Three Possibilities for Colorado's Future Health Care Financing and Delivery

Gerald Friedman
Department of Economics
University of Massachusetts at Amherst
Amherst, MA 01003
gfriedma@econs.umass.edu

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Executive Summary

of

"Three Possibilities for Colorado's Future Health Care Financing and Delivery"

by Gerald Friedman, Ph.D.
Department of Economics
University of Massachusetts at Amherst

COLORADO FOUNDATION FOR
UNIVERSAL HEALTH CARE

Executive Summary prepared by
Ivan J. Miller, Ph.D., President
Board of Directors
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Health care cost, quality, access, and coverage continue to be among today's most hotly and frequently debated issues. In spite of the Supreme Court ruling upholding most of the Affordable Care Act (ACA), there is still active discussion of repealing it; the implementation of the ACA and the Exchanges will address many problems, but there are complaints that it costs too much; and Senator Irene Aguilar, M.D. is promoting legislation for Colorado to move to establish a locally operated statewide Cooperative using waivers from the ACA. While national polls indicate that concern about the uninsured has fallen since the ACA was passed, public concern about the escalating costs of health care remains high.

Economic impacts and sustainability are at the center of the debate. To inform Coloradans, the Colorado Foundation for Universal Health Care commissioned Dr. Gerald Friedman to conduct an economic analysis of the "Three Possibilities for Colorado's Future Health Care Financing and Delivery," and examine the implications of three health care options over the next decade.

- The Affordable Care Act (ACA) is repealed—no-ACA baseline
- The ACA is implemented as currently designed—ACA
- The Colorado Health Care Cooperative as proposed by Senator Aguilar is approved on the ballot in 2013 and fully implemented on January 1, 2016—Cooperative

Because there is substantial literature and evaluation of the no-ACA and ACA options, the majority of Dr. Friedman's analysis is devoted to the economic impact of financing Colorado's health care through the Cooperative. These are his findings:

What happens if the ACA is repealed (no-ACA)?

- Colorado Health Expenditures (CHE) have been rising. Without the ACA, they would continue to rise until 2024, when they would comprise 17.5% of the Gross State Product (GSP). This increase far exceeds the growth in the state economy.
- By 2016, administrative costs would account for $15.2 billion (31%) of Colorado's $49 billion in health expenditures, and administrative costs would continue to be one of the fastest-growing health care expenses.
- There would be no plans for payment reform and/or long-term cost containment.
- The number of uninsured Coloradans would rise from 17% in 2016 to 23% in 2024.

What happens if ACA implementation continues according to current law?

- Overall health care spending (including federal funds) will increase to more than the no-ACA baseline—to 18.5% of the GSP. Again, this rise in costs far exceeds the growth in the state economy.
- Health care costs will decrease for lower-income families (due to federal subsidies) and increase for higher-income families due to high-income levies in the ACA.
- Savings:
    - The Obama administration believes that the cost containment features of the ACA will reduce Colorado health expenditures (CHE) by 1% by 2016. These measures include an excise tax on expensive insurance plans, competition between insurers through the Exchanges, payment reform to promote better health care and reduce hospital admissions, the promotion of Accountable Care Organizations (ACOs), and the establishment of an Independent Advisory Board. Even if achieved, these savings do not substantially slow the rising expenditures.

- If there continues to be political pressure for fraud reduction, payment reform, and the expanded use of electronic medical records, health care expenditures may be reduced in the future, but cost savings are not expected in the next few years.

- In 2016, administrative costs would account for $15.6 billion (31%) of the $50.5 billion CHE, and administrative costs will continue to be one of the fastest-growing health care expenses.
- The number of uninsured is reduced to 8% in 2016 and 4% in 2024.

What happens if the Cooperative is implemented in 2016?

- In 2016, Colorado health expenditures would decrease from the ACA level of 14.5% of the GSP to 14% of the GSP, and by 2024, CHE would account for 14.5% of the GSP compared to 17.5% and 18.5% of GSP with the no-ACA and ACA respectively.
- Health care costs would decrease for 80% of Colorado families whose family annual income is currently less than $100,000, and increase for families whose income is currently more than $100,000.
- Compared to no-ACA, the Cooperative decreases per capita spending on health care to $888 in 2016 and $2,427 in 2024.
- Businesses will benefit on the average with the greatest benefit going to the businesses that have been paying the highest health insurance premiums. Currently employers and their employees pay on the average 11.8% of payroll for health insurance plus employers pay for workers' compensation insurance, which includes medical expenses that would be covered by the Cooperative. These combined payments would be lowered to 9%, with the employer paying 6% and the employee paying 3%, and an option for the employer to pay the employee share.
- Savings—the Cooperative creates a number of efficiencies in the financing of health care. Some begin soon after day one of operation, and others might take years to develop. Consequently, the savings from the Cooperative increase with time. The major savings come from the fastest-growing areas of health care—administration and pharmaceutical prices. Savings and costs are measured against the no-ACA baseline.
    - Administrative efficiencies in provider offices result in $2.2 billion savings in 2016, and $6 billion in 2024.
    - Administrative efficiencies from reducing unnecessary insurance and government administration result in $3.7 billion savings in 2016, and $6.4 billion in 2024.
    - Reduced prices for pharmaceuticals and medical equipment due to the power to negotiate price decreases result in $1.2 billion savings in 2016, and $3.1 billion in 2024.
    - Fraud reduction due to a transparency and a single billing system results in saving $.7 billion in 2016, and $2 billion in 2024.
    - Savings from restraining increasing administrative costs and drug prices, and from universal electronic records with smartcards (portable electronic medical records on a wallet-sized card), as well as payment reforms through ACOs, and other methods will be developed slowly. In 2020, they save $2.2 billion with savings growing to $6.4 billion in 2024.
    - Total savings in 2016 are $7.7 billion and $23.9 billion in 2024.
- Increased costs—Some of the savings are offset by increased costs that improve health care in Colorado.
    - Health care services for the previously uninsured increase expenses by $1.2 billion in 2016, and $2.1 billion in 2024.
    - Increased use of health care services due to removing access barriers increases costs

$.3 billion in 2016, and $3.2 billion in 2024.
    - Medicaid reimbursements in the no-ACA baseline have been so low that many providers could not serve Medicaid patients. Raising reimbursements to the level needed to bring Medicaid into the Cooperative increases costs $.8 billion in 2016, and $1.4 billion in 2024.
    - The Cooperative adds some administrative expenses such as tracking income and residency and developing smartcards. This costs $.6 billion in 2016, and $1 billion in 2024.
    - Total increased costs are $2.9 billion in 2016 and $7.7 billion in 2024.
- Spending on health care administration in 2016 decreases from 31% CHE in the no-ACA and ACA ($15.2 billion and $15.6 billion respectively) to 21.5% CHE ($9.5 billion) in the Cooperative.
- Effects on economy and employment:
    - The Cooperative will, compared to the ACA, identify 19% more people who are Medicaid eligible. Additional federal Medicaid funds coming to Colorado would create 8,000 jobs in 2016.
    - The $2.2 billion reduction in administrative services in provider offices will cause the loss and subsequent shift of 15,000 jobs to provider medical offices, retail stores, and other businesses that are created by the $2.2 billion of savings spent in the Colorado economy. This is one-fifth of the typical monthly turnover of 75,000 jobs in the Colorado economy.
    - Colorado businesses, government, and residents will have a combined savings of $4.8 billion due to efficiencies in the Cooperative, which may be spent in the Colorado economy. Each billion spent in the Colorado economy creates 7,000 jobs.
    - The Cooperative generates jobs by redirecting $3.7 billion of health care spending back to Colorado. Sixty percent of insurance jobs that will be unnecessary are out-of-state, and the savings on pharmaceutical expenses reduces the flow of dollars out of Colorado.
    - Employers will use some of their savings to hire more employees and some to increase salaries, further stimulating the economy.
    - By reducing the cost of health care, the Cooperative will lower the cost of hiring labor, generating additional jobs by allowing Colorado business to prosper.
- Due to the Cooperative's one-year residency requirement, 13,600 people will be uninsured (0.3% uninsured rate) in 2016.

For additional information, please contact:

The Colorado Foundation for
Universal Health Care
1750 Gilpin St.
Denver, CO 80218
www.couniversalhealth.org
info@couniversalhealth.org

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Gerald Friedman
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Amherst, MA 01003
gfriedma@econs.umass.edu

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Introduction

This report presents the economic implications through 2024 of three alternative programs for financing and delivering health care in Colorado: the current system with the Affordable Care Act, a return to the system prior to the enactment of the Affordable Care Act (called the "no-ACA Baseline" here), and the adoption under Section 1332 of the Affordable Care Act of the Colorado Health Care Cooperative (called the "Cooperative" here) as proposed by Senator Aguilar. For purposes of this analysis, it is assumed that the Cooperative will go into operation on January 1, 2016. Under the Affordable Care Act and the no-ACA Baseline if the ACA is repealed, health care is financed through a mixture of private health insurance and public programs and is delivered through a decentralized system of fee-for-service providers and other care organizations. The proposed Cooperative would be a consumer cooperative, not a state agency, subject to an independent board of directors chosen by its members. Collecting revenue from premium contributions tied to payroll and to unearned income, it would finance expanded essential health benefits, including hospitalization, doctor visits, mental health, prescribed occupational and physical therapy, prescription drugs, and medical devices as well as designated nursing home care and home health care and dental care.[1] Health services would be provided through the Cooperative's system of Accountable Care Organizations and elsewhere as specified by the Cooperative's board.[2] Because there is substantial literature on the financing and delivery costs of the no-ACA Baseline and the impact of the Affordable Care Act, a larger portion of the descriptive analysis will be devoted to the Cooperative.

The report begins with a discussion of the rising cost of health care in Colorado and current sources of finance. The next section includes an evaluation of the costs of health care under the alternative systems, including each system's coverage and the provision of services. The sources of funding for each are evaluated along with implications for the distribution of the financial burden of health care and the level of employment. Finally, the last section considers the impact of each system on the cost of health care for Colorado over the next decade.

The report concludes that the total cost of health care in Colorado is higher under the Affordable Care Act (ACA) than under the no-ACA Baseline and will be less under the Cooperative with savings increasing over time under the Cooperative. Compared with the no-

[1] The revenues needed to operate the Cooperative and their sources are discussed later. Some benefits will be phased in over several years, as is discussed in Appendix 1 and in the text. Long-term care and home health care are included in the benefit plan only to the extent already covered by Medicaid, with copayments and calendar year maximums to be determined by the Board.

[2] The analysis of the Cooperative is based on Senator Aguilar's December 2012 preliminary draft of her legislation for a referendum on the Cooperative.

ACA Baseline, the Affordable Care Act raises costs because it extends coverage to more Colorado residents without significantly reducing the costs of health care, especially the administrative costs of operating a multi-payer system and the private insurance industry. By contrast, the Cooperative lowers health care spending even while increasing coverage beyond the extension achieved by the ACA and by providing more health care services. Compared with either the no-ACA Baseline or with the Affordable Care Act, both of which rely on the existing multi-payer system of public and private insurers, the Cooperative lowers administrative costs both within the payment system and within provider offices. The report finds that employment will be higher in Colorado under the Affordable Care Act because of the additional Federal money provided to subsidize the expansion of Medicaid and the extension of health care coverage; employment will be higher still under the Cooperative both because of additional federal funds and because the Cooperative reduces spending on out-of-state health insurance and reduce the burden of health care on business. Compared with the Baseline, the Affordable Care Act shifts the cost of health care away from the less-affluent and the sick; the Cooperative will go further in replacing the current regressive system of health care finance with premiums proportional to payrolls and to other income.[3]

Health Care spending in Colorado

Health care spending has been rising at an unsustainable pace in Colorado, tripling between 1997 and 2012 (see Figure 1). Health care costs have risen faster than income, raising the share of health care in the Colorado economy from under 10 percent in 1997 to over 13 percent in 2012. While health care costs remain below the national average, health care cost inflation is squeezing the disposable income for Coloradans. Had health care spending remained at the 1997 share of income, the average resident of Colorado would have spent over $2000 less on health care, or over $8000 less for a family of four in 2012.

[3] Because the current system relies on premiums and out-of-pocket charges that do not change with changes in income, health care now is a higher share of the income of low-income households than those of higher income.

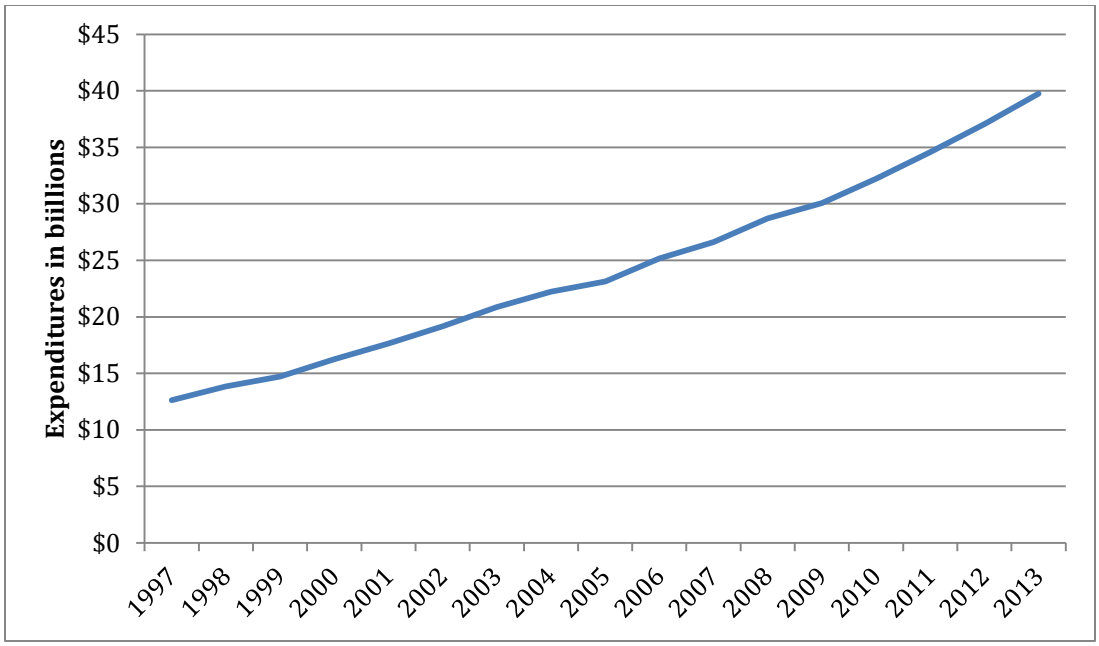

Figure 1.Health care expenditures, Colorado, 1997-2013.

Note: This gives health expenditures in Colorado according to the United States Center for Medicare and Medicaid Statistics, National Health Expenditures data, http://www.cms.gov/NationalHealthExpendData/Downloads/res-tables.pdf

We would expect that health expenditures will rise over time because a more affluent population, and a more elderly one, will demand more health care.[4] In Colorado, however, spending has increased without improving health care for many residents who continue to receive inadequate health care, especially those without health insurance.[5] Despite increased spending, the proportion of the population without health insurance has been rising. The rising cost of health care and of private health insurance has led growing numbers of employers to drop or to restrict health insurance for their employees; annual premiums, nearly $14,000 in 2009, have been rising by over 8 percent per year for a decade.[6] Since 2009, the share of

[4] David M Cutler, *Your Money or Your Life: Strong Medicine for America's Health Care System* (Oxford: Oxford University Press, 2004); Gerald Friedman, "Universal Health Care: Can We Afford Anything Less?," *Dollars and Sense*, June 29, 2011, http://dollarsandsense.org/archives/2011/0711friedman.html; Allan Garber and Jonathan Skinner, "Is American Health Care Uniquely Inefficient?," *Journal of Economic Perspectives* 22, no. 4 (Fall 2008): 27–50.

