number of households by per household CSD expenditures to get a total of $1.3 billion in CSD spending for the State. According to a study by Tefft, a one percent tax on the price of soda will lead to revenue of 0.5 percent. [41] Using this result, we estimate revenue from a 2.0 percent tax to be $12.5 million and a 5.0 percent tax to be $31.3 million.

2. Salty Snack Foods

We also estimated the impact of a 2.0 percent and 5.0 percent tax on certain salty snack foods; potato chips, pretzels, cheese puffs, microwave popcorn, and nuts (packaged in bulk). ***Figure 4*** displays our results.

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[39] Beverage Digest. March 8, 2006. Special Issue: All Channel Carbonated Soft Drink Performance in 2005, Vol 48(7). Available as of July 11, 2007 at http://www.beverage-digest.com/pdf/top-10_2006.pdf.

[40] US Census. *Statistical Abstracts of the United States*. http://www.census.gov/prod/2006pubs/07statab/pop.pdf

[41] Teft. NW. March 2006, DRAFT, *The Effects of a "Snack Tax: on Household Soft Drink Expenditure.*

We used data form the 1999 AC Neilsen Homescan Panel to estimate a per pound household expenditure for salty snack foods.[42] We project the 1999 figure to FY 2007-2008 using the Bureau of Labor Statistics Consumer Price Index for food and beverages. This amounts to $2.93. According to the 1999 AC Neilsen data, the average number of pounds of salty snack foods purchased by a household was 31.810 lbs. We assume this would be the same in FY 2007-2008 before any tax increases.

Figure 4
FY 2007-2008 Estimate of Additional Revenue from Tax on Salty Snack Foods

Average Amount of Household Expenditures per pound	Average Pounds Per Household before tax	Price Elasticity of Demand	Average Pounds Per Household with 2% Tax	Revenue from 2% Tax	Average Pounds Per Household with 5% Tax	Revenue from 5% Tax
$2.93	31.810	-0.45	31.524	***$3,671,906***	31.094	***$9,179,764***

Source: Lewin Estimates

We use a price elasticity of demand for snacks of -0.45 to account for the offset in consumption due to the increase in price.[43] This leads to slight decreases in the average household consumption of salty snack foods to 31.524 lbs and 31.094 lbs under the 2 percent and 5 percent tax scenarios respectively. The corresponding revenues are $3.7 million and $9.2 million.

[42] This data was reported in: Kuchler et al. August 2004. Taxing Snack Foods: What to Expect for Diet and Tax Revenues. *Agriculture Information Bulletin*, No 747-08

[43] Kuchler et al. August 2004. Taxing Snack Foods: What to Expect for Diet and Tax Revenues. *Agriculture Information Bulletin*, No 747-08. We average the low (-0.2) and high (-0.7) elasticity estimates reported.

August 15, 2007

Evelyn Murphy
Senior Manager
The Lewin Group
3130 Fairview Park Drive, Suite 800
Falls Church, VA 22042

Subject: Claim Cost Estimates for the Colorado Blue Ribbon Commission for Health Care Reform

Dear Ms Murphy:

Per your request, NovaRest and its subcontractor developed estimates of medical expense per member per month (PMPM) by age/sex and tier cohort for five different benefit plan designs assuming the total Colorado under age 65 population beginning January 1, 2009. These projections are shown in the attached exhibit. The five benefit plans come from a variety of different health care proposals and are intended to cover different subpopulations within Colorado. We were asked to assume that all Coloradans under 65 would be covered and that if there was any ambiguity or ranges shown in the benefit descriptions we were to default to the highest level of cost-sharing. We have included the benefit schedules we were provided as an attachment. This memorandum summarizes the pricing assumptions made during our medical expense development as well as the general methodology undertaken.

Summary of Composite Medical Expense PMPM

- Better Health Care for Colorado $247.05
- Nationwide BCBS Benefit Plan $286.71
- Premium Assistance Plan $288.06
- Solutions for a Healthy Colorado $206.27
- Aetna Health Fund $281.68

Assumptions

Utilization

- Initial utilization assumptions for over 70 service categories were derived from Donlon and Associates (D&A's) national data base adjusted for the estimated age/sex demographics of the potential covered population. The estimated demographics reflect U.S. Census data for the State of Colorado under 65 population.
- The initial utilization across-the-board was increased 5% from the nationwide average starting assumptions for commercial insureds to reflect that there may be higher

utilization due to previously uninsurable people now being covered. We are estimating a higher morbidity for those who are currently uninsured or underinsured. Though this is an educated guess at best we estimate that a reasonable range for this selection factor might be in the neighborhood of +2% to +10%.

