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Comparing the costs of delivering medical benefits under group health and workers' compensation—Could integration pay for covering the working uninsured?

Abstract

A principle goal of healthcare reform is extending coverage to the currently uninsured. A major challenge is covering the cost of extending coverage to the currently uninsured. Using detailed data on California workers' compensation insurance we calculate that the administrative overhead accounts for 50% to 60% of premiums. Integrating occupational medical care into the more efficient group health model would reduce administration to approximately 12% to 13%. We extend these findings to the US and estimate that the 10-year (2011- 2020) savings of integrating coverage would be between \$490 billion and \$560 billion, sufficient to pay for between 26% and 78% of the incremental cost of universal coverage. The savings result from the much greater efficiency of private health insurance and the one time savings that result from moving from the upfront payment of future liabilities characterizing property & casualty insurance to the pay-as-you-go model of health insurance. For political and practical reasons we acknowledge that integration will likely only be accomplished if near universal health insurance coverage and integration are both part of a legislative package.

Project funding: This research was funded under a grant from the California HealthCare Foundation.

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Acknowledgements

A large number of people contributed to this project and the project would not have been possible without their time and expertise. First we want to thank the California HealthCare Foundation (CHCF) for their support of this work and for previous funding that led us to identify the important issues explored in this research. Marian Mulkey and Sari Weiss at CHFC deserve special thanks for their contribution.

The California Commission on Health and Safety and Workers' Compensation (CHSWC) offered support in many ways including facilitating contacts with experts and soliciting feedback on issues from a broad spectrum of stakeholders. Judge Lachlan Taylor at CHSWC deserves special acknowledgment for acting as regular sounding board on legal questions.

Many organizations offered expertise and comments both during the data development and review of the methods and results. The Workers' Compensation Insurance Rating Bureau of California (WCIRB), especially Dave Bellusci; National Council on Compensation Insurance (NCCI), especially Barry Llewellyn; The California Department of Insurance, especially Eric Johnson; the National Academy on Social Insurance (NASI), especially Virginia Reno, Ishita Sangupta, & Pamela Larson; and the National Association of Insurance Commissioners (NAIC) all made contributions to this work. This assistance was generously offered to advance the research but should not be taken as an endorsement of the reports conclusions.

Seth Seabury, RAND and James MacDonald, JWM Associates are thanked for the comments on early drafts. Participants in seminars at the Goldman School of Public Policy and the Survey Research Center at the University of California, Berkeley and the Workers' Compensation Research Roundtable offered many early insights and recommendations that improve this work.

Ginny Snyder, Bickmore Risk Services, regularly contributed her time and expertise concerning property & casualty insurance.

Deborah Davis assisted the authors with the writing and editing of the final report.

Special thanks go to Joshua Pines, a student intern from UC Berkeley for his hard work on both data development and assistance with presentation.

Comparing the costs of delivering medical benefits under group health and workers' compensation— Could integration pay for covering the working uninsured?

Introduction

Expanding health insurance coverage to the 45 million Americans who are currently uninsured is a primary objective of the current health reform effort. Estimates for the incremental cost of covering the currently uninsured range from 2%-5% of US health expenditures. Fully integrating the treatment of occupational conditions under health insurance offers efficiency savings sufficient to pay for a substantial fraction, maybe even the majority, of this incremental cost of universal coverage.

The savings would result from the much greater efficiency with which health insurance delivers care compared to workers' compensation insurance. A minority of health insurance premiums (12%-14%) go to cover administration and profit. Workers' compensation turns this ratio on its head, spending the majority (50%-60%) of premiums on these same overhead costs. Consequently, while occupational medical treatment represents a small portion of all treatment, the savings from integrating under private health insurance model would be substantial.

Prerequisites for full savings under integration are universal coverage, integration of the insurance products, and decoupling the liability for occupational medical treatment from the at-injury employer. No distinction would be made in medical treatment as to the underlying cause of the condition. This model is very different from virtually all other concepts of integration or "24-hour" care that have been proposed in health reform packages. Nearly all proposals stop at using the same provider for treatment and maintain the separate payment and administrative systems, but that approach misses the majority of potential savings.

