**Report on RFP**

**COHIEX #0001**

For an

Independent Consulting Firm

to Conduct Background Research

to Support the Development of the

**Colorado Health Benefit Exchange**

Submitted by

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# Introduction

The Colorado Health Benefit Exchange will be a new marketplace where individuals and small employers will be able to shop for and purchase health insurance. During this planning and development phase, Colorado faces a wide variety of choices, such as: How to design exchanges and outside insurance markets to minimize adverse selection? What role can reinsurance, risk adjustment, and risk corridors play in conjunction with exchanges to ensure a fair distribution of risks across payers? How to best integrate the individual and SHOP exchanges? Should the state merge individual and small group insurance pools for rating purposes?

Effective state policy-making on exchanges, therefore, will require two key analytic inputs. The first is a rich understanding of the existing health insurance market. Only by carefully understanding the distribution of state population across insurance types, and the prices paid by individuals and firms for that insurance, can the state assess how those individuals and firms will react to the changes in the insurance environment that will arise due to the implementation of current federal law. The second is a dynamic model of exactly how individuals and firms will respond to the implementation of federal law, including the launching of the Colorado Health Benefit Exchange and new financial assistance that will be available to certain customers.

This report describes the results of our efforts to address both those needs in order to provide the essential inputs to exchange planning for the state of Colorado. We have done so by drawing on the rich array of data that is available for Colorado on individuals, firms, and the insurance environment in which they function. We use these data to undergird an economic microsimulation model that has been developed over the past 12 years to undertake exercises exactly like those required by this RFP, supported by a careful analysis of insurance market data for the state carried out by actuarial experts.

We begin, in Part II, by providing background on the model we will be using for this work as well as the wide variety of excellent Colorado-specific data sources we plan to draw on for this analysis. In Part III we discuss the characteristics of Colorado insurance markets before the implementation of health reform. Part IV presents our projections of the effects of the Exchange and currently enacted federal law on the state. Part V concludes with a discussion of results and recommendations for future work.

# Background on Model and Data

### The Gruber Microsimulation Model

The core of our analysis is the Gruber Microsimulation Model (GMSIM), which computes the effects of health insurance policies on the distribution of health care spending and private and public sector health care costs. This model has been used over the past decade by a wide variety of state and federal policy makers to analyze the impacts of health insurance reforms. This model was first developed in 1999 for use in estimating the impact of tax credits on health insurance coverage, with funding from the Kaiser Family Foundation. Over the subsequent decade, the model’s capability has been expanded to consider the full variety of possible health interventions, including public insurance expansions, employer or individual mandates, purchasing pools for insurance, single payer systems, and more.

GMSIM has been used by the federal government and by a number of states to model state-specific health insurance reforms. GMSIM modeling has been used in Massachusetts, California, Connecticut, Delaware, Kansas, Michigan, Minnesota, Oregon, Vermont, Wisconsin and Wyoming.

## Data Sources

GMSIM draws on a number of excellent data sources available for Colorado. We review here the major data sources that form the basis of our analysis.

*The Colorado Household Survey*

For national work, GMSIM has relied on the Current Population Survey (CPS), a nationally representative survey which provides detailed data on insurance coverage, employer insurance offering, health status, and detailed demographic information (income, race, age, etc.). Colorado has an excellent source of data through the Colorado Household Survey (COHS) collected by the Colorado Department of Health Care Policy and Financing (HCPF) in 2008-09. This survey of 10,000 randomly selected households provides virtually all of the same information as the CPS sample that provides the basis for GMSIM. We can therefore readily recalibrate the front end of the model to work with the COHS data instead of the CPS. We’ve used both the target and household files of the COHS.

The transition between our CPS data and the COHS is not perfectly seamless; for example, there is some data collected by the CPS that is not collected by COHS (such as the availability of employer-sponsored insurance for some household members who are not the survey target). But we have developed imputation methodologies to deal with this missing information in the COHS so that the GMSIM runs seamlessly on these state-specific data. It is possible that survey estimates of Medicaid enrollment may differ from administrative totals in that survey respondents tend to under-report Medicaid coverage. This phenomenon is well-documented and occurs in both state and federal surveys of health insurance coverage.