- Utilization for broad service categories was adjusted to reflect Colorado-specific utilization tendencies versus nationwide average. These area factors applicable to utilization were derived from various sources over the past several years and have been compiled into area factor tables which we use internally. The service categories and Colorado utilization adjustments made are as follows:
    - Hospital Inpatient: -15%
    - Hospital Outpatient: +4%
    - Physician & Other: -5%
    - Prescription Drugs: +0%

Discounts and Unit Cost Assumptions

- The following in-network service category discounts were assumed:
    - Hospital Inpatient: 52%
    - Hospital Outpatient: 52%
    - Physician (composite): 40%
    - Other/Ancillary (composite) 46%
    - Prescription Drugs
        - Generic: 57%
        - Brand: 16%

- The average discounts shown are the result of provider reimbursement data from a variety of sources. The hospital billed charges and discounts were taken from 2005 data for some Colorado large employers. The average inpatient charge per day from this source was $6,829 and was trended at a 6% annual rate to 2009. The physician billed and allowed charges assumptions were taken from a large national insurance company's Colorado physician contracts in 2003. This data equates to 182% and 123% of 2007 RBRVS for billed and allowed charges, respectively. We trended these amounts 6% annually for billed charges and 4% annually for allowed charges to project them to 2009. The other discounts and charge levels assumed are representative as national norms.
- Out-of-network discounts were assumed to be 0%.

Plan Design Issues

It should be noted that three of the benefit designs priced are HMOs and the other two are PPOs. For the HMO plans, we assumed a typical level of managed care and its resulting impact on the utilization levels. For the PPO plans, we assumed a reduced degree of care management and slightly higher utilization levels as a result. The loadings are in line with what we would routinely use for PPO pricing. For the PPO plans, we also assumed that out-of-network provider reimbursement would be at a level similar to billed charges. We assumed 85% in-network penetration for IP Hospital and 80% for most remaining service categories. The major exception is pharmacy which we assumed would be covered under a drug card and therefore assumed 100% in-network penetration.

Contract Effective Date

- July 1, 2007

If you have any questions or want to discuss this further, I can be reached at 847-973-2833.

Sincerely,

Donna C. Novak

Donna C. Novak, FCA, ASA, MAAA, MBA
President & CEO

Better Health Care for Colorado $247.05 PMPM

Medical Expense PEPM by Age/Gender/Tier
Contracts Effective 7/1/2007

Age-Sex Rating Factors *Monthly Medical Expense per Employee*

	Two Tier		Two Tier	
	Single	Family	Single	Family
Age/Gender	Factor	Factor	Factor	Factor
<25 M	0.494	1.785	$122.05	$440.91
25 - 34 M	0.604	2.602	$149.19	$642.74
35 - 44 M	0.799	3.106	$197.29	$767.38
45 - 54 M	1.341	3.493	$331.21	$862.99
55 - 64 M	2.278	4.173	$562.81	$1,030.89
<25 F	0.883	1.901	$218.09	$469.69
25 - 34 F	1.111	2.684	$274.48	$663.08
35 - 44 F	1.293	2.975	$319.34	$734.99
45 - 54 F	1.704	3.517	$420.98	$868.77
55 - 64 F	2.452	4.318	$605.72	$1,066.71

Nationwide BCBS Benefit Plan $286.71 PMPM

Medical Expense PEPM by Age/Gender/Tier
Contracts Effective 7/1/2007

Age-Sex Rating Factors *Monthly Medical Expense per Employee*

	Two Tier		Two Tier	
	Single	Family	Single	Family
Age/Gender	Factor	Factor	Factor	Factor
<25 M	0.494	1.785	$141.64	$511.68
25 - 34 M	0.604	2.602	$173.14	$745.91
35 - 44 M	0.799	3.106	$228.96	$890.55
45 - 54 M	1.341	3.493	$384.37	$1,001.51
55 - 64 M	2.278	4.173	$653.15	$1,196.37
<25 F	0.883	1.901	$253.10	$545.08
25 - 34 F	1.111	2.684	$318.54	$769.52
35 - 44 F	1.293	2.975	$370.60	$852.97
45 - 54 F	1.704	3.517	$488.55	$1,008.22
55 - 64 F	2.452	4.318	$702.95	$1,237.93