In this study for California HealthCare Foundation, we present the first detailed examination of the administrative costs of workers' compensation medical delivery and compare those administrative costs to their analogous costs on the group health side. While the detailed examination focuses specifically on California, we will generalize to the national level. Our focus will be on workers' compensation but it is likely that the same discussion would apply to medical treatment paid by other non-health insurance payers like auto and liability insurance.

Integration of occupational and non-occupational medical care

Health reform has frequently triggered discussions of the advantages of "24-hour care," organizing the treatment of all medical conditions under a single provider or provider group regardless of the cause and payer (typically, group health, workers' compensation, and automobile insurance). But proposals to implement 24-hour care have usually integrated the care but continued to keep the financing for workers' compensation and auto separate from other forms of health insurance. Examples are the discussions around the 1993 "Clinton

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Plan” nationally or, in California, the implementation of demonstration projects in the mid-1990s¹ and the more recent pilot effort in the janitorial industry.²

Arguments for integration of occupational and non-occupational treatment usually anticipate savings from reducing perceived over-utilization of medical treatment in workers’ compensation (almost always delivered under fee-for-service arrangements) and costs related to poor coordination of care; duplication of treatment and testing, failure to consider co-morbidities, and the danger of contraindicated care. However, little attention has been paid to the level of administrative costs associated with medical delivery under the workers’ compensation model and how this compares to private, group health insurance.

This paper will demonstrate several important findings. First, administrative costs constitute the majority of workers’ compensation costs related to medical treatment. Second, the administrative costs associated with medical treatment in workers’ compensation are eight to nine times higher than the same costs under group health insurance. Third, we will identify the sources of these high administrative costs from among the various non-benefit costs faced by both private health and workers’ compensation insurers. Finally we will demonstrate that if integration is designed properly, the savings would be sufficient to fund a substantial fraction of the cost of covering the currently uninsured.

The remainder of this paper is structured as follows. The first section briefly describes the two different insurance products. Section two summarizes the data and methodology. The third section calculates estimates of administrative costs in workers compensation. Section four calculates the potential administrative savings from integration. The final section discusses the implication of our findings for universal coverage.

1.0 Brief comparison of group health and workers’ compensation insurance

Most readers are reasonably familiar with how employer-based group health insurance is delivered and financed. The majority of readers have health insurance. Readers probably pay for at least part of their premium, often are responsible for a deductible, and have a co-pay or co-insurance for most services. They usually receive an “Explanation of Benefits” (EOB) notice after treatment detailing what service(s) were delivered, what the provider charged, and the amount the insurer ultimately reimbursed. Most people use their insurance one or more times per year. And, health insurance is a frequent topic in the mass media.

None of this is true for workers’ compensation insurance and the medical treatment it reimburses. Workers pay no portion of premiums, no co-pays, receive no explanation of benefits and rarely if ever need to use workers’ compensation insurance. Most readers know little about workers’ compensation even though it is one of the largest social insurance programs in the US (\$85 billion annually³). Consequently, we will briefly describe the main

¹ See: “Interim Report to the Legislature: 24 Hour Pilot Programs under labor code 4612.” Research and Evaluation Unit, California Division of Workers’ Compensation, S.F, CA. March 1997.

² See: “Implementing and Evaluating the Integration of Occupational and Non-occupational Treatment in a Pilot Setting.” Final Report to the California HealthCare Foundation. December, 2008.

³ National Academy of Social Insurance, “Workers’ Compensation: Benefits, Coverage, and Costs, 2007.” Washington D.C., August, 2009.

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differences between workers' compensation insurance and private health insurance. These differences are summarized in **Table 1**.

Unlike health insurance, employers are required to carry workers' compensation insurance.⁴ In most states, even employers with only one employee must maintain coverage. A small number of very large employers as well as state and local governments are allowed to self-insure. Workers' compensation insurance covers all treatment for a medical condition for which work was a contributing cause, even if the contribution was as little as one percent.⁵

Workers' compensation is entirely funded by the employer.⁶ And all medical treatment for occupational injuries and illnesses is covered. The worker is not responsible for any portion of the premium. Injured workers do not pay deductibles or co-pays for services.