Our sample excludes those who are age 65 and over, who are covered by military health insurance, or who are receiving Medicare because they are disabled. We will focus on point-in-time definitions of insurance and uninsurance.

To update the demographic and economic information in the COHS for future years, we utilize projections from the state and the Congressional Budget Office. Starting with 2011 baseline numbers, we have total population increase 1.25% per year. For public insurance growth, we use growth estimates supplied by the State of Colorado up until 2013. For those same years, the other three insurance types absorb the remaining population increase proportional to their size in the previous year. For all years after 2013, the four insurance types (employer, individual, public and uninsured)divide the total population increase among them relative to their size in the preceding year. The rate of inflation of health care spending comes from CBO (and averages about 6% per year).

*Individual Insurance Market Data*

Analysis of the impact of the Exchange and enacted federal law on the non-group market was largely carried out by Wakely Consulting Group and is described in their companion report. Wakely collected information from the seven major insurers in the individual market, representing over 90% of the market, as well as information from the state.

*Other data*

To measure the premiums faced in the group market, we use data from the Medical Expenditure Survey Insurance/Employer Component (MEPS-IC). These data represent a very large sample of employers that are surveyed on their insurance details, including premiums and the sharing rules for premiums between employers and employees. The MEPS-IC provides state-specific and firm-size specific information that can allow us to impute premium information onto both large and small firms in the state. To capture public insurance costs per enrollee, we rely on data provided to us by the Colorado Department of Health Care Policy and Financing.

### How GMSIM Works

GMSIM uses the data sources described above to estimate the impact of health policy changes on individuals, firms and governments. GMSIM is able to carefully integrate all of the key features of enacted federal law , including but not limited to:

* The introduction of tax credits for low income families
* The individual mandate
* Tax credits for small businesses
* Penalties for businesses whose employees get federal tax credits
* Reformed insurance markets with modified community rating and guaranteed issue with no preexisting conditions exclusions
* Regulations on minimum insurance coverage, such as mandated benefits, maximum deductibles for small businesses, and out of pocket maximums
* Regulations on insurers, such as mandates for dependent coverage, coverage of preventive care with no patient cost sharing, and minimum Medical Loss Ratio (MLR) restrictions.
* The introduction of a state insurance exchange

GMSIM first turns these policy rules into a set of insurance price changes. For example, for the newly available tax credits, the model computes the implied percentage change in the price of nongroup insurance for each individual in the model. These price changes are then run through a detailed set of behavioral assumptions about how changes in the absolute and relative price of various types of insurance affect individuals, families, and businesses. The key concept behind this modeling is that the impact of tax reforms on the price of insurance continuously determines behaviors such as insurance take-up by the uninsured and insurance offering by employers. The model assiduously avoids “knife-edge” type behavior, where some critical level is necessary before individuals respond, and beyond which responses are very large. Instead, behavior is modeled as a continuous function of how policy changes (net of tax) insurance prices.

A key set of price changes will arise from new federal regulations on the individual market, including the minimum essential benefits package, the minimum actuarial value requirement, and community rating. To incorporate the impacts of these regulatory changes, GMSIM is integrated with actuarial results from Wakely’s model. In particular, Wakely uses the data described above to model the effect of these regulations on the price of each individual market product offered by the insurers in their data, for each age group, accounting for health status adjustment. Both the baseline individual market premiums, and the change in those premiums due to these new regulations, are then incorporated into GMSIM.

