The LEWIN GROUP
an INGENIX company

Cost and Coverage Impacts of Five Proposals to Reform the Colorado Health Care System

Appendix B: Health Spending in Colorado

Prepared for:

The Colorado Blue Ribbon Commission for Health Care Reform

By:
The Lewin Group

December 29, 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.

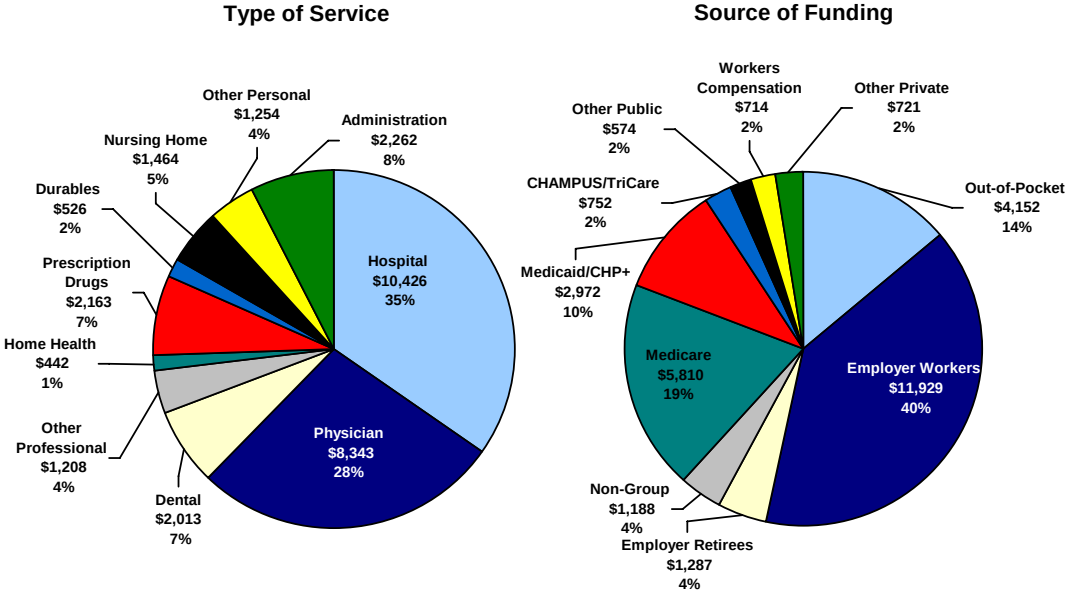
While data on spending for government programs in the state are available, comparable information on health spending under specific types of private insurance and household out-of-pocket spending generally is not available for individual states. We estimated these spending amounts using data from the 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.[1] 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.

[1] 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.[2] 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%

[2] "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.[3] 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.

[3] 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.[4]

Colorado is shown to have a slightly higher inflow (by approximately 2.5 percent) of care.[5] 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.[6]

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.

---

[4] 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.>

[5] 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.

[6] 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.

1. 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.

2. 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.

3. 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[7], 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.

[7] 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.
a/ 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.

2. 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.

3. 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.

4. 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	Administration 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.

5. 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 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 18 summarizes 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.

1. 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.[8]

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.

[8] 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.

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.

2. 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.

3. 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.

4. 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.

1. 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.

2. 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.

3. 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).

3. 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.[9] Therefore, our estimate of IHS

[9] 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.>

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:

- 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.[10] The estimate of other private sources of funds from "other sources of income" amounts to $420 million.

[10] 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.