[5] Kitty Stevens and Amy Downs, *Colorado State Health Profile: An Overview of the Health Status of Colorado Residents and the Availability of Primary Care Resources* (Denver, Colorado: Primary Care Office, Prevention Services Division, Colorado Department of Public Health and Environment, November 2006); Colorado Health Institute, *Overview of Coloradan's Health Care Coverage, Access and Utilization* (Denver, Colorado: Colorado Trust, November 2011).

[6] Colorado Health Institute, *Overview of Coloradan's Health Care Coverage, Access and Utilization*; Colorado Department of Regulatory Agencies, *Annual Report of the Commissioner of Insurance on 2011 Health Insurance Costs* (Denver, Colorado, February 16, 2012), http://www.dora.state.co.us/insurance/legi/2012/legiHealthCostReport021612R.pdf; ibid.; Insurance premiums

Coloradans with private health insurance has fallen by almost 8% (from 71.0% to 65.5%). The share without health insurance has risen more slowly than the fall in private coverage, by only 2.3 percentage points. Medicaid and other safety-net programs have mitigated the fall in the proportion of the non-elderly population with health insurance, but only at rising cost to Colorado taxpayers.[7]

Currently, the majority of Colorado residents who receive health insurance through employment and private insurance (including employment-based insurance for public-sector workers) accounts for a third of expenditures.[8] Public sources other than spending for public employee's and retiree's health insurance account for over a third of total expenditures.[9] Public spending include spending by the Federal government and the state of Colorado on Medicare (all Federal), Medicaid and State Children's Health Insurance (mixed Federal and state), state indigent care, and other state and local public health programs.[10]

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are nearly 10% less in Colorado than for the United States as a whole, Kaiser Family Foundation and Health Research and Educational Trust, *Employer Health Benefits Survey, 2011*, September 27, 2011, http://ehbs.kff.org/pdf/2011/EHBS%202011%20Chartpack.pdf.

[7] Medicaid spending has risen by over 8.4% a year for the last decade. See Graph 1, Colorado Health Institute, *Overview of Coloradan's Health Care Coverage, Access and Utilization*.

[8] Baseline Health care expenditures have been estimated for 2016 (see Figure 2) by extrapolating from spending in 2010 at the previous rate of growth using data from Medical Expenditure Panel Survey at the Department of Health and Human Services, Agency for Healthcare Research and Quality, *Medical Expenditure Panel Survey*, 2009, http://www.meps.ahrq.gov/mepsweb/data_stats/state_tables.jsp?regionid=18&year=-1.

[9] Federal programs include the Veteran's Administration, the Indian Health Service, Medicare for the elderly and some disabled. The Federal government contributes toMedicaid for the poor (including some elderly and disabled), and Children's Health Insurance (SCHIP).

[10] State spending is drawn from the Colorado, Department of Health Care Policy and Financing, FY 2013-14 Reconciliation of Department Request, Long Bill Line Items; see http://www.colorado.gov/cs/Satellite/OSPB/GOVR/1251634281135?rendermode=..

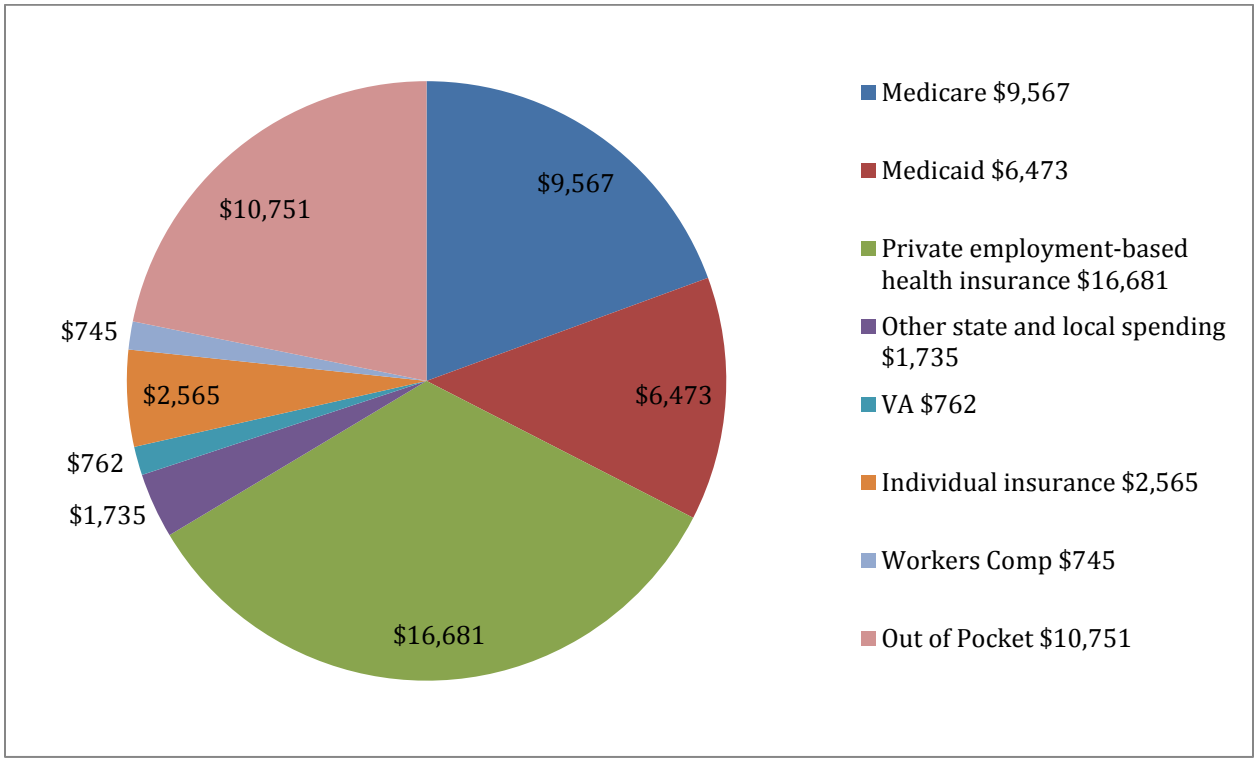

Figure 2. Under the no-ACA condition, projected source of health care spending ($millions), Colorado, 2016.

Note: Total expenditures in 2016 are estimated from data from the United States, Centers for Medicare and Medicaid Services, "Health Expenditures by State of Residence".

Private includes employer-based insurance for public employees and retiree health insurance.

After taking account of private insurance and government programs, "other and out-of-pocket" expenditures have been calculated as a residual.[11] Out-of-pocket spending, including copayments, insurance deductibles, spending by the uninsured, and charges not covered by insurance or disallowed for other reasons account for over a fifth of total expenditures.

Costs of health care under alternative funding systems

Health care spending will continue to increase in all three programs but at different rates and with a different distribution of expenditures among service providers, administrative expense, and pharmaceuticals. Because the Affordable Care Act relies largely on existing funding systems, there is relatively little difference in the distribution of expense for the ACA and the no-ACA systems. By contrast, while the Cooperative will take several years to implement, the full impact will involve a substantial shift in health spending away from administrative activities and pharmaceutical and medical supply companies towards health care providers.

[11] Note that this procedure puts any error in the estimate of total health expenditure into the "Out-of-pocket" category. The estimate of out-of-pocket spending here is a little higher than the amount of out-of-pocket spending if the national rate within service categories (e.g. "Hospital Care") was applied to Colorado.

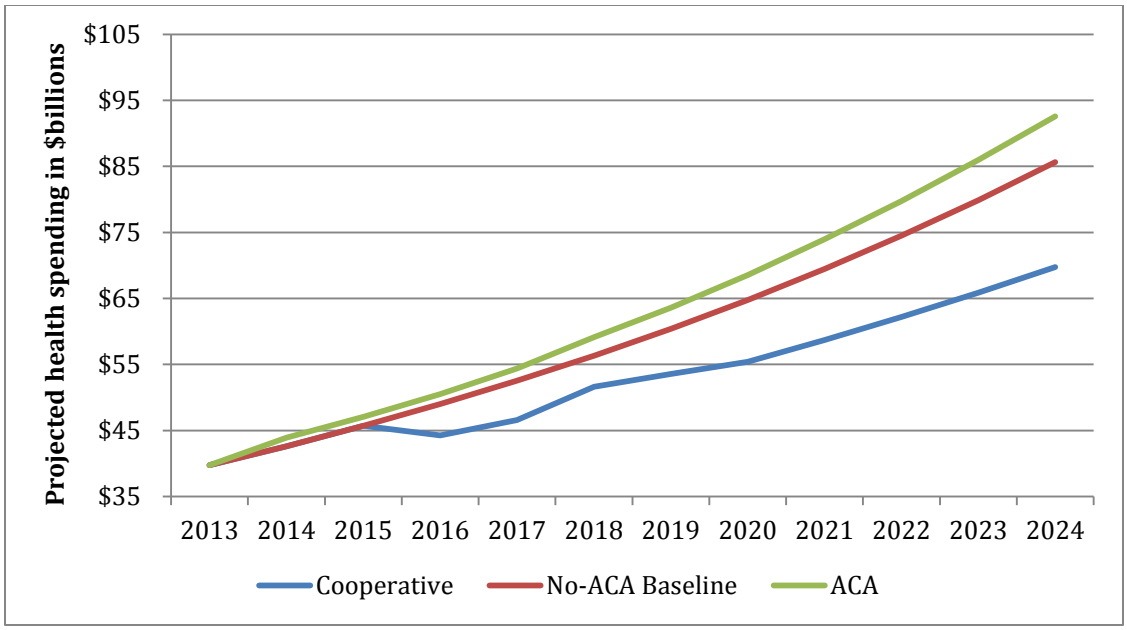

Figure 3. Colorado health care spending under alternative financing programs, 2013-24, in $millions

Health care spending will rise under all three programs. Spending will increase the most under the Affordable Care Act because of the additional cost of providing insurance coverage within the existing funding system. The Affordable Care Act will increase the share of Coloradans with health insurance significantly, especially compared with the no-ACA baseline where the share with coverage would be expected to fall steadily (see Figure 4).[12] Increased coverage accounts for some of the increased cost of health care under the ACA compared with the no ACA condition. In addition by relying on the existing system of multiple risk pools and multiple insurance companies, the ACA allows administrative costs to continue to rise, and it does nothing to contain the excessive profits for pharmaceutical firms and providers of durable medical equipment. Provisions of the ACA may eventually slow the increase in health care costs.[13] Over the next decade, however, few expect the ACA to have much effect on costs except to the extent that the extension of insurance to the previously uninsured will increase

[12] It is assumed for this analysis that Colorado will expand Medicaid and implement an Exchange under the ACA. This assumption is retained in the analysis of the Cooperative.

[13] The White House anticipates that changes in Medicare payment systems and the spread of Accountable Care Organizations will slow the rate of health care inflation; .Stephanie Cutter, "Health Care Costs," *White House Blog*, January 26, 2011, http://www.whitehouse.gov/blog/2011/01/26/health-care-costs; Stephanie Cutter, "Better Medicare in Your State," *White House Blog*, May 6, 2011, http://www.whitehouse.gov/blog/2011/05/06/better-medicare-your-state; White House, "The Affordable Care Act -- Implementation Timeline" (White House, n.d.), http://www.whitehouse.gov/healthreform/timeline.

health care spending.[14] The spending estimates reported here assume that the ACA will have little effect on costs except for the added spending coming from extending Medicaid coverage and by subsidizing the purchase of private insurance.[15]

There is a significant difference in coverage in the three programs. Projecting forward from past experience, we expect that the no-ACA condition will have the uninsured share of the population rising to 20% by 2020. The uninsured rate is lower under the ACA, falling from 8% uninsured in 2016 to 4% in 2018. By contrast, and the Cooperative achieves nearly universal health care services in 2016 (Figure 4).[16] The Cooperative will also reduce the share of the population underinsured or unable to access health care because of their insurance plan's copayments and deductibles. The Cooperative intends to eliminate copayments and deductibles.

The smallest increases in spending will be under the Cooperative. Even while extending coverage to virtually all Colorado residents, by cutting administrative costs and excessive prices of drugs and medical equipment, the Cooperative will hold down costs so that they increase only slightly faster than income in the state as a whole (see Figure 5).

[14] Center for Healthcare Research and Transformation, *The Patient Protection and Affordable Care Act at the State and Local Level*, June 2010, http://www.chrt.org/public-policy/policy-briefs/policy-brief-2010-06-the-patient-protection-and-affordable-care-act-at-the-state-and-local-level/; Congressional Budget Office and Joint Committee on Taxation, "Fiscal Impact of Reconciliation Act of 2010," March 20, 2010, http://www.cbo.gov/ftpdocs/113xx/doc11379/AmendReconProp.pdf; Lewin Group, *Patient Protection and Affordable Care Act (PPACA): Long Term Costs for Governments, Employers, Families and Providers* Staff Working Paper, June 8, 2010, http://www.lewin.com/content/publications/LewinGroupAnalysis-PatientProtectionandAffordableCareAct2010.pdf.

[15] Estimates of the increase in coverage through participation in Insurance Exchanges are from the Congressional Budget Office; Congressional Budget Office and Joint Committee on Taxation, "Fiscal Impact of Reconciliation Act of 2010"; Kaiser Family Foundation, "State Health Facts.org," n.d.

[16] The Cooperative has a one-year residency requirement which might leave an estimated 13,600 recent migrants uninsured, or 0.3% of the population for a coverage rate of 99.7%.

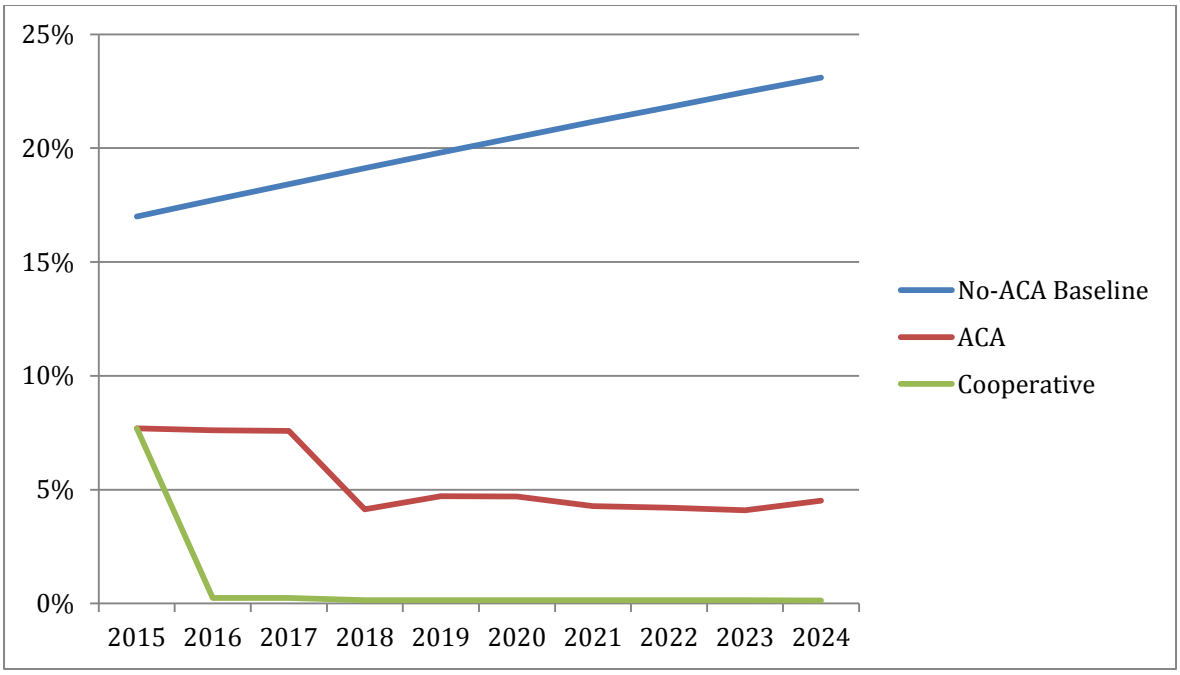

Figure 4. Share of Colorado population without health insurance coverage, alternative funding programs, 2015-24. Note that the Cooperative line assumes the ACA is implemented.