In doing this type of analysis, a number of assumptions must be made about how individuals will respond to tax subsidies, through their effect on the price of insurance. These assumptions have been developed based on the available empirical evidence from the health economics literature, to which Dr. Gruber is a major contributor.[[1]](#footnote-1)

The single most important determinant of health insurance coverage is whether individuals are offered health insurance at their place of employment. A fundamental problem faced by individual-based micro-simulation models is that data on individuals does not reflect the nature of their co-workers, so that it is impossible to exactly compute the complete incentives for each firm. For example, small firm tax credits are based on both firm size and firm average wages, but data such as the COHS tell us just about the sampled worker so we can’t compute average firm wages. GMSIM addresses this problem by building “synthetic firms,” assigning each COHS worker a set of co-workers selected to represent the likely true set of co-workers in that firm. The core of this computation is data from the Bureau of Labor Statistics that show, for workers of any given earnings level, the earnings distribution of their co-workers. Using these data, other sample individuals are randomly selected in order to statistically replicate the earnings distribution for that worker’s earnings level. These workers then become the co-workers in a synthetic firm. We can then model firm decisions based on the characteristics of their (synthetic set of) workers.

One of the important features of GMSIM is a detailed modeling of how employers will respond to new financial incentives. In the model, employers face three decisions about insurance: offering (whether to offer if now not offering, or whether to drop if now offering); the division of costs between employer and employees; and the level of insurance spending. Each of these decisions is modeled as subject to “pressures” from government interventions. In particular, subsidies to outside insurance options (such as the expansion of Medicaid or tax credits to the exchange) exert pressures on firms currently offering insurance to drop that insurance and to raise employee contributions (in order to induce their employees to choose the outside option); subsidies to employer spending on insurance (such as the small business tax credit) exert pressures on firms that don’t now offer insurance to be more likely to offer and causes firms to pick up a larger share of the cost of insurance as well as to increase insurance generosity; and penalties on firms that do not offer insurance causes firms to not drop insurance.

# The Insurance Market in Colorado Before Reform

In this section we describe a variety of aspects of the insurance market in Colorado as it stands in 2011. This provides important background for thinking about the changes that are expected in 2014. Note that this analysis does not consider the impacts of planned but not yet implemented expansions in public insurance in the state.

**Table 1** shows the overall distribution of insurance coverage in 2011. The total population of the state for 2011 is estimated to be 4.3 million persons. The most common source of insurance is employer-sponsored insurance (ESI), with over 2.6 million persons covered through ESI, or over 60% of the state’s population. Most of these individuals are in larger firms (above 50 employees), as small firms are much less likely to offer coverage. There are 308,000 individuals with non-group coverage, while a slightly higher total of 465,000 have public insurance through the Medicaid or SCHIP programs. This figure is lower than total administrative counts for public insurance in the state since it excludes the elderly and those who are disabled covered by Medicare and Medicaid. Finally, 830,000 persons, or 19% of the non-elderly population, lack insurance.

**Figures 1-9** provide summary statistics on uninsured individuals in Colorado. These figures present an array of important facts about those who are uninsured in the state.

* *Figure 1: Offering Status*. The vast majority of the uninsured are not offered employer-sponsored insurance today; access to ESI in Colorado, as nationwide, is the key correlate of insurance coverage. At the same time, roughly two-fifths of the uninsured are offered (and eligible for) ESI and choose not to take it; that group, who are turning down largely subsidized insurance, are a major target of the individual mandate.
* *Figure 2: Income*. The uninsured are poorer than average, with roughly three-fifths of the uninsured population having income below twice the poverty line (the poverty line in 2011 is $22,350 for a family of four). But at the same time there are a non-trivial number of uninsured, about one-eighth, with incomes above four times the poverty line (above the income limit to which premium tax credits are available).
* *Figure 3: Age*. There is a wide age distribution of the uninsured. The most common age group is 25-34 year olds, but at least one-tenth of the uninsured are in each of the six age bands shown in Figure 3.
* *Figure 4: Gender.* The uninsured are slightly more likely to be male.
* *Figure 5: Racial Composition*. The uninsured are more likely to be minorities than is the overall non-elderly population. Sixty-three percent of the uninsured are white (compared to 73% for all non-elderly state residents), while 24% are Hispanic (compared to 14% for all non-elderly state residents).
* *Figure 6: Family Structure*. The largest group of the uninsured are childless adults, followed by single-parent families and couples with children. Note that uninsured children are included in the “couple with children” and the “single parent” categories.
* *Figure 7: Employment Status*. About three-fifths of the uninsured adults in Colorado are employed (full or part time). This mirrors the national portrait of the uninsured as the “working poor.”
* *Figure 8: Health Status*. The COHS provides a five category measure of self-assessed health status. Slightly more than one-half of residents rank themselves as in excellent or very good health, while less than one-quarter rank themselves as in fair or poor health. This population appears much more ill than does the overall non-elderly population, where roughly two-thirds are in excellent or very good health and only about 10% are in fair or poor health.
* *Figure 9: Reasons for Not Accepting ESI Offer*. As noted earlier, about 40% of the uninsured are offered ESI but are not enrolled. The predominant reason given by non-enrollees is costs. Some individuals are also not yet eligible because they are in a waiting period.
* *Figure 10*: *Length of Time Uninsured.* Among the uninsured, there is a wide distribution of the amount of time that they have been uninsured, but most uninsured have been uninsured for a long time. Only 20% of the uninsured report themselves as having been uninsured for less than one year, while 23% report themselves as being uninsured for more than 5 years.