Premium Assistance Plan $288.06 PMPM
Medical Expense PEPM by Age/Gender/Tier
Contracts Effective 7/1/2007

	Age-Sex Rating Factors		*Monthly Medical Expense per Employee*	
	Two Tier		Two Tier	
Age/Gender	Single Factor	Family Factor	Single Factor	Family Factor
<25 M	0.494	1.785	$142.31	$514.09
25 - 34 M	0.604	2.602	$173.95	$749.42
35 - 44 M	0.799	3.106	$230.04	$894.74
45 - 54 M	1.341	3.493	$386.18	$1,006.22
55 - 64 M	2.278	4.173	$656.22	$1,201.99
<25 F	0.883	1.901	$254.29	$547.65
25 - 34 F	1.111	2.684	$320.04	$773.14
35 - 44 F	1.293	2.975	$372.34	$856.98
45 - 54 F	1.704	3.517	$490.85	$1,012.96
55 - 64 F	2.452	4.318	$706.25	$1,243.75

Solutions for a Healthy Colorado $208.27 PMPM
Medical Expense PEPM by Age/Gender/Tier
Contracts Effective 7/1/2007

	Age-Sex Rating Factors		*Monthly Medical Expense per Employee*	
	Two Tier		Two Tier	
Age/Gender	Single Factor	Family Factor	Single Factor	Family Factor
<25 M	0.494	1.785	$102.89	$371.70
25 - 34 M	0.604	2.602	$125.77	$541.85
35 - 44 M	0.799	3.106	$166.32	$646.92
45 - 54 M	1.341	3.493	$279.22	$727.52
55 - 64 M	2.278	4.173	$474.46	$869.07
<25 F	0.883	1.901	$183.86	$395.96
25 - 34 F	1.111	2.684	$231.39	$559.00
35 - 44 F	1.293	2.975	$269.21	$619.62
45 - 54 F	1.704	3.517	$354.90	$732.40
55 - 64 F	2.452	4.318	$510.64	$899.26

Aetna Health Fund $281.68 PMPM

Medical Expense PEPM by Age/Gender/Tier
Contracts Effective 7/1/2007

	Age-Sex Rating Factors		*Monthly Medical Expense per Employee*	
	Two Tier		Two Tier	
Age/Gender	Single Factor	Family Factor	Single Factor	Family Factor
<25 M	0.494	1.785	$139.16	$502.71
25 - 34 M	0.604	2.602	$170.10	$732.84
35 - 44 M	0.799	3.106	$224.95	$874.95
45 - 54 M	1.341	3.493	$377.64	$983.96
55 - 64 M	2.278	4.173	$641.70	$1,175.40
<25 F	0.883	1.901	$248.66	$535.53
25 - 34 F	1.111	2.684	$312.96	$756.03
35 - 44 F	1.293	2.975	$364.11	$838.02
45 - 54 F	1.704	3.517	$479.99	$990.56
55 - 64 F	2.452	4.318	$690.63	$1,216.24

SIDE-BY-SIDE BENEFITS COMPARISON OF

COLORADO BLUE RIBBON COMMISSION AUTHORS' REFORM PROPOSALS[a/]

Figure 1 presents benefits schedule for two proposals.

Figure 1

Benefits Schedule for Solutions for a Healthy CO and Better Health Care for CO

Covered Benefits	Solutions for a Healthy Colorado *(CO Assn of Health Underwriters)*	Better Health Care for Colorado *(SEIU)[b/]*
Physician/Routine Office Visit	$15 copay in-network & OON 10 visits/year $200 max per visit	$10 copay - primary care $20 copay-specialist
Prevention	$15 copay in-network & OON	$10 copay - primary care $20 copay-specialist
Maternity Care	Covered (including prenatal care) same as any other medical condition	Covered for parents with income between 200-250% FPL and for childless adults with income between 200-225% FPL. Coverage and copays would be the same as for other medical services
Urgent Care	$15 copay (including any walk-in clinics) 10 visits/year maximum	$25 copay
Outpatient Hospital **Surgical** **All Other Outpatient**	All outpatient hospital 80/20% copay in-network 60/40% copay OON	Outpatient hospital Surgical $50 copay All other $25 copay