When fully implemented, the Cooperative would fund most health care in the state *except* for some out-of-pocket expenditures that are assumed not to be medically necessary and possibly some remaining copayments.[17] The Cooperative would pay for services currently provided by private and public health insurance, as well as for many medically necessary services currently purchased out-of-pocket. On day one of operation, services would be provided through fee-for-service payments to providers and through existing Accountable Care Organizations that may be operational, which would provide "medical homes" providing a complete roster of primary

[17] It is assumed that all necessary federal waivers are granted so that the Cooperative will be able to offer services to beneficiaries of existing government programs, including Medicare and Medicaid. Medicare recipients, for example, might be enrolled voluntarily in the Cooperative as a Medicare Advantage plan. The Veteran's Administration will remain and neither its spending nor funding are included in the funding plan described later. Examples of spending that may *not* be covered include some cosmetic surgery, dental procedures not required for functioning, such as dental implants, some eyewear, as well as services and products of unproven medical value. Copayments may be charged and would be set on a sliding scale according to income to assure that copayments were not a barrier to necessary medical care. Some out-of-pocket expenditures are also not covered even in the in the comprehensive Physicians for National Health Plan. See Physicians for a National Health Program, "Liberal Benefits, Conservative Spending," *Journal of the American Medical Association* 265 (1991): 183, http://www.pnhp.org/publications/liberal-benefits-conservative-spending; Edith Rasell, "An Equitable Way to Pay for Universal Coverage," *International Journal of Health Services* 29, no. 1 (1999): 183; An evaluation of the size and components of out-of-pocket spending is in Ann Foster, "Out-of-pocket Health Care Expenditures: a Comparison," *Monthly Labor Review* (February 2010): 3–20.

and much secondary care. Appendix 1 provides a summary of the benefits to be provided by the Cooperative as they could develop over time.

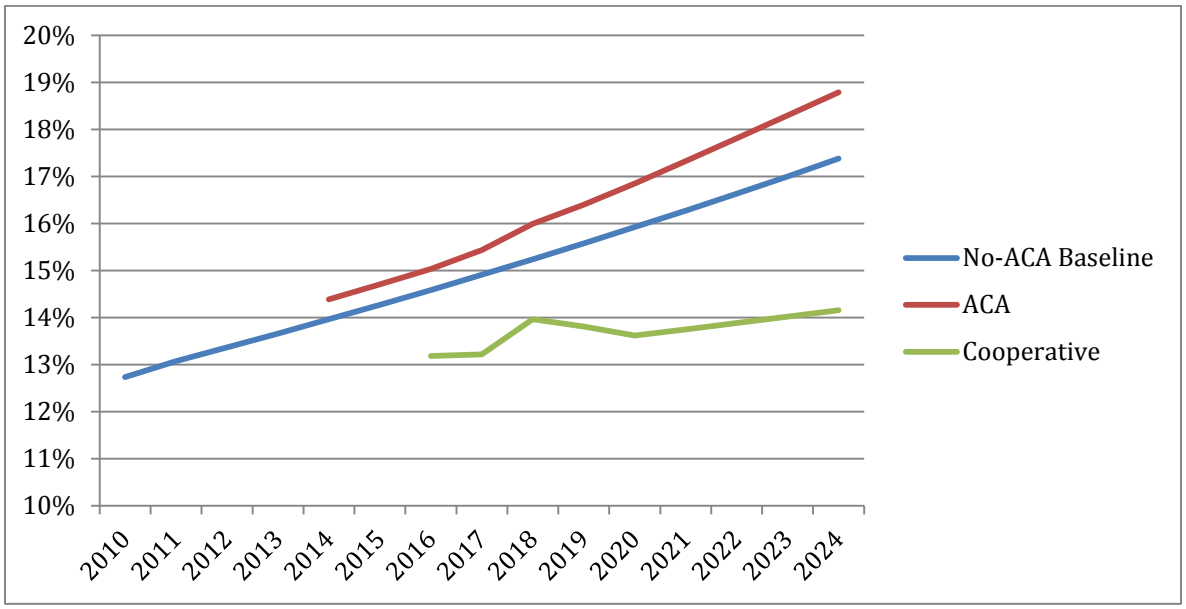

Figure 5. Health spending as share of gross state product, alternative funding programs.

The Cooperative would change the level and mix of health care spending through economies in administration and by reducing inflated prices for pharmaceuticals and medical devices. Because of these savings, the Cooperative will be able to lower health-care spending in Colorado by 10% (nearly $900 per person) even after taking account of added spending associated with the extension of coverage to all Coloradans and improvements in care. Savings would increase over time with the full implementation of the Cooperative so that spending in 2020 over 14% less than in the no-ACA and 15% less than under the ACA. Savings will increase if the Cooperative brings the annual rate of increase in health care spending down to the rate in Medicare and countries with universal coverage; in 2024, spending under the Cooperative will be almost 18% less than under the no-ACA.[18] While costs under either the no-ACA or the ACA rise at an unsustainable rate, faster than the rate of growth in the Colorado economy, the Cooperative will slow health care cost inflation down so that the health care share of the economy will level off at under 15% of the gross state product (see Figure 5).[19]

[18] Compared with private insurance, the Medicare program has restrained inflation in the US but costs have risen much faster than have costs in Canada's universal system; Woolhandler S Himmelstein DU, "Cost Control in a Parallel Universe: Medicare Spending in the United States and Canada," *Archives of Internal Medicine* (October 29, 2012): 1–2, doi:10.1001/2013.jamainternmed.272.

[19] Over the past 30 years, Medicare costs for the same services have risen at a rate 1.1% below that of private health insurers. This is the same as the difference in rate of inflation in the United States health care compared with Canada or European countries with universal coverage. See CMS.gov, *National Health Expenditures, 2010 Highlights* (Washington D.C., n.d.), http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-

It will take several years to implement fully the Colorado Health Care Cooperative. It will take time to develop the system of Accountable Care Organizations and to integrate independent providers and organizations. Payment reforms would need to be implemented in a manner coordinated with the provider community. Payment reforms would need to be modified as they are developed so that they achieve the goal of increased value, patient satisfaction, and better outcomes. Some of the Cooperative's innovations, such as the electronic smart-card with medical records, the single-pipeline payment system, and the central purchasing authority will take time to develop. Some of the costs envisioned here, including the costs of expanding coverage and the Medicaid rate adjustment, will be incurred before many of the administrative and other savings, which will only be realized when the Cooperative has established new administrative systems.[20] In the model used here, savings are "backloaded"; relatively small savings are projected for the early years and larger savings are anticipated later after the new systems are fully implemented and are integrated. To contain costs given the imbalance of early expenses and relatively low savings in the early years, it is anticipated that the Cooperative will only gradually extend some of its intended additional benefits, including those which historically have not provided by most insurance plans (e.g. dental, vision, etc.), and only gradually institute the reduction in copayments and elimination of deductibles.[21] Likewise, it is anticipated in this analysis that expanded benefits and lower out-of-pocket costs may be financed in later years from the savings generated through the Cooperative's extension and full implementation.

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and-Reports/NationalHealthExpendData/downloads/highlights.pdf; David U. Himmelstein, *Bleeding the Patient: The Consequences of Corporate Healthcare* (Monroe, ME: Common Courage Press, 2001); Friedman, "Universal Health Care: Can We Afford Anything Less?" Over a third in the slowdown in health care inflation will come from a reduction in the administrative burden because administrative costs have risen faster than other costs; see Steffie Woolhandler, Terry Campbell, and David Himmelstein, "Cost of Health Care Administration in the United States and Canada," *New England Journal of Medicine* no. 349 (2003): 768–75.

[20] In addition, some of the costs will be amplified in the early years to meet the pent-up demand for services by those who had previously been shut out of the health care system because they lacked adequate insurance.

[21] Initially, the Cooperative will reduce out of pocket spending by 60% yielding an actuarial rate of 90%, about the same as the Federal Employee Benefit Programs more expansive offerings. See Randall Bovbjerg, "Lessons for Health Reform from the Federal Employees Health Benefits Program" (Urban Institute, Health Policy Center, August 2009), http://www.urban.org/UploadedPDF/411940_lessons_for_health_reform.pdf; Karen Davis, Barbara Cooper, and Rose Capasso, *Federal Employee Health Benefits Program: A Model for Workers, Not Medicare* (Commonwealth Fund, November 2003), http://www.commonwealthfund.org/usr_doc/davis_fehbp_677.pdf.

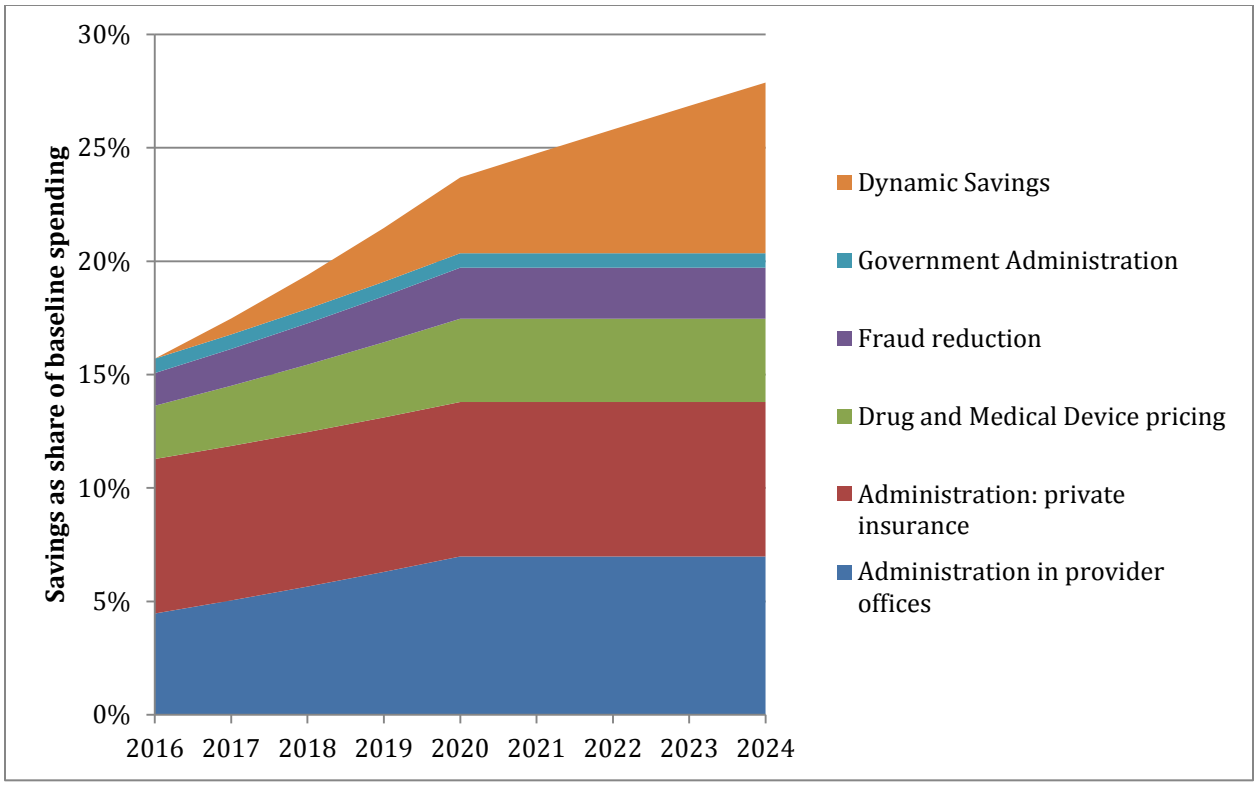


Figure 6. Annual savings as share of projected no-ACA health spending, Colorado Cooperative, 2016-24

In effect, it is assumed that the Cooperative will use administrative savings to finance lower copayments and, eliminate deductibles, both of which will expand access to health care, and also offer increased benefits. On day one of operation, coverage would be extended to those currently uninsured because the Cooperative would be open to all residents. Later, after the initial startup, some of the growing savings will be used to finance increased utilization and the removal of copayments and other barriers to access.

After these adjustments, health care spending in Colorado in 2016 would be nearly 10 percent lower than the no-ACA condition under the Cooperative, with spending falling by almost $5 billion or nearly $900 per resident.

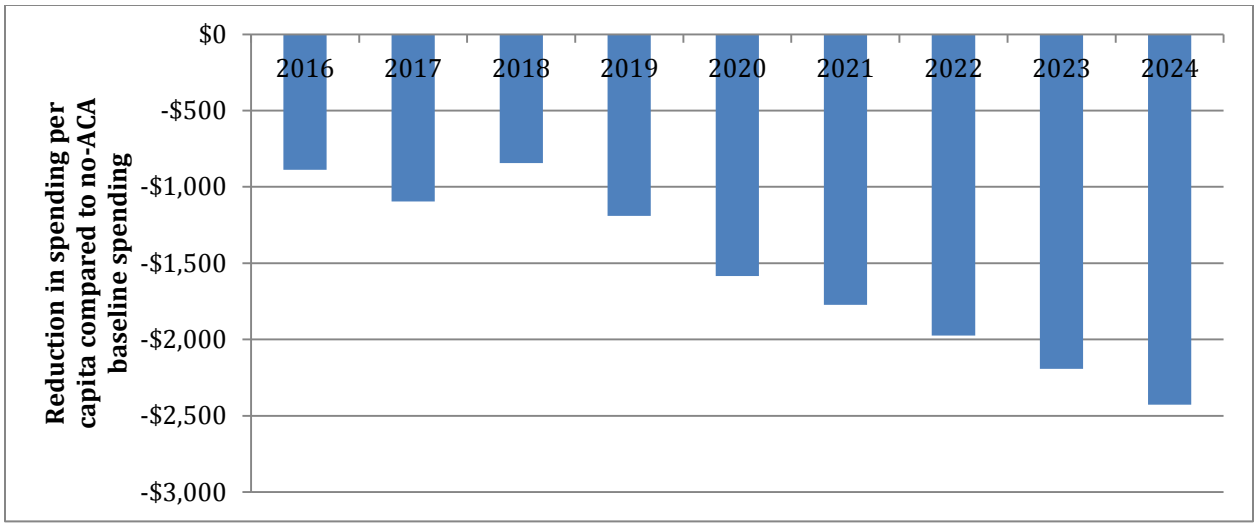


Figure 7. Per capita reduction in health care spending with the Cooperative after increases in utilization and coverage expansion.