# The Impact of Reform on Insurance Coverage

*Movements Across Insurance Categories*

In this section, we use GMSIM to estimate the impact of reform on movements of individuals across insurance categories. We begin, in **Table 2**, by showing the net changes in insurance coverage in the state in 2016. We choose to focus on this year because I follow the Congressional Budget Office in assuming that it takes three years for the full impacts of the law to be felt; we will show year-by-year results below as well.

In undertaking this analysis, the impacts of enacted federal law on Colorado are computed by comparing outcomes in the state to the outcomes that would have occurred absent health care reform. That is, we project the situation in the state in 2016 absent reform, and then the situation after reform, and take the difference. We label this scenario the “no reform” scenario.

We estimate a very modest impact of the reform on the number of persons with employer-sponsored insurance. Total employer-sponsored insurance coverage does not change. Insurance coverage actually rises by a very small amount in small firms, and falls by an offsetting small amount in larger firms. As we discuss below, these small net impacts reflect somewhat larger changes in gross movements of ESI.

The next two rows show the projected changes in enrollment in the individual market. Absent reform, we project that 360,000 persons would be enrolled in the individual market. Reform shrinks that figure by 80%, with the remaining 70,000 persons consisting of those who are “grandfathered” into their old individual plans. At the same time, a reformed individual market emerges with enrollment of 620,000 persons, including most of those from the non-reformed market, those who previously had other types of insurance coverage and those who were previously uninsured.

We estimate a sizeable increase in the number of individuals with public insurance coverage, which rises by 150,000 persons more than 200% of the number absent reform.[[2]](#footnote-2) Finally, we estimate that the number of uninsured individuals in the state will fall by about 480,000, or about 55% of the number of uninsured absent reform. Below we will discuss the reasons that 390,000 residents remain uninsured.

*Evolution Over Time*

In Figure 11 we show the evolution of coverage over time. We consider five major insurance categories: ESI, unreformed (grandfathered) individual insurance, reformed individual insurance, public insurance, and uninsured. In each year, we show the change in that category relative to today (2011). So, for example, in the first year of reform we find that employer-sponsored insurance goes up modestly, due to the mandate and small business tax credits, but by 2016 the effect has fallen to close to zero.

The number of uninsured fall right away in 2014 and the reduction continues to grow over time. The size of the unreformed individual market falls immediately, and continues to shrink, while there is a large jump in reformed individual insurance that continues to grow. There is also a steady rise in public insurance.

*The Size of the Exchange*

Of paramount importance for Colorado is projecting the size of the state’s insurance exchange. There is considerable uncertainty around the size of the exchange, however.

This reformed individual market consists of two populations, those who receive tax credits, and those who do not; the vast majority is in the former category. Individuals in this market will purchase insurance either in the new state health insurance exchange, or through plans sold outside the exchange, but in the reformed market. The same pricing rules (in particular community rating) will apply to both parts of the reformed market. The most important difference between the exchange and the outside market is that individuals receiving tax credits can only do so through the exchange, and that any small firms that receive the small business tax credit must purchase insurance through the SHOP exchange. Individuals and businesses who do not wish to use tax credits are free to purchase insurance either inside the exchange or in the outside reformed market.