Covered Benefits	Solutions for a Healthy Colorado *(CO Assn of Health Underwriters)*	Better Health Care for Colorado *(SEIU)*[b/]
	$2000/year maximum	$5000/year maximum
Ambulance-Emergency	80/20% after deductible $500 out-of-pocket maximum per trip	$50 copay
Hospital-Emergency	$100 copay in-network & OON $3000/year maximum	$40 copay $1000/year maximum
Inpatient Hospital	80/20% copay in-network 60/40% copay OON $3000/day maximum	$100 copay $25,000/year maximum
Lab and X-Ray	80/20% coins in-network 60/40% coins OON $2000/year maximum	No copay
Other Diagnostic **(e.g. CT,MRI, PET, Nuclear)**	80/20% coins in-network 60/40% coins OON $2000/year maximum	No copay
Transplants	Same coverage as any other medical condition	Same as other medical services subject to annual limits.
Family Planning	Includes contraception, vasectomy, counseling $15 copay per office visit	No copay
Mental Health	80/20% in-network 60/40% OON $1000/year maximum	Under 100% FPL: $10 per visit; and Limit all cost sharing to no more than 1% of household income

Covered Benefits	Solutions for a Healthy Colorado *(CO Assn of Health Underwriters)*	Better Health Care for Colorado *(SEIU)*[b/]
		annually $15 per visit 100-200% FPL: Limit all cost sharing to no more than 3% of household income annually $20 per visit 200-300% FPL Limit all cost sharing to no more than 6% of household income annually All incomes: Limits on visits would be comparable to private insurance plans in CO – 20-25 visits per year
Substance Abuse	80/20% in-network 60/40% OON $1000/year maximum	Under 100% FPL: $10 per visit; and Limit all cost sharing to no more than 1% of household income annually $15 per visit 100-200% FPL: Limit all cost sharing to no more than 3% of household income annually $20 per visit 200-300% FPL Limit all cost sharing to no more than 6% of household income annually All incomes: Limits on visits would be comparable to private insurance plans in CO – 20-25 visits per year
Therapies (Speech, PT, OT)	Not covered	$10 copay

Covered Benefits	Solutions for a Healthy Colorado *(CO Assn of Health Underwriters)*	Better Health Care for Colorado *(SEIU)*[b/]
Durable Medical Equipment	80/20% coins in-network 60/40% coins OON $1000/year maximum	$50 copay $1500/year maximum
Prescription Drugs	In network: $10 copay generic $20 copay preferred Brand 100% $300/month maximum Out of Network 50% coinsurance $300/month maximum	$5 generic Brand: $25 minimum up to 50% of cost $2500/year maximum
Vision	Vision exams only $15 copay in-network & OON 10 visits/year $200 max per visit Eyeglasses-No coverage	Eyeglasses/correction not covered. Other medical conditions covered under medical services, subject to copays and annual limits.
Dental	Not covered	Basic preventive cleanings and care not covered. Medical issues and emergency care covered under medical services, subject to copays and annual limits.
Audiology	Hearing exams only $15 copay in-network & OON	Basic screening/speech services not covered. Hearing aids covered under DME, subject to copays and annual limits.

Covered Benefits	Solutions for a Healthy Colorado *(CO Assn of Health Underwriters)*	Better Health Care for Colorado *(SEIU)*[b/]
	10 visits/year $200 max per visit	
Skilled Nursing Facility	Not covered	Plans could authorize home health services if appropriate and cost effective. Otherwise service subject to LTC reform components of proposal.
Hospice	80/20% after deductible 60 days annual maximum	Plans could authorize home health services if appropriate and cost effective. Otherwise service subject to LTC reform components of proposal.
Home Health	80/20% after deductible 30 days per calendar year maximum	Plans could authorize home health services if appropriate and cost effective. Otherwise service subject to LTC reform components of proposal.
Deductibles	$100 individual in-network/$200 individual OON	Option 1: No deductibles to assure first dollar coverage; however, copays, coinsurance and premium payments would apply. Option 2: If cost is too prohibitive, Colorado FEHBP could be considered as an alternative.
Maximum[d/]	$50,000 annual maximum in-network and OON	All benefits - $35,000 annual maximum

[a/] Benefits for Health Care for All Colorado is not included in chart as the program makes Medicaid benefits available to all.

b/ These benefits apply to parents up to 250% FPL and childless adults up to 225% FPL. Children and families up to 300% FPL expansion population would enroll in Medicaid or CHP+.
c/ Services are subject to maximum limits unless otherwise stated
Source: Lewin Group Analysis of Select Health Reform Proposals from the Colorado Blue Ribbon Commission on Health Care Reform

The following presents plan benefits schedule for A Plan for Covering Coloradans

- ***Figure 2*** is the schedule of benefits for non-premium assistance plans under the private insurance pool.
- ***Figure 3*** applies to the non-premium assistance plans in the private insurance pool.
- Medicaid and SCHP expansion population would receive Medicaid or SCHIP benefits (not depicted).