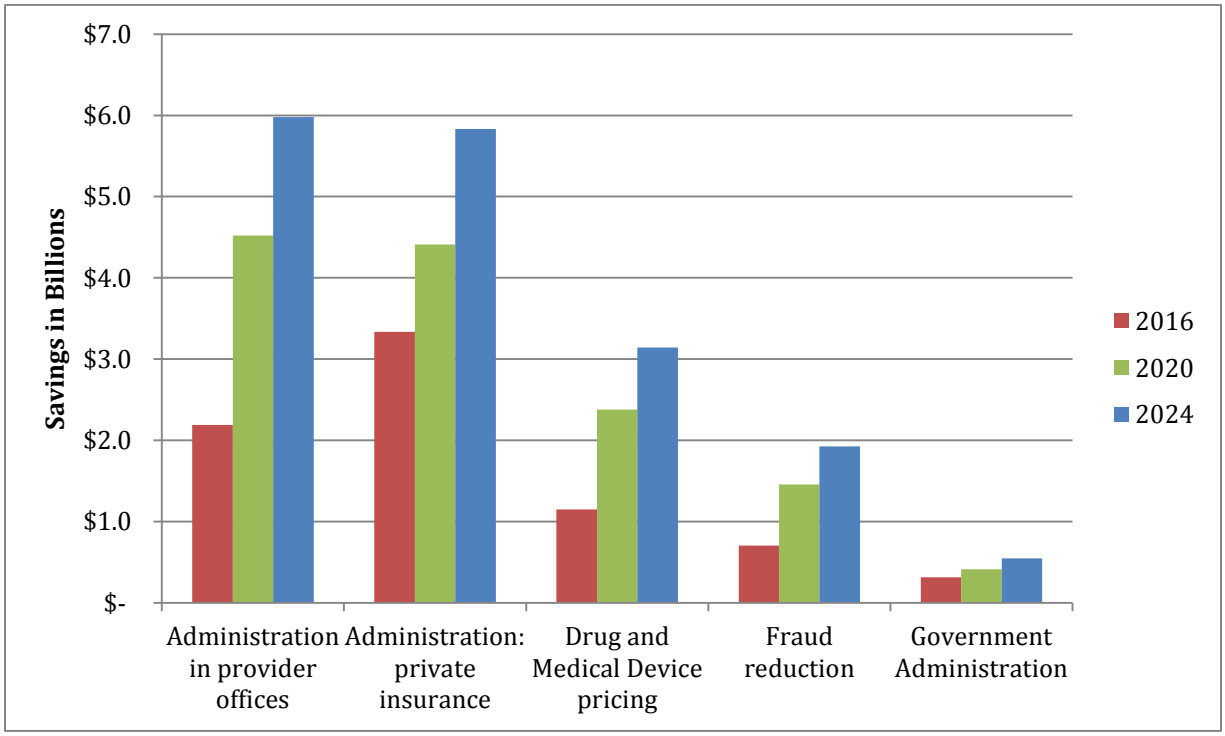
Savings would come from administrative economies by establishing a single payment pipeline that would eliminate the inefficiencies of the current multiple risk pool and multiple insurance company system, and by reducing anti-competitive practices by drug companies and providers of specialized medical equipment. In brief they are as follows:[22]

- *Savings in the administration of private health insurance:* The Colorado Commissioner of Insurance estimates that private health insurance plans have administrative costs of almost 19 percent of spending, about ten-times the administrative costs of Medicare (under 2 percent of spending). We make the conservative assumption that the Cooperative would operate at double the Medicare administrative rate; this would lower costs by over $3 billion in 2016, rising to nearly $6 billion in 2024.[23]

[22] Note that all of these savings estimates are discounted in the early years under the assumption that it will take as much as five years for the Cooperative to capture all of the savings from its more efficient operations. Also, note that while these savings are similar to those that would be expected from a true single-payer system, they are discounted because the Cooperative will retain some aspects of the current system.

[23] Colorado insurers paid back $27 million in excessive administrative charges under the ACA in 2011. These estimates understate the savings to be achieved from reducing insurance company administrative costs because the state estimates of insurance company medical loss ratios leave extensive scope for insurance companies to pass administrative costs as medical costs. One observer has noted that the definition of medical management expenses used by the state includes such administrative expenses as "educational outreach to members, utilization management, case management, disease management and quality management." In addition, the time period allowed for medical expenses, net premiums and re-insurance recovery are not consistently defined, leaving room for companies to inflate their Medical Loss Ratio. See Colorado Department of Regulatory Agencies, *Annual Report of the Commissioner of Insurance on 2011 Health Insurance Costs*, 25; For a discussion of the manipulation of the medical loss ratio, see Maryland Insurance Administration, "Report on the Use of the Medical Loss Ratio"

Figure 8. Total Colorado health care savings from the Cooperative, 2016-2024, in $millions.



Note: This shows the projected savings from a Colorado Health Care Cooperative. Initially, the largest savings would be from eliminating administrative costs within health care; later, when the system approaches universal coverage, there would be more savings in provider offices' billing and insurance related operations by negotiating reduced drug prices.

- *Savings in billing and insurance related expenses in provider offices and hospital administration:* Simplifying the reimbursement process, eventually establishing a single-pipeline for payment, would allow providers to save over $2 billion in administrative costs in 2016. Savings would increase dramatically with the achievement of universal coverage, rising to $6 billion in 2024.[24]
- *Savings from reduced prices of pharmaceuticals and medical devices:* Drug prices are about 60 percent higher in the United States than in Europe or Canada, and medical

(Maryland, December 2009); Maryland Health Care Commission, "State Health Care Expenditures: Experience from 2007," March 2009, http://mhcc.maryland.gov/health_care_expenditures/shea07/report.pdf; Maryland Health Care Commission, "Health Insurance Premiums, the Underwriting Cycle and Carrier Surpluses," January 27, 2005; Eric Naumburg, "Medical Loss Ratios in Maryland," July 12, 2010.

[24] Woolhandler et al. have found that provider's administrative costs are much lower in Canada with a single-payer system than in the United State and they estimate that a third of medical costs in provider offices in the United States are due to administrative costs, triple the rate in Canada. Because the Cooperative will not be a single-payer system, as in Canada, it is assumed that it will only realize 90% of the administrative savings of the Canadian system. See Woolhandler, Campbell, and Himmelstein, "Cost of Health Care Administration in the United States and Canada"; Dante Morra et al., "US Physician Practices Versus Canadians: Spending Nearly Four Times As Much Money Interacting With Payers," *Health Affairs* 30, no. 8 (2011): 1443 –1450, doi:10.1377/hlthaff.2010.0893.

devices are as much as 40% more expensive.[25] This reflects the market power of companies whose brand reputation is reinforced by legal protection. Inflated prices coming from market power of monopolistic producers of drugs lead to surplus profits for producers who could provide the same product even at a much lower price. When, for example, patent protection expires and patients can buy the same drug from competing suppliers, prices fall by as much as 80% for the same drug.[26] A similar a combination of patent protection and brand name reputation also inflates medical equipment prices by as much as 40%. These large premiums suggest that even the 60% figure for drugs and 40% figure for medical equipment may understate the role of market power in inflating prices. Nonetheless, we do not assume that the Cooperative will be able to negotiate prices at world levels; instead, it is only assumed that the Cooperative will eventually bring drug prices down to 15% above world levels, a rate comparable to that achieved by the Veterans Administration; and we assume only a 20% reduction in the price of medical equipment. Even these conservative estimates suggest that bargaining by the Cooperative would save Coloradans over $3 billion in 2024.[27]

- *Savings from reduced administrative expense in government programs:* Administrative costs in Medicaid are nearly 6 percent of benefits. While some of the data collection and administrative work would continue, integrating these programs into the

[25] McKinsey Global Institute, "Accounting for the Cost of Health Care in the United States," January 2007, 56, http://www.mckinsey.com/mgi/rp/healthcare/accounting_cost_healthcare.asp; Experimental programs by Medicare have found medical equipment prices can be bid down by over 40% by a process of competitive bidding; Center for American Progress Health Policy Team, *The Senior Protection Plan: $385 Billion in Health Care Savings Without Harming Beneficiaries* (Washington, D. C.: Center for American Progress, November 2012), http://www.americanprogress.org/wp-content/uploads/2012/11/SeniorProtectionPlan.pdf; A survey found that drug prices negotiated by the Veterans Administration in 2005 were 48% lower than those offered by Medicare drug plans. themselves somewhat lower than standard drug store prices. Families USA, *Falling Short: Medicare Prescription Drug Plans Offer Meager Savings*, December 2005, http://www.familiesusa.org/assets/pdfs/PDP-vs-VA-prices-special-report.pdf.

[26] One may assume that producers are able to make a decent profit selling at 20% of the list price, which suggests that drug prices in the United States are 8-times as high as needed for normal profits, and that drug prices in Canada and Europe may be 5-times as high. Center for Devices and Radiological Health, "About the Center for Drug Evaluation and Research - Generic Competition and Drug Prices" WebContent, 1, accessed December 27, 2012, http://www.fda.gov/AboutFDA/CentersOffices/OfficeofMedicalProductsandTobacco/CDER/ucm129385.htm; Kaiser Family Foundation, *Prescription Drug Trends* (Kaiser Family Foundation, May 2010), 3, http://www.kff.org/rxdrugs/upload/3057-08.pdf.

[27] Drug prices negotiated by the Veterans Administration in 2005 were 48% lower than those offered by Medicare drug plans themselves somewhat lower than standard drug store prices. Families USA, *Falling Short: Medicare Prescription Drug Plans Offer Meager Savings*.

Cooperative system would eliminate half of the excess administrative costs, saving over $0.1 billion in administrative costs when Medicaid is integrated into the Cooperative in 2017 rising to nearly $0.3 billion in 2024.

- *Savings from reduced fraud:* Administrative simplicity, transparency, and contract would allow the Health Care Cooperative to reduce improper billing, reducing mistakes and fraudulent billings now estimated at nearly 10 percent of total billings. If the Cooperative can reduce these costs by even 20%, it would lead to savings of nearly $2 billion in 2024.[28]
- *Dynamic savings:* Since the early 1970s, the price of health care services has risen dramatically faster in the United States than in other affluent economies like Canada, largely because of the rising administrative burden rising prices for pharmaceuticals and medical devices, and the inability of a fragmented health care system to provide effective and continuous care.[29] By controlling these cost-drivers through negotiating drug and device prices and simplifying administration, the Cooperative will be able to bring down the rate of growth in health care spending with increasing savings over time. It is assumed that the "dynamic savings" will be achieved slowly, after the Cooperative is implemented, and will increase over time from negligible in the early years to over $6 billion by 2024.

Savings are itemized in Figures 6 and 8 and in Table 1:

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[28] These estimates of savings from fraud reduction are conservative compared with, for example, the Lewin Group which regularly assumes that 5% of claims are fraudulent and 20% of these would be detected with enhanced subpoena powers even without taking account of the reduction in duplicate claims under a single pipeline payment system. Subpoena powers would not be necessary with the transparency and contract powers of the Cooperative. Estimates of fraud are in Department of Health and Human Services and Department of Justice, *Health Care Fraud and Abuse Control Program, Annual Report for Fiscal Year 2011* (Washington, D.C.: United States Government, February 2012), https://oig.hhs.gov/publications/docs/hcfac/hcfacreport2011.pdf; Fitch Ratings, "The Impact of Poor Underwiting Practices and Fraud in Subprime RMBS Performance," November 28, 2007, http://www.securitization.net/pdf/Fitch/FraudReport_28Nov07.pdf; General Accounting Office, *Medicare and Medicaid Fraud, Waste, and Abuse: Effective Implementation of Recent Laws and Agency Actions Could Help Reduce Improper Payments* (Washington D.C., March 9, 2011), http://www.gao.gov/new.items/d11409t.pdf; "Testimony of the National Health Care Anti-Fraud Association" (Harrisburgh, PA., House Insurance Committee, Hourse of Representatives, Commonwealth of Pennsylvania, January 28, 2010), http://www.legis.state.pa.us/cfdocs/legis/TR/transcripts/2010_0017_0014_TSTMNY.pdf.

[29] Friedman, "Universal Health Care: Can We Afford Anything Less?"; Himmelstein DU, "Cost Control in a Parallel Universe"; Karen Davis et al., "Slowing the Growth of U.S. Health Care Expenditures: What Are the Options?" (Commonwealth Fund, January 2007), http://www.commonwealthfund.org/usr_doc/Davis_slowinggrowthUShltcareexpenditureswhatareoptions_989.pdf.

Table 1. Savings (in $billions) from Colorado Health Care Cooperative, 2016-2024

	2016	2020	2024
Provider administration savings	$ 2.2	$ 4.5	$ 6.0
Insurance and government	$ 3.6	$ 4.8	$ 6.4
Reduced prices for pharmaceuticals	$ 1.2	$ 2.4	$ 3.1
Fraud reduction	$ 0.7	$ 1.5	$ 1.9
Dynamic savings	$ -	$ 2.2	$ 6.4
Total savings	**$ 7.7**	**$ 15.3**	**$ 23.9**

Note: This table reports the projected savings (in $ billions) according to the site where the savings are to be achieved. The savings are calculated by applying a savings percentage estimate to each category of spending as described in the text and Appendix.3.

In 2016, savings would come to over $1400 per resident, savings achieved largely by eliminating unpleasant as well as wasteful administrative forms and bureaucratic barriers to care. These savings will finance expanding access to care for some of the state's neediest, including low-wage employees currently without health insurance, which would be an expansion costing $1.2 billion in 2016.[30]

Table 2. Additional costs to Colorado associated with the Colorado Health Care Cooperative and universal coverage in 2016-24 ($ billions)

	2016	2020	2024
Coverage of uninsured	$ 1.2	$ 1.6	$ 2.1
Increased health-care utilization	$ 0.3	$ 2.4	$ 3.2
Medicaid rate adjustment	$ 0.8	$ 1.1	$ 1.4
Coop administration	$ 0.6	$ 0.8	$ 1.0
Total added costs	**$ 2.9**	**$ 5.8**	**$ 7.7**

Note: These extra costs associated with the establishment of a universal health care system come from the expansion of coverage and expanded access to health care services and from the incorporation of Medicaid into a universal system.

[30] Jack Hadley and John Holahan, "The Cost of Care for the Uninsured: What Do We Spend, Who Pays, and What Would Full Coverage Add to Medical Spending" (Kaiser Commission on Medicaid and the Uninsured, May 10, 2004), http://www.kff.org/uninsured/upload/The-Cost-of-Care-for-the-Uninsured-What-Do-We-Spend-Who-Pays-and-What-Would-Full-Coverage-Add-to-Medical-Spending.pdf. The comparison here is with the baseline; some of the uninsured would be covered under the ACA. About 370,000 of the 963,000 newly insured would be covered by Medicaid because their income is less than 100% of the Federal Poverty Line; over 314,000 would be newly eligible for Medicaid under the ACA because they are uninsured with income between 100% and 138% of the FPL. Because of the age structure of the uninsured, who are disproportionately nonelderly, it is assumed that the uninsured will spend less than the currently insured population. In in the baseline projection, it is assumed that they will spend about 55% of the average state per capita medical spending; it is assumed that they will spend 80% as much when covered. The increase in health care spending per person with coverage is, therefore, 25% of the average per capita health care spending.