The uncertainty in projecting the size of the exchange therefore arises from the uncertainty in forecasting the location of insurance purchased for non-tax credit recipients. The ultimate decision on where to buy insurance will depend on a variety of factors (other than price, which will be the same inside and outside the exchange), many of which are to be decided by the exchange board (e.g. the set of insurance offerings in the exchange).

In the face of this uncertainty, Table 3 provides a range of estimates for the size of the exchange. The first row shows that 460,000 individuals and their families will avail themselves of tax credits within the reformed individual market, so that this provides a base of enrollment for the exchange. We project that another 80,000 small business employees and their dependents will take advantage of the small business tax credit and enroll in insurance their employer has purchased through the SHOP exchange. Thus, the exchange (across individual and SHOP) will have enrollment of at least 540,000 lives. At the same time, there are another 160,000 persons projected to be buying insurance in the reformed individual market without tax credits, and another 260,000 persons projected to receive small group insurance coverage from firms not receiving the small business tax credit. Some share of these populations will purchase through the exchange. So we can conclude that the size of the exchange will be between 540,000 and 960,000.

*The Newly Insured*

A population of particular interest is those previously uninsured individuals gaining insurance coverage. As Figure 12 shows, the sources of coverage for the newly insured are fairly well divided between ESI, public insurance, and (the largest category) tax-credit subsidized coverage in the exchange. There is a small slice of previously uninsured who are now taking coverage even without the tax credit, presumably because of the mandate or revised rates in the individual market.

Figures 13 and 14 describe the characteristics of the newly insured population. This group is fairly evenly distributed between those below 133% of poverty, from 133-200% of poverty, and from 200-400% of poverty. On the other hand, there are very few newly insured above 4 times the poverty line. The largest age group of newly insured is those age 25-34, but there are newly insured throughout the age distribution.

Table 4 summarizes the coverage rates of the previously uninsured by demographic group. Two key points emerge from this analysis. First, among children and adult females age 19-44, the major source of new coverage will be employer coverage; for adult males and older adult females, the major source of new coverage will be individual coverage. Second, among children and adult females 19-44, the rate of new insurance coverage is much lower than among adult males and older females. This may reflect the fact that these first two groups were already eligible for public insurance in many instances, so that there is a lower rate of expanded entitlements for these groups.[[3]](#footnote-3)

Finally, Table 5 shows the full cross-tabulation of movements across insurance categories. Those who were ex-ante on individual insurance or on public insurance by and large stay with those sources of coverage. But there are sizeable movements from ESI to the other categories of coverage, and even larger movements from being uninsured to the three sources of coverage.

*Who Are the Remaining Uninsured?*

A sizeable number of residents of Colorado (390,000) remain uninsured after reform. Figure 15 breaks down the reasons for this lack of insurance coverage. About 8% of those who remain uninsured were actually insured before reform, but either (a) lost coverage due to dropped employer sponsored insurance, (b) chose to leave employer-sponsored insurance because of a rise in employee contributions or (c) chose to stop purchasing individual insurance because of an increase in individual premiums. The largest group of remaining uninsured is undocumented immigrants, who are not eligible for either new public coverage or tax credits towards nongroup coverage (as well as not subject to the mandate). The second largest group is those not subject to the mandate. Slightly more than 20% of the remaining uninsured are those who are subject to the mandate but choose to remain uninsured.

Figures 16 and 17 drill down further into these latter two groups, that is just focusing on the roughly 350,000 individuals who remain uninsured (and not those that lose insurance). Figure 16 shows the income breakdowns for those not subject to the mandate, either because (a) their incomes fall below the tax filing threshold and so are not penalized or (b) the lowest cost insurance available to them (either ESI or individual insurance with tax credits) costs more than 8% of their income. As Figure 16 shows, the majority of those not subject to the mandate are low income individuals, although almost one-third are above 400% of poverty, where tax credits are not available and the individuals presumably cannot afford unsubsidized coverage (note that the category for 133-200% of poverty is missing here since there are very few individuals in that range not subject to the mandate). Figure 17 shows the breakdown of individuals who are subject to the mandate penalties, but who choose to remain uninsured. Once again, the majority of such individuals are lower income individuals, with about 45% above 200% of poverty, but now there are more individuals in the 133-400% of poverty range.