Probably the most important difference, workers' compensation is "event based." That is, the insurer is responsible for all medical treatment for a condition, the onset of which occurred during the policy period. Even if medical treatment is required many years in the future, the insurer at the time of injury retains financial responsibility. As an example, a worker suffers an occupational knee injury while in her thirties. That injury contributes to arthritis and complications that require a full knee replacement when the worker is 75 years old. The workers' compensation insurer is responsible for the full cost of the knee replacement, even if other, non-occupational factors, such as osteoporosis and 40 years wear-and-tear also contributed.

Health insurance by comparison is service date based. Policies cover a month or year and the insurer is responsible for all services delivered during the calendar period of the policy regardless of when the onset of the condition occurred and the insurer's liability ends with the last date of the policy period.⁷ As an example, if a worker is a distance runner and tears an ACL, the health insurer would be responsible for initial surgery, but if the worker is covered by a different insurer in the next policy period, the first insurer would no longer be responsible, even for post-operative care. And neither insurer is likely to be the insurer of record when and if the runner needs a knee replacement in 20 years.

⁴ Texas is then exception, allowing employers to opt out of workers' compensation insurance.

⁵ The primary exception to the contributing cause standard is psychiatric conditions where most states impose a stricter standard.

⁶ Washington state is the main exception, workers contribute to medical care. Some other very minor exceptions exist.

⁷ Health insurers sometimes exclude pre-existing conditions when the policy is outside an employment, group-health policy. Exclusions of pre-existing conditions is likely to be greatly reduced under near universal coverage.

Table 1: Comparison of Group Health and Workers' Compensation Insurance

Workers' compensation	Health insurance
Mandatory, all employers required to maintain coverage for all employees	Discretionary, employer by employer decision
Every employee covered from first day of employment	Eligibility requirements and waiting periods exclude about 23% percent of employees, at employers offering health insurance ⁸
Premiums entirely paid by employer	Most commonly employers and workers share premium cost
First dollar coverage, no co-pays, deductibles, or other cost sharing mechanisms	Almost always involves cost sharing, e.g., co-pays and deductibles
Event based, insurer responsible for all medical treatment on conditions arising during the policy period, regardless of when treatment delivered	Treatment based, insurer responsible for all treatment required during the policy period regardless of when condition arose (some exceptions), but not for any treatment after policy period ends.
Insured by property & casualty carriers	Insured by health insurance carriers
Premium rates vary by a factor of 100 across employers	Variation across employers much more limited, 30-40% across employers for a similar benefit package
Regulated at state level only	Primarily insured at the state level but significant regulatory requirements imposed under federal law
Within state, benefits and coverage identical for all employers and workers	Substantial variation in coverage and benefits within and among states

A key difference between workers' compensation and employment-based health insurance is the variation in premiums across employers. Workers' compensation insurance is subject to much wider variation across employers. Most important, employees are segregated by specific occupation and industry risk, called "class codes." As shown in **Table 2**, premiums vary by a factor of 100 across different classes. The table gives premiums for some of the lowest cost classes and some of the highest cost.⁹ For comparison, the middle row shows the average payroll cost for employers offering health insurance.

⁸ Kaiser Family Foundation, Employer Survey, 2008.

⁹ Other factors that drive differences in premium rates across employers also show greater variation in workers' compensation, including experience rating and employer size. A more detailed discussion of variation across employers is contained in a working paper, Neuhauser, Donovan, & Stiles, "Do High Workers' Compensation premiums Crowd-out Employers' Offers of Health Insurance" for the California Program on Access to Care.