Expenditures will increase when co-payments are reduced or eliminated and deductibles are eliminated because lifting restrictive insurance policies will lead to more utilization among the already insured population. Our utilization adjustment is based on the experience in Canada in 1971 where utilization rose by 3 percent with the establishment of a system of universal health care without copayments or deductibles in 1971.[31] This figure is adjusted for 50% larger increases in utilization for the first years after the elimination of barriers to access, and for larger increases in utilization for services where the private insurance system has been particularly restrictive, including dental, vision, and home health care.[32] For some time, the Cooperative will continue to control costs by retaining some copayments; for this reason, the increase in utilization is phased in with the expansion of the Cooperative. A large immediate increase in spending is assumed with the provision of free preventive dental care; other increases in health care utilization are deferred until later when greater savings from administrative economies will allow the Cooperative to expand dental coverage and other health services within the Accountable Care Organizations.[33] Once copayments are reduced

[31] This overstates the increase utilization by applying the same change for health care through Medicare and the Veteran's Administration. It also overstates the long-term impact to the extent that greater utilization will lead to savings from better health. There is a substantial literature on the effects of copayments on utilization. See William Manning et al., "Health Insurance and the Demand for Medical Care: Evidence from a Randomized Experiment," *American Economic Review* 77, no. 3 (June 1987): 265; Robert Brook et al., "The Effect of Coinsurance on the Health of Adults: Results from the RAND Health Insurance Experiment" (Rand, 1984), http://www.rand.org/pubs/reports/R3055/; B. Harris, A. Stergachis, and L. Ried, "The Effect of Drug Co-Payments on Utilization and Cost of Pharmaceuticals in a Health Maintenance Organization," *Medical Care* 28, no. 10 (1990): 907–17; D. Cherkin, L. Grothaus, and E. Wagner, "The Effect of Office Visit Copayments on Utilization in a Health Maintenance Organization," *Medical Care* 27, no. 7 (1989): 669–79; Leighton Ku, Elaine Deschamps, and Judi Hilman, "The Effects of Copayments on the Use of Medical Services and Prescription Drugs in Utah's Medicaid Program" (Center on Budget and Policy Priorities, November 2, 2004), http://www.cbpp.org/cms/index.cfm?fa=view&id=1398; Jonathan Gruber, "The Role of Consumer Copayments for Health Care: Lessons from the RAND Health Insurance Experiment and Beyond" (Kaiser Family Foundation, October 2006), 6, http://www.kff.org/insurance/upload/7566.pdf; William Hsiao, Steven Kappel, and Jonathan Gruber, "Act 128: Health System Reform Design. Achieving Affordable Universal Health Care in Vermont," January 21, 2011, http://www.leg.state.vt.us/jfo/healthcare/FINAL%20VT%20Draft%20Hsiao%20Report.pdf.

[32] The Cooperative benefit package does not provide benefits more generous than Medicaid but increased utilization is expected through a system that provides integrated care and is focused on improving outcomes.

[33] Jennifer Haley, Genevieve M Kenney, and Jennifer Pelletier, *Access to Affordable Dental Care: Gaps for Low-Income Adults* (Kaiser Family Foundation, July 2008), http://www.kff.org/medicaid/upload/7798.pdf; Hua Wang, Edward C Norton, and R Gary Rozier, "Effects of the State Children's Health Insurance Program on Access to Dental Care and Use of Dental Services," *Health Services Research* 42, no. 4 (August 2007): 1544–1563, doi:10.1111/j.1475-6773.2007.00699.x; Genevieve M. Kenney, Joshua R. McFeeters, and Justin Y. Yee, "Preventive Dental Care and Unmet Dental Needs Among Low-Income Children," *American Journal of Public Health* 95, no. 8 (August 2005): 1360–1366, doi:10.2105/AJPH.2004.056523.

and deductibles are eliminated, it is assumed that there will be a spike in utilization from care for long-deferred needs. After this, however, it is assumed utilization for most health-care services will increase by 3% as in Canada.

By covering Medicaid within the Cooperative, it is assumed that initially Medicaid reimbursement would need to be increased to the level of Medicare as part of the transition to a uniform payment system. This would raise reimbursement rates for Medicaid providers by about 16 percent at a cost of $0.8 billion in 2016.[34] This increase will benefit recipients as well as providers because current low reimbursement rates threaten Medicaid's viability by forcing a growing number of physicians to stop accepting patients with Medicaid insurance.[35] As payment reform progressed, the payment system would not necessarily be tied to Medicare.

Finally, while the Cooperative will achieve large administrative savings by replacing the private insurance system, it will incur its own administrative expenses. In principle, the large scale and universal coverage should allow the Cooperative to achieve administrative economies like those of Medicare, a much more conservative assumption is used here that it will operate at twice the Medicare administrative rate. With administrative costs of 3.75% of spending, the Cooperative itself will cost over half a billion dollars to operate in 2016.

While most of these additional costs would have to be covered by Colorado residents, some will be reimbursed by the Federal government through Medicaid.[36] Medicaid funding would also increase because of the extension of coverage to the 19% of the Medicaid-eligible population currently not enrolled in the program.[37]

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[34] Note again that we are assuming that the Cooperative will incorporate Medicaid in 2016. Colorado Medicaid fees are about 86% of those paid for the same service under Medicare; see http://www.statehealthfacts.org/profileind.jsp?ind=196&cat=4&rgn=7. This is only one of many areas where the current payment system with all its cost shifting and complexities has led to different payments for the same services. Ultimately, the Interim Board will be empowered to regulate fees and the process of integration of the different fee systems.

[35] Peter Cunningham and Jessica May, "Medicaid Patients Increasingly Concentrated Among Physicians," August 2006, http://www.hschange.com/CONTENT/866/#ib10; American Academy of Pediatrics, "Medicaid Reimbursement: Medicaid Rates and Provider Participation," July 2009, http://www.sdsma.org/documents/MedicaidSummerStudy.final.pdf.

[36] It is assumed that the Federal government will continue to fund health care for persons eligible under these programs through the Cooperative. The Cooperative may negotiate a group rate as a Medicaid Advantage plan where it would provide care for all Medicaid-eligible residents at a fixed capitation rate.

[37] http://www.statehealthfacts.org/profileind.jsp?ind=868&cat=4&rgn=7

After taking account of the cost of expanded coverage, including insuring the previously uninsured as well as the impact of greater utilization and higher Medicaid reimbursement rates, total health care spending in Colorado would drop by nearly 10 percent in 2016, by nearly $5 billion, with larger reductions in later years as the plan is fully developed.

Compared with both the no-ACA baseline and the ACA, the Cooperative would shift health expenditures from administrative activities towards the provision of health care.[38] This is illustrated in Figure 9 where expenditures are divided among provider services, pharmaceuticals, and administration for 2016 under the no-ACA, the ACA, and under the proposed Cooperative. While total expenditures decrease under the Cooperative, all of the reduction is in administrative activities and pharmaceutical and device pricing while payments to providers will rise because of the extension of coverage and the elimination of barriers to care. Under the no-ACA and the Affordable Care Act, the administrative share is over a third in 2016 and will rise further at present trends; by contrast, administration would drop to 25% in 2016 under the Cooperative and still further later. Provider payments would rise under the ACA because of the extension of coverage; they would rise further under the Cooperative with universal coverage and increased utilization.[39]

Savings have not been included here from various cost containment initiatives proposed for the no-ACA nor for those included in the ACA. While this is certainly a reasonable approach for the no-ACA, it may overstate the growth in spending for the ACA, which does include provisions designed to slow the growth in health care costs and spending. In addition to extending coverage by expanding Medicaid and subsidizing the purchase of private health insurance, the ACA has measures to slow the growth in health care costs including an excise tax on expensive health insurance plans, programs to promote competition between health insurance plans in the Health Exchanges, changes in billing systems to promote better health care and to reduce hospital readmissions, the promotion of accountable care organizations, and the establishment of an Independent Payment Advisory Board to oversee the entire system. The Obama Administration has touted these measures as able to slow the growth of Medicare spending by over a percentage point per annum. It has circulated a list of measures that would save

[38] This shift towards greater care provision will especially increase the demand for primary care physicians and nurses. A small part of a much larger health-care labor market, Colorado should be able to attract primary care providers from other states where the reimbursement rates are lower and where providers face more administrative burdens.

[39] In later years, the dynamic savings achieved through universal coverage and global budgeting will bring down health-care spending including payments to providers.

Medicare in particular nearly $418 billion over the next decade.[40] While significant, over a decade, these savings would amount to less than 1% of national health care spending.

The Massachusetts experience with a law very similar to the national ACA provides little reason for optimism about the ACA's cost containment features; on the contrary, the state legislature there returned to the law in 2012 to add sweeping changes designed to control costs. One of the ACA's architects, economist David Cutler, expresses hope but little optimism about cost containment.[41] Instead, he praises the law for starting the ball rolling on cost containment and says that the ACA law just begins the discussion of cost containment.[42] An analysis of the Administration's claims finds that most of the anticipated savings redistribute spending without slowing rising health care costs. Over 80% of the total savings, $350 billion of the $418 billion, come from eliminating the overpayment of Medicare Advantage plans ($145 billion) and by unspecified "improvements to productivity in most provider settings" ($205 billion). Other measures are specified but amount to relatively little in a Medicare program that will spend trillions over the next decade. Reducing hospital readmissions is expected to save $8 billion; reducing hospital acquired infections will save $3 billion; promoting Accountable Care Organizations will save $4 billion.[43] The experience of technological change in other sectors is that productivity gains come slowly in the years after the introduction of new technologies because it takes time to adapt old systems to new methods and to learn ways to take advantage of the new technologies.[44] By pushing payment reform, fraud reduction, and the expanded use of electronic medical records, the ACA may be promoting technological changes

[40] Note that not all these are reductions in spending; over half of these savings involve the shift in costs to other payers. Centers for Medicare and Medicaid Services, "Affordable Care Act Update: Implementing Medicare Cost Savings," July 2010, 4–5, http://www.cms.gov/apps/docs/aca-update-implementing-medicare-costs-savings.pdf; Cutter, "Health Care Costs"; Stephanie Bouchard, *ACA Includes Cost Containment* (Urban Institute, November 6, 2012), http://www.healthcarefinancenews.com/news/aca-includes-cost-containment; Stephen Zuckerman and John Holahan, "The Affordable Care Act Addresses Health Care Cost Containment" (Urban Institute, Health Policy Center, October 2012), http://www.urban.org/UploadedPDF/412665-The-Affordable-Care-Act-Addresses-Health-Care-Cost-Containment.pdf.

[41] Quoted in Bouchard, *ACA Includes Cost Containment*.

[42] The Congressional Budget Office is also sceptical of savings from the ACA; see Congressional Budget Office, *The 2012 Long-Term Budget Outlook* (Washington, D. C., June 2012), 53, http://www.cbo.gov/sites/default/files/cbofiles/attachments/06-05-Long-Term_Budget_Outlook_2.pdf.

[43] Centers for Medicare and Medicaid Services, "Affordable Care Act Update: Implementing Medicare Cost Savings," 5.

[44] Paul A David, *Technical Choice Innovation and Economic Growth: Essays on American and British Experience in the Nineteenth Century* (London: Cambridge University Press, 1975); Paul A David, *Path Dependence and the Quest for Historical Economics: One More Chorus of the Ballad of Qwerty*, Discussion Papers in Economic and Social History no. 20 (Oxford: Nuffield College, 1997); Alexander J. Field, *A Great Leap Forward: 1930s Depression and U.S. Economic Growth*, Yale Series in Economic and Financial History (New Haven: Yale University Press, 2011).

that will bring significant savings in the future; but little can be expected over the next few years, the timeframe of this report.

It has been assumed that over time the Cooperative will slow the increase in health care costs by as much as 1.1 percentage points per annum, or the difference between the rate of cost growth in private health insurance plans in the United States and the increase in Canadian costs. Over half of these savings will come from controlling the size of the two parts of the health insurance system experiencing the fastest cost increases: administrative costs and drug prices.[45] Specific savings have not been included for two other provisions of the proposed Cooperative that may realize significant cost savings over time. These include the use of Accountable Care Organizations and the use of electronic medical records accessed with a "smartcard." Like the measures included in the Affordable Care Act, these have the potential to lower costs and their universal use under the Cooperative plan promises the full realization of their benefits. Any such benefits are backloaded in this analysis which assumes few dynamic savings beyond controlling administrative costs and drug and device prices until after 2020. As with possible efficiency gains and cost controls through the ACA, it is assumed that potential savings from these better technologies will only be realized over time and with experience. Regardless of the immediate effect on costs, by better coordinating health care, all of these would lead to *better* health care and a reduction in unnecessary and duplicative procedures. *Better* health care is desirable in itself. However, these measures will lead to *lower-cost* care only over time and no explicit savings have been included from them in the analysis here.

[45] The relative inflation rates in different aspects of the health care system are discussed in Karen Davis et al., "Slowing the Growth of U.S. Health Care Expenditures: What Are the Options?"; Cost inflation in US and Canada is discussed in Himmelstein DU, "Cost Control in a Parallel Universe"; Friedman, "Universal Health Care: Can We Afford Anything Less?"; Some of the possible efficiency gains and cost savings from ACOs and other technologies are discussed in Christine Eibner et al., *Controlling Health Care Spending in Massachusetts: An Analysis of Options. Submitted to Commonwealth of Massachusetts Division of Health Care Finance and Policy* (Rand Health, August 2009), http://www.rand.org/content/dam/rand/pubs/technical_reports/2009/RAND_TR733.pdf.

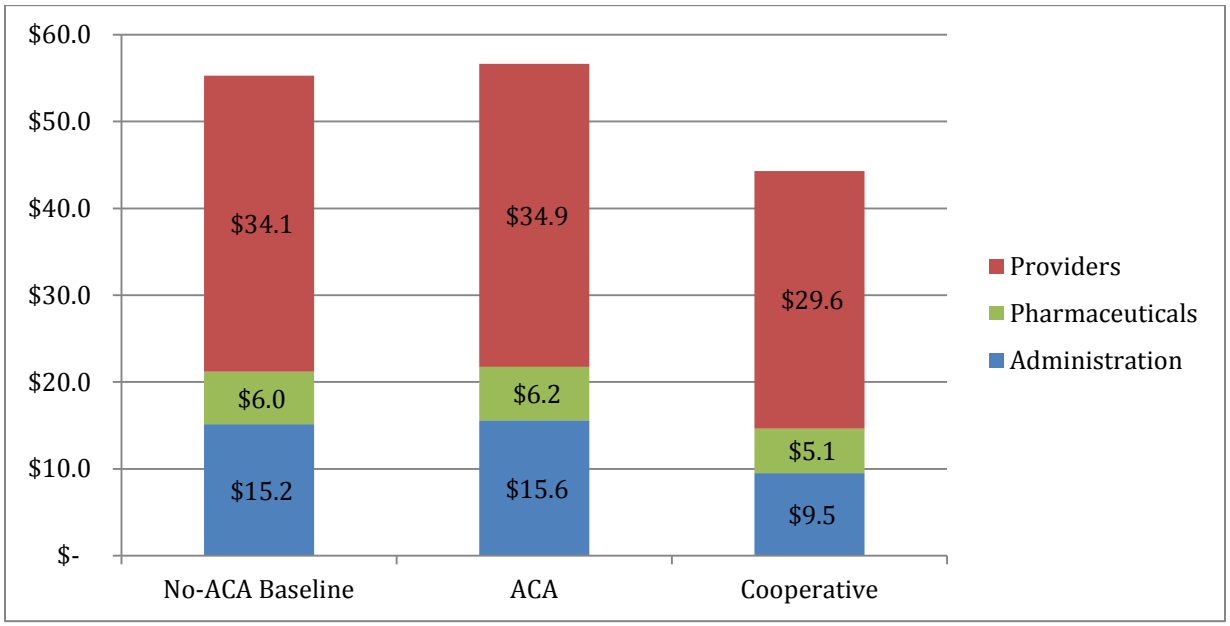

Figure 9. Allocation of health care expenditures under no-ACA baseline, Affordable Care Act, and Colorado Health Care Cooperative, 2016, (in billions).