*What Happens to ESI?*

Figure 18 drills down further into the relatively modest change in employer-sponsored insurance shown in Table 2. First, we divide firms into small and other firms, as well as showing totals. For each of these categories, we then decompose the net change in ESI into its three components: those who were dropped from coverage; those who voluntarily left coverage (either because they were newly eligible for public insurance, found individual coverage more attractive, or were faced with higher employee contributions); and those who took up coverage (largely because of the mandate). About 60,000 individuals were dropped from insurance coverage by small firms, with a smaller number being dropped by other firms; this reflects research showing that small firms are much more price sensitive in their insurance offering decisions. On the other hand, many more individuals voluntarily leave ESI from larger firms. And there is a sizeable inflow of new enrollees into ESI for all firm sizes. On net, as we showed in Table 2, the change in ESI is small.

# The Impact of Reform on Individual Market Premiums

*Modeling Individual Market Pricing*

This section describes the impact of reform on premium costs in the individual market. As noted earlier, this market consists of three populations: those who remain in their grandfathered individual plans; those who move into the exchange; and those who move into the reformed individual market outside of the exchange. Those who remain in the grandfathered market see no change in their premiums. The other two groups will see changes due to the new regulations; we will not differentiate between these two groups here because they are pooled by insurance companies for pricing purposes.

Wakely Actuarial and GMSIM focus on modeling six impacts of enacted federal law on premiums in the individual market. The first is the requirement that all benefit plans cover services for certain essential benefits, some of which are often excluded in the current individual market. The definition of essential benefits is still not fully understood, particularly around potential minimum coverage levels, and further regulations are still forthcoming. For this analysis, it is assumed that essential benefits include but are not limited to the list provided in the legislation; it is assumed that any additional essential benefits would be offset by other changes in the regulations to keep the price of a minimum insurance package constant. Since most plans in the market cover the vast majority of the essential benefits, Wakely estimates that this change will increase premiums by only 2.2% on average.

The second is the restriction placed on the individual and small group markets that all plans must meet a minimum “actuarial value” of 0.6; in other words, for a typical population, plans must cover at least 60% of the costs of medical care on average. While this is quite a low floor relative to group insurance, a number of those in the individual market hold plans which are less generous than this level. Wakely estimates that about 39% of those in the individual market hold plans with an actuarial value below this level; enforcing this new minimum standard will therefore raise premiums by 5.3% on average.

The third factor is the requirement that insurers maintain a minimum loss ratio of 80% for the individual market (or pay rebates back to enrollees). While not all of the details for this requirement have been finalized, it is expected that some expenses that traditionally fell under administrative expenses, such as costs for disease management programs or nurse lines, will now be categorized as claim costs. Wakely computes that, on average, premiums will fall by 3.3% due to reductions in administrative overhead and other factors.

Fourth, the existing high risk pool (HRP) will be folded into the new exchange. Wakely estimates that HRP participants are estimated to have about 2.4 times the claims risk (i.e., morbidity) of the currently enrolled individual market population. Incorporating these individuals into the exchange raises ultimate exchanges premiums by 5.5%.

Fifth, there will be premium reductions due to the managed competition efficiencies introduced by the exchange. Individuals who previously had to shop in a fragmented and non-transparent individual insurance market will now be able to clearly compare many options for individual insurance on an apples-to-apples basis. This type of managed competition has been shown to lead to reduced premiums in other contexts, and for that reason GMSIM follows the Congressional Budget Office in assuming a 7.5% efficiency gain from managed competition.

Finally, and most importantly, the federal government places restrictions on the rating factors that are commonly used in the individual market. For example, underwriting factors are frequently used by insurers in the individual market to price insurance more in line with expected costs for an individual.