Table 2: Variation in Cost of Workers' Compensation by Occupation
2004, California (Premium/\$100 Payroll)

Occupation	\$/100 payroll
Computer programmer	\$ 0.50
Clerical office employees	\$ 1.32
Employer cost of healthcare	\$ 10.14¹⁰
Carpentry (non-union)	\$40.25
Roofing (non-union)	\$57.46

Workers' compensation rates are for 2004 pure premium with average loading of 1.4
Employer health costs are from BLS Employer Survey

2.0 Insurance related administrative costs

We will sometimes refer to costs other than those paid for medical treatment as overhead and sometimes as administrative costs. These terms are used in other contexts and the reader should keep in mind that we use these to mean all other costs (overhead, claims handling, administration, profits, etc.) that are not made to providers for medical treatment. Note also that payments to providers cover both the providers' services and their overhead, but we are ignoring the administrative expenditures that are covered by these payments (e.g., hospital administration, provider billing costs, pharmacy advertising, etc.).¹¹ We will compare the administrative costs in the two systems for the nine years (1999-2007) for which we developed detailed information on the workers' compensation system in California.

Workers' compensation administrative costs

The Workers' Compensation Insurance Rating Bureau of California (WCIRB) is an association of all insurers writing workers' compensation insurance in the state of California. The WCIRB is also the statistical agent for the California Department of Insurance (CDI). CDI requires all licensed workers' compensation insurers writing business in California to submit data to the WCIRB.

The WCIRB, through its Actuarial Committee and Governing Committee, develops proposed "Pure Premium Rates." The proposed Pure Premium Rates represent the insurers' consensus on the expected medical and indemnity losses (Losses) and loss adjustment

¹⁰ Health insurance estimates are for the US and compiled by the Bureau of Labor Statistics through the Employer Cost Survey. Health represented 7.2% of employer labor cost and wages represented 71.0%. Putting health in the same metric as workers' compensation, health was $7.2\%/71.0\% = 10.1\%$ of payroll. The comparison is still imperfect. This understates the cost for employers offering health insurance, because only about 71% of firms offer health care and not all workers (only about 80%) at those firms are eligible. It overstates the cost to the extent the cost is for family coverage where workers' compensation only covers the employees of the firm. For a valuable review of employment based health, see, "California Employer Health Benefits Survey" published each year by the California HealthCare Foundation, Oakland, California.

¹¹ There is consensus among observers that the administrative costs for providers are also higher for workers' compensation. However, the costs for providers have not been quantified. This is an important area for future research.

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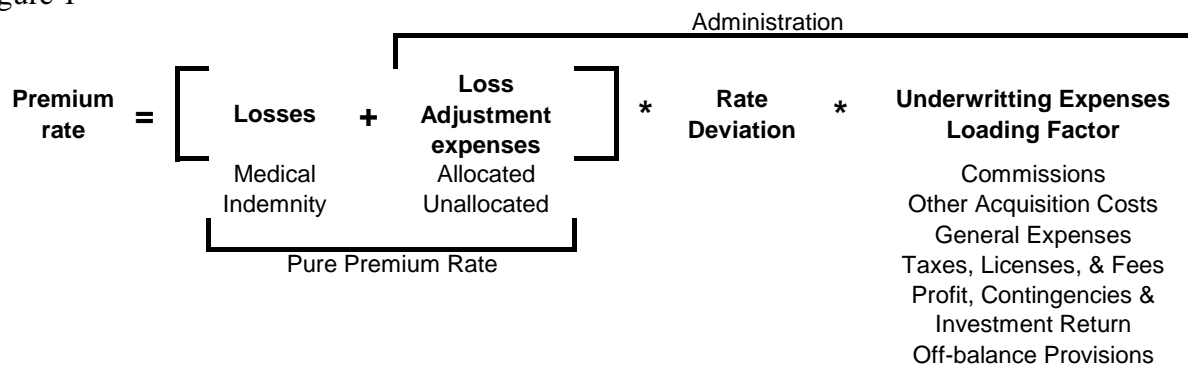
expenses (LAE). After hearings and public comment, CDI issues a final decision on Pure Premium Rates, adopting the WCIRB proposed rates or adjusting them up or down to reflect CDI’s primary concern (insurer solvency), other policy considerations, public comment, and the opinion of CDI’s in-house actuaries.

Workers’ compensation insurers writing coverage in California are required to submit premium rate filings to the California Department of Insurance. Insurers construct filed rates in three steps.