Financing alternative systems

Under the no-ACA program, health care is financed by a mix of out-of-pocket spending, health insurance premiums paid by individuals, businesses, and employees, and state and federal spending for public health and safety net programs, notably Medicaid, and for Medicare. Because private health care expenditures come as lump-sum charges on individuals and family, the no-ACA system imposes greater burdens on lower than on higher income Coloradans.[46] Already a heavy burden on the income of lower income Coloradans, continued increases in health care costs at rates above the rate of increase in income will increase this burden further.

The Affordable Care Act changes the burden of health care by extending Medicaid to many low-income households currently ineligible and by providing subsidies other low- and lower-middle income households to buy health insurance. These added expenses will be financed in part through a surcharge on Medicare taxes for very high income wage and salaries, those over

[46] These estimates are made using data on income by source and its distribution in the following sources: Bureau of Economic Analysis, *State Annual Personal Income*, 2011, http://www.bea.gov/regional/spi/; United for a Fair Economy, *Flip It to Fix It: An Immediate, Fair Solution to State Budget Shortfalls*, May 25, 2011, http://faireconomy.org/flipitreport; Patricia Ketsche et al., "Lower-Income Families Pay A Higher Share Of Income Toward National Health Care Spending Than Higher-Income Families Do," *Health Affairs* 30, no. 9 (2011): 1637 – 1646, doi:10.1377/hlthaff.2010.0712.

$250,000, and by the extension of Medicare taxes to those households' non-wage and salary income.[47]

After taking account of the savings realized and additional costs, the Cooperative would fund $44 billion ($15 billion in new state funds) in health care in 2016 rising to $69 billion ($20 billion in new state funds) in 2024.[48]

For this report, it is assumed that these funds would be raised through a 6 percent, pretax payroll premium paid by employers; a 3% payroll employee pretax payroll premium on payroll, a 9% self-employment premium, and a 9% premium on nonwage income excluding Social Security, pension income, and unemployment insurance, with a maximum premium liability for combined wage and nonwage income of $350,000 for those filing income tax individually, and $450,000 for those filing jointly.[49] Premiums will be collected like current health insurance payments, which they will replace, and will not be available to fund general services as a tax would. The cap on contributions resembles the maximum payment for similar insurance systems, like Social Security retirement. Like Social Security, this premium collection system can be collected efficiently by the Colorado state government because it is universal, and it is equitable because it is based on ability to pay according to the variable amounts of a Coloradan's income each year.

[47] Internal Revenue Service, "Affordable Care Act Tax Provisions," November 30, 2012, http://www.irs.gov/uac/Affordable-Care-Act-Tax-Provisions.

[48] This assumes continued funding of other Federal and state health programs. It does not include federal, state, or local government spending on employer-provided health insurance nor does it include employee premiums. All of these would disappear along with other private, employment-linked health insurance.
The funding plan here assumes the maintenance of effort by Federal and Colorado authorities in funding Medicare and Medicaid at currently projected rates. As suggested above, this may be done if the Cooperative is recognized as a Medicare Advantage, providing services in exchange for a fixed capitation. Alternatively, Federal funding might be secured by an agreement making Colorado's funding a block grant to the state and the Cooperative contingent on the state's continued Medicaid funding. Even with higher payments to Medicaid providers, this would reduce Federal spending because of the savings on Medicaid administration.

[49] Note that the payroll contributions are structured like current premium payments for employment-based health insurance. The description of proposed premium rates was provided by Ivan J. Miller, President, Colorado Foundation for Universal Health Care. It is one of many possible configurations of different types of contributions to raise the needed revenue.

At the request of Senator Aguilar, the Colorado Legislative council estimated that these premiums would raise over $16 billion in 2016, $0.5 billion more than is needed to fund the Cooperative in 2016 with similar surpluses in later years.[50]

[50] A surplus is advisable to cover unexpected expenses. Once a sufficient reserve has been accumulated, any surplus could be returned to residents through a premium holiday at the end of the year. A 13% surplus, for example, would allow the Cooperative to defer contributions for the last two months of the fiscal year. Estimates of revenues are from the Legislative Council Staff, correspondence February 1, 2013.

Table 3. Revenue needs for Colorado Health Care Cooperative, in $ millions.

	2016	2020	2024
No-ACA Baseline spending	$ 49,001	$ 64,784	$ 85,651
Cooperative savings:			
Administration in provider offices	$ 2,189	$ 4,523	$ 5,980
Administration in private insurance	$ 3,337	$ 4,412	$ 5,833
Drug and Medical Device pricing	$ 1,151	$ 2,378	$ 3,144
Fraud reduction	$ 705	$ 1,457	$ 1,927
Government administration	$ 312	$ 413	$ 546
Dynamic savings	$ -	$ 2,164	$ 6,444
Total savings:	$ 7,696	$ 15,347	$ 23,874
Added spending:			
Coverage extension	$ 1,211	$ 1,601	$ 2,117
Utilization	$ 347	$ 2,415	$ 3,193
Medicaid rate adjustment	$ 813	$ 1,074	$ 1,421
Cooperative administration	$ 568	$ 751	$ 993
Total additional spending	$ 2,939	$ 5,842	$ 7,724
Revenue needed: Baseline minus savings plus added spending	$ 44,244	$ 55,279	$ 69,501
Existing funding			
Medicare	$ 9,567	$ 12,378	$ 16,904
Medicaid and ACA subsidies	$ 12,936	$ 16,945	$ 22,198
Other existing state and local	$ 582	$ 756	$ 981
Out of pocket (with 90% actuarial rate)	$ 4,424	$ 5,528	$ 6,950
Veterans Administration	$ 762	$ 989	$ 1,284
Existing funding total:	$ 28,271	$ 36,596	$ 48,318
Net revenues needed for Coop:	$ 15,973	$ 18,682	$ 21,183
CLC revenue estimate of revenues with $450,000 limit on revenues subject to premiums.	$ 16,507	$ 18,950	$ 21,754
Surplus over revenues needed	$ 534	$ 267	$ 571

Note: This funding program assumes maintenance of effort for Federal and state programs; it removes Veterans Administration programs from both the spending and revenue sides. Savings are projected as described in the text and Appendix 3 assuming the phase-in of Cooperative benefits and savings. Medicaid adjustments include those under the ACA as well as the extension of coverage to remaining Medicaid-eligible population.

Who would bear the burden?

With different funding sources, the three alternative plans place substantially different burdens on households at different income levels. The subsidies and high income levies in the ACA

lower the burden of health-care costs on low-income households while raising costs for the highest income. Funded through payroll-based premiums and premiums based on non-payroll income, the Cooperative would shift the burden of health onto those Coloradans better able to pay.[51] The impact of the Cooperative on household healthcare spending for those at different income levels is presented in Figure 10. Compared with the Baseline program, the Cooperative would lower costs for 80% of Colorado households, those with a household income of under $100,000. The savings from the Cooperative will rise over time for all income levels because of the Cooperative's ability to slow the rise in health care costs.

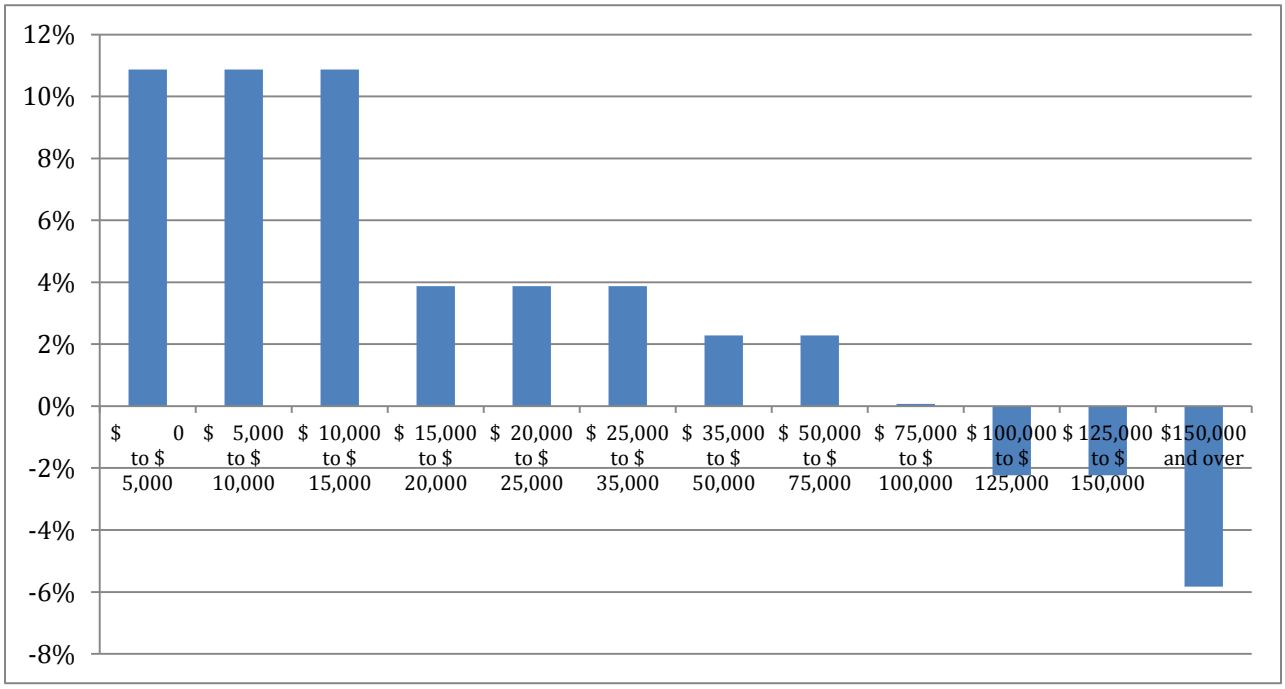

Figure 10. Effect of Cooperative funding programs on net income after health care expenditures, compared with no-ACA projected to 2016.

Note: This figure shows the percentage change in disposable income, income net of proposed contributions and health care expenditures, for Colorado households of different incomes under the Cooperative for 2016. The percentage net change in income is shown for each category.

Source: Income data from Colorado, Legislative Council Staff projections for projected 2016 income.

Businesses will benefit on average but the greatest cost savings from the Cooperative will go to those that have been paying the highest health insurance premiums. A payroll contribution of 9 percent would be substantially less than most employers now pay for health insurance while

[51] Over the last 40 years, incomes have risen much faster for affluent Coloradans than for others and the gap between rich and poor has widened dramatically; see Elizabeth McNichol et al., *Pulling Apart: AState-by-State Analysis of Income Trends* (Center for Budget and Policy Priorities and Economic Policy Institute, November 15, 2012), http://www.cbpp.org/files/11-15-12sfp.pdf.

also saving employers the administrative expense and uncertainty of dealing with health insurance.[52] The greatest savings would go to small private establishments that offer health insurance at relatively high cost and where the administrative burden of health insurance is especially heavy. The public sector will also benefit. Public employers often pay relatively high premiums because they offer plans that provide more comprehensive coverage and plans that enroll a larger share of their employees and families. The shift to the Cooperative would save Colorado's state and local governments as much as $2 billion, which could be used to make wages for public service more competitive, create employment by addressing staff shortages, or be returned to the taxpayer to spend in the Colorado economy.[53]

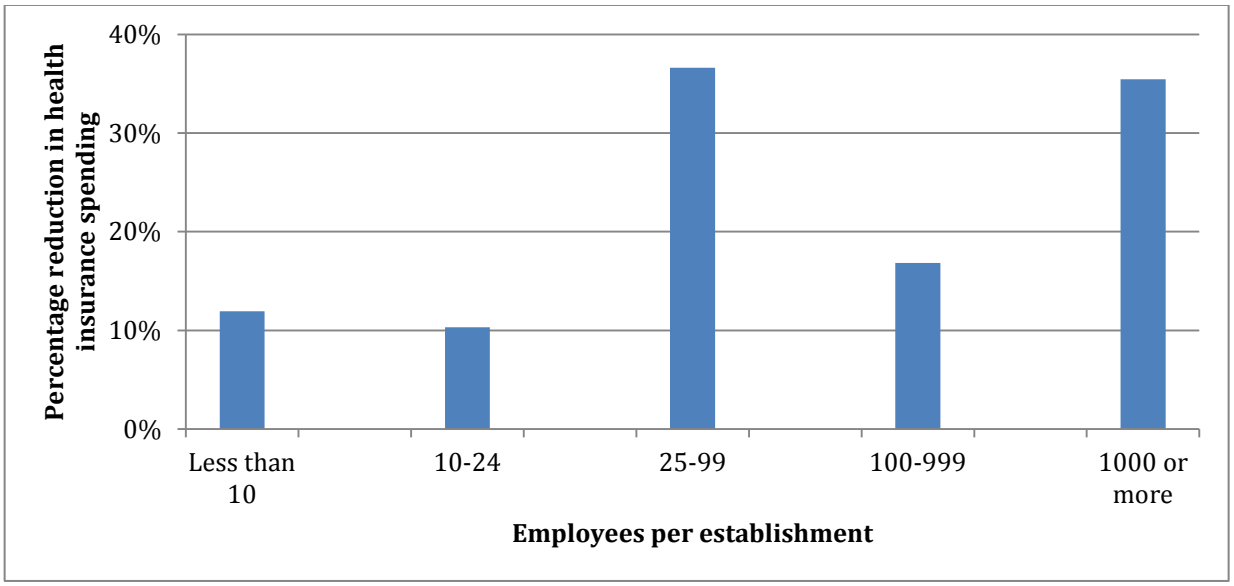

Figure 11. Savings from Cooperative as share of health insurance spending by businesses of different sizes, 2016.

Effect of alternative funding plans on employment

Many of the changes brought about by the Cooperative, in particular, will shift employment without adding or reducing the total number of jobs. The $2.2 billion reduction in spending on administrative services, billing and insurance related activities, within provider offices will cost many jobs; at the same time these savings will fund $2.2 billion in increased consumer spending, including spending on health care services, which will create as many additional jobs. To be sure, these will not be the *same* jobs.

[52] At establishments with health insurance, employers (and their employees) pay 11.8 percent of payroll. US managers cite health-insurance concerns as one of their major business problems, a significant distraction from their primary tasks; Nick Zieminski, "Healthcare Costs Top U.S. Executives' Concerns: Adecco Survey," *Reuters* (New York, October 22, 2012), http://www.reuters.com/article/2012/10/22/us-adecco-election-survey-idUSBRE89L12T20121022.

[53] This is under the assumption that none of the savings are passed onto the workers through higher wages. As discussed below, this may be a reasonable short-term assumption.