These underwriting factors can be a significant adjustment to the premiums compared to the premiums for a similar enrollee with average health risk. Under enacted federal law, only tobacco factors will be allowed with a maximum premium ratio of 1.5 to 1.0. Similarly, there is currently no limit to how much an insurer can charge an enrollee based on their age or gender. Rates can not differ based on gender alone, and the maximum ratio of the highest to lowest adult rate is 3 to 1. Currently, most insurers have rate ratios of around 5 to 1 (or greater) for adults, with the 64 year olds having the highest rate and the 19 year olds the lowest rate.

These changes in rating rules will have no average effect on the premiums that individual insurers charge a given book of business; they will simply redistribute prices across enrollees. Most enrollees who are currently rated up will see a significant premium decrease while those with preferred or standard rates will see a premium increase; likewise younger enrollees will see large premium increases while older enrollees will likely see decreases. This will have impacts on average premiums in the reformed individual insurance market to the extent that the morbidity in that market changes. That is, if older and less healthy uninsured individuals respond to these new regulations by purchasing individual insurance, then the average price in the reformed market will rise.

To incorporate these effects into the modeling, Wakely provided information on the change in nongroup premiums by age and health status, which was then matched into GMSIM. GMSIM is then used to model the changing composition of the reformed market, and the resulting effects on premiums.

It is important to recognize some limitations in our modeling of prices. In particular, given publicly available data we cannot incorporate the effects of the ban on pre-existing conditions exclusions. This ban will cause a rise in premiums as insurers are forced to cover conditions that they had previously excluded. In addition, there are new premium taxes on insurers that will raise premium rates. On the other hand, we assume in the modeling that the state incorporates its high risk pools into the reformed individual market. The existing high risk pool is currently supported by assessments on insurers. If those assessments remained in place and were used to offset the high costs of very sick individuals in the reformed individual market, it could lead to lower premiums in that market. Moreover, temporary reinsurance is intended to help offset the transitional costs of a higher morbidity individual insurance market, which will also lower premiums in the individual market from 2014 through 2016. Overall, we cannot predict the net impacts of these factors on premiums without more analysis.

*Results*

The results of our analysis of premium impacts on the individual market are shown in Table 6 and Figure 19. These figures focus on those who are initially, and who remain, in the individual insurance market, either grandfathered or in the reformed market. With no reform, we project an average premium for the individual insurance market in 2016 of $5570, and an average actuarial value of about 0.6. This means that for the typical enrollee, individual market insurance products on average covered 60% of their medical spending. Reform raises prices in the individual market, with the average premium rising by 19%. At the same time, insurance becomes about 11% more generous on average, partly due to the mandates described above, and partly due to individuals choosing richer insurance with their tax credits.

While prices rise on average, for many enrollees in the individual market this is offset by the new tax credits. As the last column of Table 6 shows, after applying tax credits, premium costs paid by consumers in the individual market fall considerably, by 27% on average. Thus, after the implementation of enacted federal changes, as well as the introduction of the exchange,, those who stay in the individual insurance market see a sizeable reduction in premium costs and more generous insurance coverage.

The distributional impacts on premiums are explored in Figure 19, which divides those staying in the individual market into buckets by their percentage change in (after tax credit) premium costs. More than one-third of those in the market see a decline in premium costs of more than half; that is, for one-third of those in the individual market, their premium costs fall by more than half. Overall, 70% of those currently enrolled in the individual market see reductions in premium costs, 17% see no change in premium costs, and 13% see a rise in premium costs. Only 7% of enrollees see a rise in premium costs of more than 10%.

# The Impact of Reform on Household Budgets

The next step in the analysis is to consider the impact of reform not only on insurance coverage in the state, but also on household budgets. We do so by computing the additional household benefits and costs due to enacted federal law to determine the net impact on household budgets.