1. Start with CDI pure premium rates (losses + LAE),
2. Multiply pure premium rates by a “Pure Premium Rate Deviation,” if any, and
3. Multiply step 2 by an “Underwriting Expense Loading,”

The components and calculation are diagrammed below.

Figure 1



Data and methods

We contracted with a filing service to receive electronic versions of all insurance company workers’ compensation rate filings in California from 1999 through 2009. An average of 225 separate companies (204-246) wrote coverage in any year. We matched insurers to their final written premium for the calendar year based on information maintained on the California Department of Insurance website.¹² We reviewed and extracted data on all of the companies representing the top eighty percent of market share and a ten percent sample of all remaining companies.

We made two separate estimates of administrative costs. We compiled and analyzed data for both insurers anticipated losses and expenses and their actual losses and expenses. Anticipated expenses, referred to as “filed” expenses in our tables, were based on insurers’ filings for rates applicable beginning January 1 of the next calendar year. Insurers usually file January 1 rates between October and December of the preceding year, following publication of CDI approved pure premium rates by the WCIRB. When an insurer did not file rates with an effective date of January 1, we used the filing with the effective date closest to January 1. During the period of the study there were several years with mid-year pure premium rate adjustments. Because of the resource intensive nature of the data collection, we limited our analysis to the January 1 filings.

¹² <http://www.insurance.ca.gov/0400-news/0200-studies-reports/0100-market-share/>

Data on actual expenses were also collected from the rate filings for four of the underwriting categories (Commissions, Other Acquisition Costs, General Expenses, and Taxes, Licenses, & Fees). These data are reported as part of the background justification for insurer rate filings. Actual expenses reported in a filing are for three policy years, lagging the proposed policy year by two years. For example, an insurer's 1/1/2009 rate filing usually included actual commissions for the 2005, 2006, and 2007 policy years. For each insurer we used the most mature estimate of actual costs available. For example, we generally used 2009 filings for 2005, 2006, and 2007, 1/1/2008 filings for 2004, and so forth. Actual medical and indemnity losses as well as LAE and premium were obtained from the WCIRB. We used the WCIRB "Summary of Insurer Experience as of 12/31/08" as the latest available estimate of ultimate losses and premium.

We briefly review the key methods and assumptions involved in the estimation of administrative costs. A detailed appendix is available from UC Data Archive and Technical Assistance (UCDATA) website (XX) describing each step, giving mathematical derivations where appropriate, illustrative examples, and detailed tables of inputs and results. A spreadsheet model is also available allowing interested readers to vary inputs or assumptions and examine alternative results.

Losses

Predicted losses are estimated by the WCIRB and along with LAE form the basis of proposed pure premium rates submitted by the WCIRB to CDI. Insurers and the WCIRB include in losses several expense types that are reported as claims administration costs in group health. The most important of these are medical cost containment (MCC) expenses (for example, utilization review and bill review) and medical-legal evaluation costs related to resolving legal disputes (ML) over treatment or indemnity payments. The WCIRB publishes estimates of MCC and ML using data submitted by insurers and the California Workers' Compensation Institute, an insurer research consortium. The estimates give the fraction of losses in each accident year that are attributable to MCC and ML. To be consistent with health insurance reporting, we remove these administrative costs from losses and include them under LAE. Between 1999 and 2007 MCC ranged from 2.3 percent to 6.5 percent of losses and ML ranged from 1.9 percent to 4.5 percent.

Expenses

Loss adjustment expenses (LAE) are composed of allocated (ALAE) and unallocated (ULAE) claims handling expenses. ALAE includes expenses that can be directly attributed to a specific claim. ULAE are costs that cannot be assigned directly to claims. The WCIRB estimates of LAE as a fraction of estimated losses for the coming policy period. This estimate is the basis of the pure premium rate. Hence, like losses, LAE is not derived from individual insurer filings, but represents a consensus of insurers on average LAE across the whole market.