Over the first year of the Cooperative's operation, as many as 15,000 people will lose jobs performing administrative activities within provider officers and about 15,000 jobs will open in provider officers, retail stores, and other businesses, jobs created when consumers, businesses, and health care providers spend the money they have saved because of lower administrative costs in provider offices.[54] Note that while some of these transitions will be difficult, it is a characteristic of a dynamic, growing, free economy that many workers change jobs. Even during the current economic downturn, about 75,000 of the workers in Colorado change jobs *every month*, a monthly turnover rate that is over five-times the job displacements that we expect in the first *year* of the Cooperative.[55]

While shifting money out of in-state administrative tasks transfers jobs within Colorado, health care reform can create new jobs in Colorado by attracting additional Federal spending and by returning to the state money that is now sent out of state for health insurance, and for pharmaceuticals. Each new hire coming from money brought into Colorado multiplies employment when money spent hiring workers leads to additional employment when those newly hired spend their new income on activities that employ additional workers. In this way, an additional billion dollars of income coming to Colorado, or a billion dollars not spent *outside* of Colorado, leads to over 7,000 additional jobs in Colorado.[56] Under the ACA, Medicaid expansion and the Exchange subsidies, to help low- and moderate-income Coloradans buy health insurance, will bring billions in additional federal money into Colorado.[57]

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[54] Employment effects are estimated from the change in state income using a measure of the elasticity of employment with respect to income derived from the IMPLAN program of the MIG group including both the direct employment effect of the spending generated by this extra income and indirect effects when additional income moves through the state economy. For 2012, the program projects 7837 jobs generated by an increase in income of $1 billion; we have adjusted this downwards for 2016 at the projected rate of inflation and project 7,035 jobs per $1 billion. The estimate of 15,000 jobs is based on administrative savings of $2.2 billion. Note that the Bureau of Labor Statistics estimates that there are approximately 22,000 administrative jobs in provider offices, clinics, and hospitals in Colorado.

[55] This is calculated by applying the Western state's nonfarm separation rate of 3.2% for November 2012 to the private sector nonfarm employment. Employment and the separation rate are from the Bureau of Labor Statistics, databases on Occupations and on Job Openings and Labor Turnover.

[56] This estimate is from the IMPLAN program.

[57] This is extra federal money because of increased utilization of health care services, higher Medicaid reimbursements, and the extension of Medicaid beyond that anticipated under the ACA. Note that employment losses within Colorado will be limited because many of the displaced jobs are based elsewhere in insurance companies and back-offices. These will lead to employment losses in Connecticut and elsewhere where insurance company operations are based.

Employment effects are estimated from the change in state income using a measure of the elasticity of employment with respect to income derived from the IMPLAN program of the MIG group including both the direct employment effect of the spending generated by this extra income and indirect effects when additional income moves through the state economy. For 2012, the program projects 7837 jobs generated by an increase in income

This additional Federal spending will produce as many as 37,000 additional jobs in Colorado in 2016.[58] The further expansion of coverage and Medicaid rate adjustments under the Cooperative will bring still more Federal moneys to Colorado, raising the employment gain to to over 45,000 in 2016 rising to 50,000 in 2024. These are significant gains; over 1% of Colorado private-sector employment in 2016.

The Cooperative may also generate jobs by redirecting health care spending back to Colorado. Approximately 60% of the jobs in private health insurance administration are out of Colorado, including insurance industry jobs in Connecticut, Minnesota, New Jersey, and Ohio. [59] By shifting spending from out-of-state insurance administration to health care services and consumer spending, the Cooperative will bring Colorado over 15,000 additional jobs in 2016.[60] The reduction in pharmaceutical pricing will similarly create over 8,000 new jobs in Colorado.[61]

Employment may also increase in Colorado where businesses use savings on health insurance costs to hire more labor and to attract business to the state by lowering prices.[62] Some

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of $1 billion; we have adjusted this downwards for 2016 at the projected rate of inflation and project 7,425 jobs per $1 billion.

[58] This figure comes from multiplying the additional Federal spending for Medicaid and the Exchange subsidies by the IMPLAN estimate of job creation per income. A study by the Bell Policy Center estimates that Medicaid expansion alone would bring 12,000 jobs; we have a larger employment effect because of the inclusion of other ACA moneys, notably the exchange subsidies. See Bob Semro, *Medicaid Expansion Could Create 12,000 Jobs, According to Estimate* (Denver, Colorado: Bell Policy Center, January 14, 2013), http://bellpolicy.org/content/medicaid-expansion-could-create-12000-jobs-according-estimate.

[59] Comparing Bureau of Labor Statistics estimates of insurance employment with the state's population, Connecticut has nearly five-times as high a share of insurance jobs as it does population while Minnesota, New Jersey, and Ohio have two- to three-times as many insurance jobs. By contrast, Colorado has only 40% as many insurance jobs as its share of the national population. If 60% of Colorado insurance administrative dollars go to creating jobs in other states, then bringing home 60% of health insurance administrative costs would create over 15,000 additional jobs in Colorado.

[60] It is estimated that 60% of the $3.7 billion in insurance administration is spent out-of-state. The return to Colorado of $2.2 billion will generate over 15,000 jobs based on the jobs-multiplier for Colorado income from the IMPLAN program.

[61] It is assumed that reductions in the cost of pharmaceuticals will be borne by producer companies, all of whom are based outside of Colorado. Using the IMPLAN employment multiplier, the savings of $1.1 billion will generate 8,000 jobs in 2016. Note that job creation will triple in the next few years through reductions in drug prices.

[62] This employment effect is multiplied when the additional wages are spent throughout Colorado leading to further hiring. Note that the employment gains will increase over time if the Cooperative slows the growth in health care costs.

businesses may take advantage of cheaper labor by adopting relatively labor-intensive production technologies, substituting workers for other inputs. If it is less expensive to hire workers, for example, companies may hire more workers to mow lawns rather than using larger, and more expensive, lawn mowers; they may retain more retail clerks rather than substituting computer service stations; and consumers may buy more labor-intensive goods, including from brick-and-mortar retailers rather than shopping online.[63] There can also be employment gains if lower labor costs allow Colorado's employers to attract business from out-of-state competitors. At lower labor costs, Colorado businesses will be able to compete more effectively for out-of-town tourist and convention businesses, as well as manufacturing and other tasks. [64]

Conclusion: found money

The proposed Colorado Health Care Cooperative would produce substantial health and economic gains for Colorado. The new system would create such large economies in the administration of health care that all of those currently uninsured could be given access to health care with money left over for expanding access, especially for dental care and home health care. By shifting health care finance to contributions linked to income, the Cooperative would produce large savings for the great majority of Colorado residents. Finally, by reducing business costs, it may also lead to expansion in employment.

[63] Kim B. Clark and Richard B. Freeman, *How Elastic Is The Demand for Labor?* NBER Working Paper (National Bureau of Economic Research, Inc, 1979), http://ideas.repec.org/p/nbr/nberwo/0309.html.

[64] Jean Imbs and Isabel Mejean, "Trade Elasticities," September 2010; Matthew J. Slaughter, *International Trade and Labor-Demand Elasticities* Working Paper (National Bureau of Economic Research, November 1997), http://www.nber.org/papers/w6262; Arvind Panagariya, Deepak Kumar Mishra, and Shekhar Shah, "Demand Elasticities in International Trade: Are They Really Low?," *SSRN eLibrary* (December 1996), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=620521.

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Appendix 1: Initial benefit package

The initial benefit package is designed to replace 88% of health care expenditures. With the spread of the system and the achievement of savings, benefits will be increased to replace 90% of health expenditures in 2018 and 94% by 2024. The benefit ratio will increase through some increase in benefits, including dental, and the movement of Coloradans into the Accountable Care Organizations.

Table 4. Initial Benefits to be provided under Colorado Health Care Cooperative.

	2016	2020
Primary and preventive care within Accountable Care Organizations (ACP)	without co-pay	without co pay
Specialist care within ACO	sliding scale copayments with annual maximum for out-of-pocket cost	sliding scale copayments with annual maximum for out-of-pocket cost
Mental health care within ACO	Parity with other health care: sliding scale copayments with annual maximum for out-of-pocket cost	Parity with other health care needs: without co pay
Hospitalization	sliding scale copayments with annual maximum for out-of-pocket cost	sliding scale copayments with annual maximum for out-of-pocket cost
Eye care: annual checkups	without co pay or deductible	without co pay or deductible
Eye care: glasses and contacts	copayments with annual maximum of $100	copayments with annual maximum of $100
Dental care: preventive	without co pay or deductible	without co pay or deductible
Dental care: restorative	sliding scale copayments with annual maximum benefit of $200	sliding scale copayments with annual maximum benefit of $500
Home health care	sliding scale copayments with annual maximum	sliding scale copayments with annual maximum for out-of-pocket cost
Nursing home care	Designated benefits available for medically necessary care	Designated benefits available for medically necessary care
Pharmaceuticals: generics	without co pay or deductible	without co pay or deductible
Pharmaceuticals: brand-name	sliding scale copayments with annual maximum for out-of-pocket cost	sliding scale copayments with annual maximum for out-of-pocket cost
Estimated actuarial value	90%	90%

Appendix 2: Estimating Colorado health care expenditures

Annual expenditures from 1997-2009 are from the Center for Medicare and Medicaid Services at http://www.cms.gov/NationalHealthExpendData/Downloads/res-tables.pdf

Expenditures beyond 2009 have been projected assuming the same rate of increase in percapita expenditures as for 1997-2009. Total expenditures have then been estimated as the state population times projected 2010 and 2011 percapita expenditures. Population data are from the United State, Bureau of the Census:

http://www.census.gov/popest/estimates.php

Appendix 3: Estimating the sources of Colorado health care expenditures.

Spending for private insurance and for Medicare and Medicaid is from the Center for Medicare and Medicaid Services. State and local spending are from the Colorado, Department of Public Administration at

http://www.colorado.gov/dpa/dfp/sco/STAR/star11.pdf

Out-of-pocket spending is calculated as a residual: total expenditures minus private health insurance and public spending.

Appendix 4: Estimating savings from Colorado Health Care Cooperative

Total savings have first been calculated on the assumption that the Cooperative would be fully operational in 2014. These estimates have been done in three steps.

First, expenditures for nine types of services have been calculated for 2014 from CMS data for 1991 through 2009 on the assumption that expenditures for that service will continue to increase from 2009-14 at the same annual rate of increase as 1991-2009 (see Table 4).

Table 5. Baseline expenditures by activity, estimates for Colorado, 2016 (in $millions).

Activity	1991	2009	Rate of increase	7 year increase	2016
Hospital Care	$ 3,264	$ 10,781	6.6%	1.591468	$ 17,158
Physicians and Clinical Services	$ 2,289	$ 8,165	7.1%	1.639787	$ 13,389
Other Professional Services	$ 303	$ 1,186	7.6%	1.70009	$ 2,016
Dental Services	$ 513	$ 1,836	7.1%	1.64191	$ 3,015
Home Health Care	$ 127	$ 670	9.2%	1.90934	$ 1,279
Drugs and other Medical nondurables	$ 838	$ 3,462	7.9%	1.736152	$ 6,011
Durable Medical Products	$ 255	$ 670	5.4%	1.45597	$ 975
Nursing Home Care	$ 519	$ 1,630	6.4%	1.560579	$ 2,544
Other Personal Health Care	$ 397	$ 1,659	7.9%	1.743901	$ 2,893

Total spending under the ACA is estimated as baseline spending plus the increase in spending for consumers who will enter the insurance market with subsidies to buy insurance from the Exchanges and those who will receive Medicaid. Numbers are from the Congressional Budget Office and Kaiser Family Foundation.[65] For each group, it is assumed that their spending will increase from 55% of the state per capita average to 80%. The total amount of additional spending is applied to the state total proportionately for each category of spending.

Provider savings under the Cooperative when it is fully operational have been estimated by applying a savings rate to each activity where the savings rate is the difference between administrative spending in the United States and Canada in 1999 (see Table 7).[66] To allow for

[65] Congressional Budget Office and Joint Committee on Taxation, "Fiscal Impact of Reconciliation Act of 2010"; Kaiser Family Foundation, *The Uninsured: A Primer: Supplemental Data Tables*, October 2011, http://www.kff.org/uninsured/upload/7451-07-Data-Tables.pdf.

[66] Woolhandler, Campbell, and Himmelstein, "Cost of Health Care Administration in the United States and Canada."

the relative inefficiency compared with a single-payer system, it is assumed that the Cooperative will realize only 90% of these economies.

Table 6. Estimated Cooperative savings by activity, Colorado 2016 (in $millions).

Activity	Baseline spending	Savings rate	Provider savings
Hospital Care	$ 17,158	0.084193	$ 1,445
Physicians and Clinical Services	$ 13,389	0.09609	$ 1,287
Other Professional Services	$ 2,016	0.081425	$ 164
Dental Services	$ 3,015	0.081425	$ 245
Home Health Care	$ 1,279	0.1728	$ 221
Drugs and other Medical nondurables	$ 6,011	0.3	$ 1,803
Durable Medical Products	$ 975	0.2	$ 175
Nursing Home Care	$ 2,544	0.063	$ 160
Other Personal Health Care	$ 2,893	0.09609	$ 278

In addition, it is assumed that there is a 20 percent savings by reducing inflated prices for some durable medical products. Pharmaceutical prices in the US are 60% higher than in Canada and elsewhere but it is assmed that savings will only be 30 percent for pharmaceuticals.

Savings for each activity are calculated as the savings rate times the 2016 expenditures.

Savings are allocated to administrative cost (due to the billings and insurance economies) or drug pricing.

Third, administrative savings in the financing process are estimated. For each, spending in 2016 is estimated from the CMS estimates of 2009 spending assuming that expenditures increase from 2009-14 at the same annual rate of increase as 1991-2009. Savings are then estimated assuming that Cooperative would have administrative expenses of 3.75 percent, double the rate in Medicare. It is assumed that Medicaid/SCHIP administration is 5.75 percent,; and private health insurance has administrative expense of 18.97 percent.

Savings from reduced fraud are estimated to be 2.5% of total spending.

Total savings are the sum of the provider savings and administrative savings.

Appendix 5: Revenue sources for Colorado Health Care Cooperative

Revenues from the proposed contributions are from the Legislative Council Staff, memorandum dated February 1, 2013.

Appendix 6: Estimating the net burden of the Health Care Cooperative

Health care spending at different income levels is from national data from Ketsche, et al.[67]

The burden of Coop contributions is estimated using data on income from the Legislative Council Staff, memorandum dated February 1, 2013.

[67] Ketsche et al., "Lower-Income Families Pay A Higher Share Of Income Toward National Health Care Spending Than Higher-Income Families Do."

Appendix 7: Projecting Colorado health expenditures

Health care expenditures under the current funding system are projected assuming the same annual rate of increase in per capita spending and population growth as 1991-2009.

Because of the net savings discussed above, per capita spending under the Cooperative is projected to start from a lower base in 2016. It is then project to increase at a slower rate as described in the text above.

Spending under the 2010 Affordable Care Act is calculated assuming the same per capita spending increases as under the current system. In addition to current costs, it is assumed that there are costs associated with the expansion of coverage where the newly covered will increase their annual health care expenditures from 55 percent of the average for the insured up to 80 percent. The extension of coverage is estimated using data from the Congressional Budget Office at

http://www.cbo.gov/ftpdocs/113xx/doc11379/AmendReconProp.pdf

Appendix 8: Phase-in adjustments

It is assumed that the Cooperative will eventually achieve the full level of savings estimated in the 2014 study in Appendix 4 but that it will several years to achieve these savings. The achievement of savings depends on the share of the population covered by the Cooperative and the integration of the system and its ability to bring down prices and administrative costs.

Integration into the new system

1. Proportion within Cooperative estimated as all Coloradans except Medicare and Medicaid at 2014 proportions. Those Medicaid eligible but not in Medicaid in 2014 will be incorporated into the Coop until 2017.
2. Proportion of Cooperative members within the plan's structures (the ACOs) estimated as beginning at 80% and rising by 5% per annum except for 2017 (the year Medicare and Medicaid are fully covered) after which it remains stable.
3. The "integration factor" is the proportion of the population within ACO networks; it is the product of the proportion covered and the proportion within ACO networks.
4. The savings factor is the square of the integration factor. It rises slowly until near saturation is reached which will allow the full administrative savings from the Cooperative.