Figure 2
Non-Premium Assistance Benefits, Cost Sharing and Limitations

Covered Benefits	Plan A Nationwide BCBS Benefit Plan (Standard)	Plan B Aetna HealthFund - All of Colorado (High Deductible Health Plan)
Medical Fund (HSA)	Not Applicable	Plan contributes to HSA on a monthly basis. In 2007, for each month member is eligible for an HSA premium pass through, plan contributes $125 per month (Self)/$250 (Self+Family) to HSA
Dental Fund	Not Applicable	Not Applicable
Adult Preventive Screenings and Office Visits	$15 office visit copayment No copays for covered preventive screenings	No copays for in-network provider.
Child Preventive Care	No copays for covered services	No copays for in-network provider.
Inpatient services	$250 yearly deductible	Member pays 100% of allowable charges until deductible of $2,500 (Self)/$5,000 (Self+Family) is met - then 10% of Plan allowance.
Home and office visits	$15 office visit copayment	Member pays 100% of allowable charges until deductible of $2,500 (Self)/$5,000 (Self+Family) is met - then member pays 10% of Plan allowance.
Outpatient physical, occupational, and speech therapy	$15 for each visit 75 visit maximum per year	Member pays 100% of allowable charges until the deductible of $2,500 (Self)/$5,000 (Self+Family) is met - then member pays 10% of Plan allowance.
Mail service pharmacy	Up to a 90 day supply $10 copayment for generic drugs $35 copayment for brand name drugs	Mail Order Pharmacy, for 31-day to 90-day supply per prescription or refill: $20 copay per generic formulary drug; $50 copay per brand name formulary drug; and $80 copay per non-formulary (generic or brand name) drug.

Covered Benefits	Plan A Nationwide BCBS Benefit Plan (Standard)	Plan B Aetna HealthFund - All of Colorado (High Deductible Health Plan)
Retail pharmacy	Up to a 90 day supply 25% PPA at the time of purchase	Up to a 30-day supply per prescription or refill Once the deductible is satisfied, the following will apply: $10 copay per generic formulary drug; $25 copay per brand name formulary drug; and $40 copay per non-formulary (generic or brand name) drug.
Hospital Inpatient	$100 per admission copayment	Member pays 100% of allowable charges until deductible of $2,500 (Self)/$5,000 (Self+Family) is met - then 10% of Plan allowance.
Outpatient Facility Care, excluding laboratory and X-ray services	Subject to $250 calendar year deductible	Not covered
Outpatient Facility, physical, occupational and speech therapy	$15 copayment per visit	Member pays 100% of allowable charges until you meet deductible of $2,500 (Self)/$5,000 (Self+Family) is met - then 10% of Plan allowance.
Outpatient Facility, laboratory and X-ray services	Subject to $250 calendar year deductible	Member pays 100% of allowable charges until deductible of $2,500 (Self)/$5,000 (Self+Family) is met - then 10% of Plan allowance.
Outpatient Surgery	10% PPA	Member pays 100% of allowable charges until deductible of $2,500 (Self)/$5,000 (Self+Family) is met - then 10% of Plan allowance.
Accidental Injury — emergency room care and ambulance services	None for covered charges for services rendered within 72 hours of the accident $50 co-pay per-trip for ambulance services	Member pays 100% of allowable charges until deductible of $2,500 (Self)/$5,000 (Self+Family) is met - then 10% of Plan allowance.