Pure premium rate deviations represent how insurers expect their losses and LAE to deviate from the average of all insurers. An insurance group typically files separate deviations for each company under its umbrella, meant to adjust for the characteristics of each company's market segment. For example, the deviations might be less than one if an insurance

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company focuses primarily on large policies. Or, the deviation might be greater than one if the focus is primarily on a market segment with smaller or riskier employers. Deviations may also represent differences between an individual insurer's estimate of costs relative to the consensus view put forward by the WCIRB. For both of these cases we might expect the average deviation or the weighted average deviation (weighted by actual written premium) or both to be near 1.0.

However, deviations may also reflect differences between the insurers' consensus (WCIRB proposed rates) and the final CDI decision which results in the published rates. The WCIRB proposes a pure premium rate to the Insurance Commissioner who has the final authority to modify the rate after public hearings and staff input. The CDI published rates are the basis of insurer rate filings. If the original WCIRB proposed rates reflect insurer consensus, we might expect that deviations, instead of being, on average, near 1.0, would reflect the difference between the final CDI rate and the initial WCIRB proposal.¹³

We remove the changes made by CDI in the WCIRB proposed rates from the deviation, creating insurers' net deviation from the insurer consensus on losses plus LAE. This has the effect of adjusting the losses and loss adjustment expenses to reflect the original insurer consensus as reflected in the WCIRB rates. Filed rates are a product of losses, deviations, and underwriting expenses. If after removing the CDI adjustment, the weighted average net deviation is less than 1.0, the impact is to reduce administrative costs relative to losses. If the net deviation is greater than 1.0, it increases administrative costs relative to losses. Prior to policy year 2002, deviations were very near or slightly less than 1.0. After 2002, the deviations have usually been substantially above 1.0.

Underwriting expenses

Commissions, Other Acquisition Costs, General Expenses, Profit & Contingencies, Taxes, Licenses, & Fees, and Other Off-balance Provisions represent six categories of administrative costs that combine to make up insurers' underwriting loading. Each of the six categories is reported as a percent of final filed rate. Insurers calculate filed rates by multiplying the pure premium rate and the rate deviation by $1/(1 - \text{Commission} - \text{Other Acquisition Costs} - \text{General Expenses} - \text{Profit \& Contingencies} - \text{TL\&F} - \text{Other Off-Balance Provisions})$.

Insurers' reported "Other Off-balance Provisions" are meant to increase filed rates to account for the average impact of credit and debits which affect individual employers' actual premium. Other Off-balance Provisions raise only the filed rates but are offset by credits and debits. Hence the provisions do not raise the expected or predicted premium. Therefore we drop the Other Off-balance Provisions from our calculations of estimated premium and losses. This adjustment reduces filed administrative expenses but does not affect filed losses.

¹³ Table A1.2 in Appendix 1 gives the WCIRB proposed rate change and the CDI final decision for the years covered by this study.

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Return-on-investment

Insurers report investment under underwriting expenses as an off-set to profit and contingencies. We modify this treatment in an important way that substantially affects our results.

Losses for property & casualty insurance products, like workers' compensation and auto insurance, are typically paid out over extended periods of time. Insurance premiums are paid at or near policy inception. Liabilities are estimated and updated periodically. Reserves are held against these liabilities. But, the actual losses are paid out over an extended period, often many years. Private group health insurance by contrast is almost a pay-as-you-go insurance product. Premiums are paid monthly over the policy period which is usually one year. Except for hospital admissions and discharges that straddle the last date of the policy period, group health has virtually no liabilities beyond the limited time frame of the policy.

Consequently, an important element of comparing workers' compensation and health insurance is the way in which insurers account for the future payments and the return on investment for reserves held until payout. These returns can be large for liabilities that are paid out years in the future like worker's compensation and some other property & casualty lines of insurance. Group health holds reserves for very short periods and returns on reserves can be treated as nominal.

We will outline the approach we used below. We think it represents a conservative approach, tending to limit the differences between workers' compensation and group health on the dimensions of interest in this study. The approach is explained in detail with examples in Appendix 1.¹⁴

Insurers file a predicted investment return as part of their rate filings. The return is given as a percent of filed rates. We translate the filed return into a percent of losses and give investment return as both a fraction of premium and fraction of losses. Both the percent of premium and percent of losses are weighted averages, with weighting based on each insurer's calendar-year written premium.