Table 7. Estimate of phase in time pattern for Cooperative

Year	Coverage proportion	Proportion within ACO networks	Integration	Integration factor
2014	0%	0%	0.0%	0%
2015	0%	0%	0.0%	0%
2016	100%	80%	80.0%	64%
2017	100%	85%	85.0%	72%
2018	100%	90%	90.0%	81%
2019	100%	95%	95.0%	90%
2020	100%	100%	100.0%	100%
2021	100%	100%	100.0%	100%
2022	100%	100%	100.0%	100%
2023	100%	100%	100.0%	100%
2024	100%	100%	100.0%	100%

Savings from integration

1. Savings come from the areas discussed in the text. The share of total savings from each are estimated from the global data discussed earlier.
2. Savings from within private insurance are discounted by the share of the population within the Coop.
3. Savings from government administration are set at 0 until 2016 when Medicare and Medicaid are assumed to be integrated into the Coop.
4. Savings from other areas, provider administration, fraud reduction, and reduced drug prices, are discounted by the savings factor estimated above.

Total savings as a share of the global savings rate of 20.35% are the sum of the savings within each category. This is then multiplied by the global savings rate.

Table 8. Phase in of savings from Cooperative.

Year	Administration in provider offices	Administration: private insurance	Drug and Medical Device pricing	Fraud reduction	Government Administration	Share of total savings	Savings rate
	34%	33%	18%	11%	3%	100%	0.20540655
2014	0%	0%	0.0%	0.0%	0%	0%	0
2015	0%	0%	0.0%	0.0%	0%	0%	0
2016	22%	33%	11.5%	7.1%	3%	77%	0.1585244
2017	25%	33%	13.0%	8.0%	3%	82%	0.16926823
2018	28%	33%	14.6%	9.0%	3%	88%	0.18066319
2019	31%	33%	16.3%	10.0%	3%	94%	0.1927093
2020	34%	33%	18.0%	11.1%	3%	100%	0.20540655
2021	34%	33%	18%	11.1%	3%	100%	0.20540655
2022	34%	33%	18%	11.1%	3%	100%	0.20540655
2023	34%	33%	18%	11.1%	3%	100%	0.20540655
2024	34%	33%	18%	11.1%	3%	100%	0.20540655

Savings over time

1. An additional savings factor of 1.1% per annum is projected as the annual reduction in the rate of growth in health care costs. This annual savings rate is discounted by the savings factor (see above).
2. Dynamic savings cumulate over time because each year's savings are incorporated into the base for the next year's increase.

Table 9. Savings rate over time with integration of Cooperative including dynamic savings estimate.

Year	Savings rate	Cost curve		Effect of savings on relative spending
		Annual	Cumulative	
	0.20540655			
2014	0	0	1	100.0%
2015	0	0.0%	100.0%	100.0%
2016	0.1585244	0.0%	100.0%	84.1%
2017	0.16926823	0.7%	99.3%	82.5%
2018	0.18066319	0.8%	98.5%	80.7%
2019	0.1927093	0.9%	97.6%	78.8%
2020	0.20540655	1.0%	96.7%	76.8%
2021	0.20540655	1.1%	95.6%	76.0%
2022	0.20540655	1.1%	94.5%	75.1%
2023	0.20540655	1.1%	93.5%	74.3%
2024	0.20540655	1.1%	92.5%	73.5%
2025	0.20540655	1.1%	91.5%	72.7%

Added costs of Cooperative

1. The Cooperative would incur additional costs from the extension of health insurance to the uninsured, from the integration of Medicaid into the general payment system, and from increased utilization after the reduction in copayments and deductibles.
2. The extension to the uninsured begins with the establishment of the Coop in 2016.
3. The extension of coverage for preventive dental care is assumed to begin in the first year at a cost of $256 million (see below).
4. It is assumed that copayments and deductibles and the full extension of dental and vision coverage do not come until 2017. For the first year of extended coverage, it is assumed that the utilization backlog will mean an increase in costs 50% above the costs discussed in the text, with a 25% increase in 2018. From there it is assumed that costs will increase as discussed in the text.
5. Medicaid payment reform (the raising of Medicaid rates to the Medicare level) also happens in 2016 with the extension of the Cooperative to Medicare and Medicaid.
6. The total change in costs is the sum of the savings (see above) and the added costs (in Table 10 below.

Table 10. Added costs and net savings compared with non-ACA baseline, 2014-25.

Year	Extra costs				
	Extension to the Uninsured	Utilization increase	Medicaid rate adjustment	Cooperative Administration	Change in total costs
Share of total costs	2.5%	3.7%	1.7%	1.2%	9.0%
2014	0.0%	0.0%	0	0.0%	0.0%
2015	0.0%	0.0%	0	0	0.0%
2016	2.5%	0.7%	1.7%	1.2%	6.0%
2017	2.5%	0.7%	1.7%	1.2%	6.0%
2018	2.5%	5.6%	1.7%	1.2%	10.9%
2019	2.5%	4.7%	1.7%	1.2%	9.9%
2020	2.5%	3.7%	1.7%	1.2%	9.0%
2021	2.5%	3.7%	1.7%	1.2%	9.0%
2022	2.5%	3.7%	1.7%	1.2%	9.0%
2023	2.5%	3.7%	1.7%	1.2%	9.0%
2024	2.5%	3.7%	1.7%	1.2%	9.0%
2025	2.5%	3.7%	1.7%	1.2%	9.0%

Appendix 9: Dental coverage

Dental coverage will be provided through the Cooperative with the goal of eliminating pain and infection and restoring function to maintain nutrition, employability, and productivity. To achieve these goals, the Cooperative will immediately provide universal access to preventive care, including regular cleanings, without copayments or deductibles; assuming that everyone who did not see a dentist in the past year uses this benefit it would cost $256 million. After three years, the Cooperative will extend coverage to children and then to adults with free preventive care and affordable copayments on restorative work with a maximum benefit of $1500. It is estimated that this program would cover over 80% of dental costs at an estimated cost of $365 million.

About 41% of Coloradans do not have dental insurance. Those without dental insurance, including children, are substantially less likely to see a dentist regularly, are more likely to have untreated dental caries and periodontal disease. Lack of dental insurance and the subsequent failure to see a dentist leads to additional pain, the spread of infection, and unnecessary loss of function.[68] Absence of dental coverage also leads to unnecessary and inefficient use of emergency rooms.[69]

The cost of extending dental coverage has been estimated under the assumption that extended coverage will lead all those without insurance to spend as much as those with dental coverage. It is likely that this overstates the cost of extending coverage because those without insurance include many who choose not to have coverage because they will not be using it, while those with coverage include those who buy coverage in anticipation of using dental services.[70] In addition, the financial barrier is only one of the obstacles to access; a quarter of those with dental insurance did not visit a dentist in the past year and many of those without coverage give a reason other than cost for their failure to see a

[68] Empire Blue Cross, *Specialty Trends Report for the Employer Market* (Empire Blue Cross of New York, May 2011), http://www.empireblue.com/agent/noapplication/f4/s9/t0/pw_b137688.pdf; Delta Dental, *America's Oral Health: The Role of Dental Benefits* (Delta Dental, 2011), http://www.deltadental.com/TheRoleofDentalBenefits.pdf; Genevieve M. Kenney, Joshua R. McFeeters, and Justin Y. Yee, "Preventive Dental Care and Unmet Dental Needs Among Low-Income Children," *American Journal of Public Health* 95, no. 8 (August 2005): 1360–1366, doi:10.2105/AJPH.2004.056523; National Academy for State Health Policy, *Medicaid Coverage of Adult Dental Services*, October 2008, http://nashp.org/sites/default/files/Adult%20Dental%20Monitor.pdf?q=files/Adult%20Dental%20Monitor.pdf.

[69] As elsewhere, there will be financial savings here through the provision of preventive care rather than emergency care. No savings estimates are included here, leaving an overestimation of costs under the Cooperative.

[70] This is an example of "moral hazard" and leads to adverse selection into insurance; see Marika Cabral, "Claim Timing and Ex Post Insurance Selection: Evidence from Dental 'Insurance'" (Stanford University, May 24, 2011), http://econweb.tamu.edu/puller/Stata_TEM_papers/Cabral.pdf.

dentist, including transportation problems, not knowing a dentist, and unfamiliarity with the possibilities of dental care.[71]

Spending by the insured and uninsured has been estimated on the assumption that the insured spend 42.5% more than the uninsured, the ratio of the share of the insured who have seen a dentist in the past year to the share of the uninsured.[72] The share of spending by the insured is 67.2%, the product of the proportion insured (59%) and the relative spending (142.5%) divided by total spending. Per capita spending by the insured and the uninsured is then calculated as spending in each category divided by the population of insured and uninsured.

The total anticipated increase in spending is the sum of the spending increase when the uninsured spend the same amount as the insured *plus* the cost of preventive care for the insured who did not see a dentist in the past year. The first is calculated as the difference in spending by the insured and the uninsured times the number of uninsured. The second is calculated by multiplying the number of insured people who have not seen a dentist in the past year (23% of the covered population) by an estimated average cost per preventive care of $150/year.

As noted above, increased costs are projected without taking account of any savings due to preventive care and the extension of dental coverage. In addition to the benefits from reduced pain and increased productivity, there will be financial savings from reduced use of restorative services, from early detection of disease (including oral cancers), and from reduced emergency services due to untreated dental problems.[73] A Florida study for 2010, for example, found more than 115,000 hospital emergency room visits and charges of $88 million for treatment of conditions that could have been avoided with

[71] An effective program to improve dental and overall health will have to address these problems beyond the provision of adequate dental insurance; see Emily Shortridge and Jonathan Moore, *USE OF EMERGENCY DEPARTMENTS FOR CONDITIONS RELATED TO POOR ORAL HEALTH CARE* Final, Rural Health Research and Policy Centers (Chicago, Ill.: University of Chicago, August 2010), http://walshcenter.norc.org.

[72] Note that this estimate that the insured spend 42% more than the uninsured is less than the ratio of spending by the insured and uninsured for other health care. This reflects the limited coverage of dental insurance. Empire Blue Cross, *Specialty Trends Report for the Employer Market*.

[73] Kenney, McFeeters, and Yee, "Preventive Dental Care and Unmet Dental Needs Among Low-Income Children"; Delta Dental, *America's Oral Health: The Role of Dental Benefits*; Haley, Kenney, and Pelletier, *Access to Affordable Dental Care: Gaps for Low-Income Adults*; Austin Frakt and Aaron Carroll, "Delaying Medicare Eligibility Is Bad for Health | The Incidental Economist," June 10, 2011, http://theincidentaleconomist.com/wordpress/delaying-medicare-eligibility-is-bad-for-health/; Shelly-Ann Sinclair and Burton Edelstein, *Cost Effectiveness of Preventive Dental Services* (Washington, D. C.: Children's Dental Health Project, n.d.), http://www.cdc.gov/oralhealth/publications/library/burdenbook/pdfs/CDHP_policy_brief.pdf; Robert Compton, *Defining Quality in the Oral Healthcare Delivery System* (Dental Quality Alliance, n.d.), http://www.medicaiddental.org/docs/2012_09_12_Webinar.pdf; Shortridge and Moore, *USE OF EMERGENCY DEPARTMENTS FOR CONDITIONS RELATED TO POOR ORAL HEALTH CARE*.

proper preventive and restorative dental care.[74] A seven state study found a dramatic reduction in emergency room visits for people with dental insurance and in states with better Medicaid dental coverage.[75] If this program reduces emergency room use by 2%, then it could lower total health care spending in Colorado by over $15 million.[76]

[74] Claude Fox, *315 Patients a Day Seek Dental Treatment in Florida's Hospital Emergency Rooms* (Florida Public Health Institute, December 15, 2011), www.flphi.org; A seven state study found about 2% of ER visits were dental related and over 40% were preventable; Shortridge and Moore, *USE OF EMERGENCY DEPARTMENTS FOR CONDITIONS RELATED TO POOR ORAL HEALTH CARE*.

[75] Shortridge and Moore, *USE OF EMERGENCY DEPARTMENTS FOR CONDITIONS RELATED TO POOR ORAL HEALTH CARE*; Also see Christopher Okunseri et al., "Wisconsin Medicaid Enrollees' Recurrent Use of Emergency Departments and Physicians' Offices for Treatment of Nontraumatic Dental Conditions," *The Journal of the American Dental Association* 142, no. 5 (May 1, 2011): 540–550.

[76] This is based on the estimate that 1.86% of spending is for emergency departments; Patrick Tyrance, David Himmelstein, and Steffie Woolhandler, "US Emergency Department Costs: No Emergency," *American Journal of Public Health* 86, no. 11 (n.d.): 1527–1531.

Appendix 10: Employment effects

The Cooperative will affect employment levels in Colorado through changing net income, through changing the costs of producing within the state, and through changing the input mix by changing the relative cost of labor versus other inputs.

Changing net income

Net income increases when the Cooperative expands coverage and utilization for federally-subsidized programs and therefore increases Federal reimbursement. While the Affordable Care Act increases Medicaid coverage, the Cooperative would go beyond this by extending coverage to all of the Medicaid eligible population. Furthermore, half of the cost of increasing reimbursement rates for Medicaid services would be financed by the Federal government, as would half of the cost of increased utilization by Medicaid recipients, including the expanded dental coverage.

While many of the savings on administrative activities would come at the expense of out-of-state (even out-of-nation) back offices, a conservative assumption is made that there is a one-to-one match of income saved by health care consumers and lost income for administrators and staff. This means in practice that the savings from the Cooperative will have no net employment effects, nor would the reduced premiums to the extent that they are balanced by increases in payroll contributions and income taxes.

Nonetheless, there can be employment effects if the substitution of income and payroll taxes for health insurance premiums on balance leads to a change in labor costs and consumer spending. Under the existing system or the Affordable Care Act, in 2014, employers and workers, including governments, would expect to pay over $15.6 billion for health insurance; instead, under the Cooperative, they would expect to pay only $10.3 billion with the difference coming from reduced health care spending and levies on unearned income. In the long-run, orthodox economic theory would predict that the lower labor costs should translate into higher wages so that employers would be paying the same amount for wages.[77] In this case, higher wages for workers would allow increased consumer spending that would balance the reduction in spending due to the new levies on unearned income.

In practice, however, there can be many slips here, and empirical work has shown that there is less than a perfect substitution of wages and benefits.[78] Should savings on benefits turn into lower labor costs rather than higher wages, then there would be a fall in income for workers balanced by employment

[77] This goes back to the theory of compensating differentials in Adam Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations*, 2nd ed, Great Books of the Western World 36 (Chicago: Encyclopædia Britannica, Inc, 1990); also see Sherwin Rosen, *The Theory of Equalizing Differences* Handbook of Labor Economics (Elsevier, 1987), http://ideas.repec.org/h/eee/labchp/1-12.html.

[78] Paul Oyer, "Salary or Benefits?," February 2007, http://faculty-gsb.stanford.edu/oyer/wp/benefits.pdf; Paul Oyer, "Can Employee Benefits Ease the Effects of Nominal Wage Rigidity? Evidence from Labor Negotiations," August 2005, http://faculty-gsb.stanford.edu/oyer/wp/rigidity.pdf; Richard Freeman and James L Medoff, *What Do Unions Do?* (New York: Basic Books, 1984).

gains from lower prices due to lower production costs and the substitution of newly cheaper labor for capital and materials.