Budgetary effects on households derive from a number of sources. The first is the higher wages that arise from reduced employer spending, through firm dropping and lower employer contributions towards health insurance (although this is partially offset by higher ESI enrollment among those previously eligible). This reduced employer spending is passed through in the form of higher wages to employees. The second is exchange tax credits; for this analysis, we consider only the tax credits received by those who would be uninsured absent enacted federal law. Those who are insured either with or without the law will already see the benefits of the tax credits as a decrease in premium spending, and thus it would be double-counting to consider them here. The third component is Medicaid expenditure on those gaining Medicaid coverage; once again, benefit is also only considered for those who would otherwise be uninsured to eliminate concerns of double-counting for the previously insured. So those individuals already enrolled in public insurance see no benefits from the expansion in the program. The fourth is ESI premiums paid by employees, which will go down as employers drop insurance, but may rise as the remaining employers shift the cost of insurance to their employees. The fifth is spending on individual market premiums, which will rise due to more enrollment in individual insurance markets, but fall due to exchange credits to those who remain in the non-group market. The sixth is out of pocket spending, which is health care spending that is paid directly by the household, through cost sharing like deductibles, copayments and coinsurance for the insured or for care received by the uninsured. The final cost component is change in taxes, which is the result of higher wages as firms that drop insurance raise their employees’ compensation through direct pay, as well as the new Medicare taxes that are levied on the wealthy to finance reform.

Table 7 provides estimates of the impact of the Colorado Health Benefit Exchange and enacted federal law on household budgets in Colorado in 2016. Overall, the net effect is positive, with Colorado household budgets improving by $1.8 billion, or $790 per household. The largest single source of benefits is exchange credits for the previously uninsured, which amounts to more than half of the net gains; there is also an enormous transfer through increased public insurance coverage for the previously uninsured. The other changes are more modest, with small rises in wages and reductions in premiums and out of pocket spending that are partially offset by higher taxes – the bulk of which are for higher income families paying Medicare taxation.

While the aggregate budget effect on household budgets is large and positive, there are some differences when the household effects are isolated for different income levels. Figure 20 details the budget effects by income level. Lower income households reap the majority of the benefits. Households making less than 133% of FPL receive about $800 million in benefits per year, or about $1430/household; families making 133-200% of poverty receive a smaller aggregate benefit but a higher benefit per household of $2505. There are also sizeable benefits for families in the 200-400% of poverty range, and modest benefits for those in the 400-500% of poverty range. There are small net costs for those 500-1000% of poverty, and much larger losses for those higher income families above ten times the poverty line; this is largely due to the increased Medicare tax for high-income households.

Another way to examine these impacts is to consider how many households win, lose or are unaffected by current federal law; that is, instead of expressing the aggregate dollar effects by income group, we divide individuals in each income group into those that see net benefits and those that see net costs of reform. The results of this exercise are shown in Figure 21. We see here that for all groups below ten times the poverty line, there are a large number of winners as well as a modest number of unaffected households, with a more modest numbers of losers. Even for those above ten times the poverty line, the winners outnumber the losers, although the counts are relatively even. Overall, there are more than three times as many winners as losers within the state of Colorado.

Figure 22 shows the increase in household budget effects from 2014 to 2019. In the first year of implementation, there are modest budget effects. But the impact grows over time, and by 2019 is over four times as large per household as in 2014.

It is important to note that these estimates reflect all of the modeling uncertainty inherent in this exercise, and so exact magnitudes should not be interpreted as overly precise. Moreover, this analysis excludes important sources of financing, most notably the reduced Medicare reimbursement of hospitals, which ultimately may accrue to some Colorado residents in the form of lower income. But the general conclusion that enacted federal law creates many more winners than losers in Colorado is strong enough that it would not change even accounting for these other factors.

1. These assumptions and the broader structure of the model are presented in depth at http://econ-www.mit.edu/files/5939 [↑](#footnote-ref-1)
2. These estimates exclude the expansions in public insurance coverage slated to take place in 2012. These expansions will enroll 10,000 very low income individuals (below 10% of the poverty line) and implement a new insurance buy-in program for the low-income disabled. Therefore, the 2016 public insurance figures displayed in Table 2 for the no reform case are underestimated by at least 10,000 individuals. [↑](#footnote-ref-2)
3. Note that the total number of previously insured gaining coverage, 510,000, is higher than the net rise in insurance coverage, 490,000. This is because the net reflects a small offsetting rise in uninsurance from firm dropping, as discussed in the next section. [↑](#footnote-ref-3)