Covered Benefits	Plan A Nationwide BCBS Benefit Plan (Standard)	Plan B Aetna HealthFund - All of Colorado (High Deductible Health Plan)
Medical Emergency — facility care	$250 calendar year deductible, then 10% PPA	Member pays 100% of allowable charges until deductible of $2,500 (Self)/$5,000 (Self+Family) is met - then 10% of Plan allowance.
Medical Emergency — physician care	$15 office visit copayment	Member pays 100% of allowablecharges until deductible of $2,500 (Self)/$5,000 (Self+Family) is met - then 10% of our Plan allowance.
Outpatient professional services	$15 office visit copayment	Member pays 100% of allowable charges until deductible of $2,500 (Self)/$5,000 (Self+Family) is met - then 10% of Plan allowance.
Spinal manipulations	Up to 12 spinal manipulations per year $15 copayment	Not covered. Member is eligible for discounts through Alternative Health Program
Routine Dental Care	Benefits paid according to yearly fee schedule	Not covered
Catastrophic Benefits	Plan pays 100% after member meets $4000 out-of-pocket in coinsurance, copayment and deductible expenses	Self Only: In-network: $4,000 annual out-of-pocket maximum. Out of-network: $5,000 annual out-of-pocket maximum. Self and Family: In-network: $8,000 annual out-of-pocket maximum . Out of-network: $10,000 annual out-of-pocket maximum is $10,000.

Source: The Lewin Group analysis of Federal Health Employee Benefits schedule in Colorado.

Figure 3
Premium Assistance Plan Benefits, Limits and Out-of-Pocket Payments

Covered Benefits	Benefit Limits and Out-of-Pocket Payments
Physician/Routine Office Visit	0-250%: $0, $2, or $5 copay 251-399%: $10 copay
Prevention	0-250%: Covered in full 251-399%: Covered in full
Maternity Care	0-250%: Covered in full 251-399%: 90% coinsurance
Urgent Care	0-250%: $0, $2, or $5 copay 251-399%: $10 copay
Outpatient Hospital **Surgical** **All Other Outpatient**	All outpatient hospital 0-250%: Covered in full 251-399%: 90% coinsurance
Ambulance-Emergency	0-250%: covered in full 251-399%: $25-50 copay
Hospital-Emergency	0-250%: $3 or $15 copay 251-399%: $25-50 copay
Inpatient Hospital	0-250%: covered in full 251-399%: 90% coinsurance
Lab and X-Ray	0-250%: Covered in full 251-399%: 90% coinsurance
Other Diagnostic **(e.g. CT,MRI, PET, Nuclear)**	0-250%: Covered in full 251-399%: 90% coinsurance
Transplants	0-250%: Coverage limited w/prior authorization 251-399%: 90% coinsurance for covered transplants
Family Planning	0-250%: Covered in full 251-399%: Covered in full No coverage for infertility treatment
Mental Health	Neurobiologically based MI Parity: inpatient same as hospitalization; outpatient same as medical office visit Other Mental Services Parity: inpatient same as hospitalization; outpatient same as medical office visit

Covered Benefits	Benefit Limits and Out-of-Pocket Payments
Substance Abuse	Residential Same as inpatient hospital Outpatient $0, $2, or $5 copay
Therapies (Speech, PT, OT)	0-250%: $0, $2, or $5 copay 251-399%: 90% coinsurance Limited to 30 visits per year for diagnosis
Durable Medical Equipment	0-250% Covered in full Annual maximum $2,000 251-399% 90% coinsurance Annual maximum $2,000
Prescription Drugs	0-250% $2 Generic $5 brand 251-399% $10 copay preferred generic $15 copay preferred brand $25 copay non-preferred All income levels No copays for chronic disease management drugs
Vision	0-250% Exam, specialty care covered Copay $0, $2, or $5; $100 towards lenses, frames, or contacts 251-399% 90% coinsurance for exam, specialty care; $50 towards lenses, frames, or contacts
Dental	0-250% Periodic cleaning, exams, xrays, fillings, extractions, root canals Annual maximum $750 251-399% 90% coinsurance Annual maximum $750 Dental services resulting from an accident 0-250%: Covered in full

Covered Benefits	Benefit Limits and Out-of-Pocket Payments
	251-399%: 90% coinsurance No annual maximum
Audiology	0-250% Hearing aids, copay 0 - $25 Annual maximum $1000 251-399% Hearing aids, 90% coinsurance Annual max $1000
Skilled Nursing Facility	0-250%: Covered in full 251-399%: 90% coinsurance 100 days per year maximum
Hospice	0-250%: Covered in full 251-399%: 90% coinsurance
Home Health	0-250%: Covered in full 251-399%: 90% coinsurance
Deductibles	None for < 250% FPL **(use $150)**
Maximum	0-5% of yearly income annual maximum (**use $3,300)**

Source: A Plan for Covering Coloradans, Committee for Colorado Health Care Solutions, Appendix G