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

	Total Revenues by Expenses [a/]	Direct Patient Care Expenses	Expenses attributed to Administration [b/]
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
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

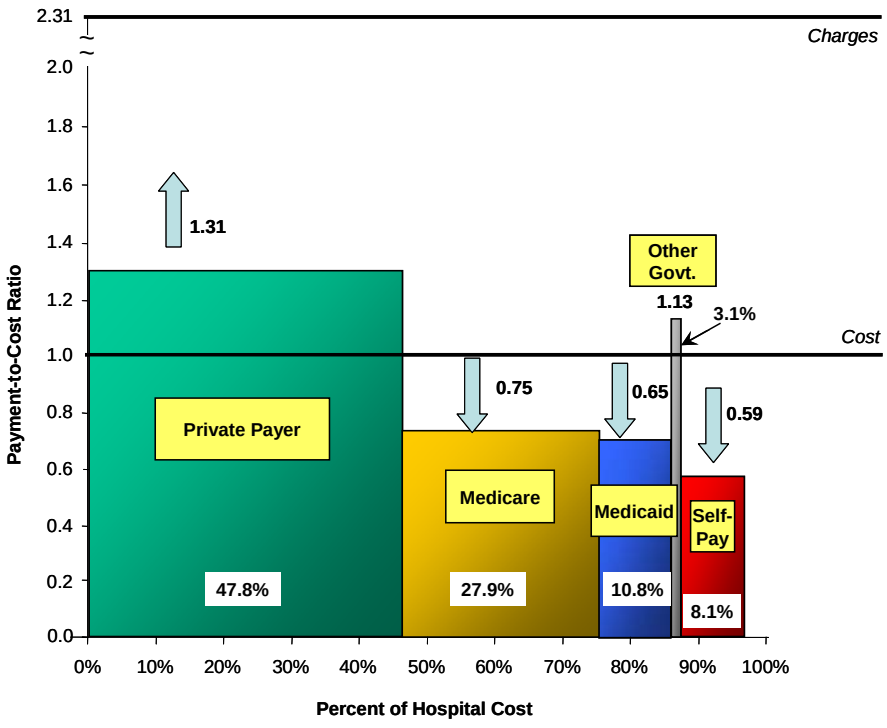
a/ Our estimates of national physician net patient revenues under current policy were allocated across physician expense and physician income categories based upon the distribution of net patient revenues by these expense groups reported in "The Cost and Production Survey report," Medical Group Management 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.

P. Hospital Revenues, Contractual Discounts and Cost-Shifting

The purpose of the Colorado Cost-Shift graphic (***Figure 35***) is to illustrate the hospital cost shift to private payers 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 35
Hospital Cost-Shift 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 35*** include the total gross patient revenue billed to Medicare and to HMO's reimbursed by Medicare. The Medicaid/CHP+ estimates in ***Figure 35*** are based upon total gross patient revenue billed to Medicaid and HMO's covering people from those programs. These include spending under both Medicaid and CHP+. Revenues from TRICARE and CoverColorado are also included in the Other Government payer source.

3. Uncompensated Care

Uncompensated care is broken into two components – charity care and bad debt. 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. Bad Debt is the provision for actual or expected uncollectible expenses resulting from the extension of credit and is reported at full 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 – Bad Debt Expenses)/(Total Revenue + Total of Other Operating Revenue)

Cost Calculations

Private = (Commercial Total Charges + Managed Care Total Charges + Self-Pay total charges + Others Total Charges + Premium Revenue – Bad Debt Expenses – Charity Care)* RCC – CoveredColorado Revenue[11]
Medicare = Medicare Total Charges * RCC
Medicaid = Medicaid Total Charges * RCC
Other Govt. = (Champus Total Charges) * RCC + CoverColorado Revenue

Uncomp. Care = (Bad Debt Expenses + Charity Care) *RCC

[11] CoverColorado is imbedded in the Others Total Charges Field. The hospital portion of CoverColorado revenue (34 percent) was removed from Others Total Charges and added into Other Government.

Revenue Calculations

Private = Commercial Total Charges + Managed Care Total Charges + Self-Pay total charges + Others Total Charges + Premium Revenue – CoverColorado Revenue – Commercial Total Contractuals – Managed Care Total Contractuals – Self Pay 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 + CoverColorado Revenue
Uncomp. Care = Tax Subsidies