Calculating actual investment return is somewhat more complicated. We started with WCIRB estimates of the ultimate medical losses, indemnity losses and LAE. Each of these three categories have different historical "paid development factors" dependent on the fraction of ultimate payments in the category that are paid out in each accident year following policy inception. We developed a simulation that allowed us to iterate an answer to the question of what fraction of ultimate medical, indemnity, or LAE an insurer would have to set aside at a specific annual investment return to pay the liabilities when due and end up with a zero balance at the end of the thirtieth year after policy inception. The annual return we chose for the primary estimate was 5.5%. We include alternate rates of return above and below this primary estimate in the appendix and simulation.

In our final estimates of losses and expenses, we use the return-on-investment as an off-set for losses and LAE. The logic of this approach is based on the accounting used by insurers

¹⁴ Interested readers can request a spreadsheet model that allows testing of alternative assumptions. Available at from the authors through UC DATA website XX.

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and the WCIRB to estimate ultimate losses. Ultimate losses are the undiscounted stream of payments made over the entire period of the claims. Our approach estimates what insurers must set aside at the time they receive the premium, taking into account investment return while the assets are held, in order to pay the liabilities when due. In rate filings, insurers use basically the opposite approach, using the undiscounted stream of payments as the estimate of losses and using investment return to reduce predicted underwriting expenses.

Table 3 Comparing Filed and Ultimate Investment Return

	1999	2000	2001	2002	2003	2004	2005	2006	2007	Avg.
Filed										
Percent of filed rate ¹	.088	.104	.085	.077	.059	.063	.061	.058	.058	.068
Percent of losses + LAE ²	.107	.132	.116	.116	.081	.093	.090	.096	.098	.099
Ultimate										
Percent of premium	.380	.333	.282	.223	.146	.103	.098	.138	.176	.178
Percent of losses + LAE	.234	.235	.236	.238	.238	.244	.250	.249	.249	.243

¹ Weighted average of insurer filed investment return
² Calculated by authors from insurers filed investment return

We note several important results. First, in all cases the “ultimate” returns on investment are estimated to be much higher than predicted returns filed by insurers. Our approach makes a substantial difference in the estimate of investment returns and this difference will have an important impact on our estimate of the distribution of premium between losses and expenses. Second, ultimate returns as a percent of premium vary a great deal as losses relative to premiums vary over the insurance cycle. Finally, because of the way we calculate actual returns, ultimate returns to investment as a percent of losses + LAE vary only as a result of the changing distribution of losses between medical, indemnity and LAE.

Workers’ Compensation administration estimates.

Predicted losses, expenses, and profit

In Table 4 we present insurers’ predicted losses and expenses based on filed premium rates. These figures represent insurers’ estimates of outcomes based on their best guess on losses and expenses several months before the start of the policy year. As such, these estimates are not subject to the “random” events that affect actual results, events like legislative, statutory, or regulatory changes, new case law, or unforeseen changes in medical technology. On the other hand, the risk associated with these future changes may lead to higher premiums, reflecting a risk-premium related to long-tailed liabilities.

It is worth noting that predicted losses as a fraction of premium were much higher in the initial years of the study. During this period, insurers underestimated losses, with negative

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financial consequences.¹⁵ The relatively low losses/premium ratio in the later years may reflect recovery from the poor early performance. This is consistent with our discussion of the net pure premium rate deviation which insurers apply essentially independent of the losses and expenses. The deviations increased substantially in the later years.

**Table 4: Filed (Predicted) Losses and Expenses--Percent of Final Premium
(Weighted by actual policy year written premium)**

	1999	2000	2001	2002	2003	2004	2005	2006	2007	Avg.
Losses (after invest return offset)										
Medical	24.0	23.8	23.6	23.1	27.2	25.1	25.6	22.1	21.7	24.3
Indemnity	32.8	33.6	27.8	23.5	24.9	20.7	22.8	19.9	18.1	23.7
Total Losses	56.9	57.4	51.3	46.7	52.1	45.8	48.4	42.0	39.8	48.1
Administrative Costs										
Loss Adjustment Expenses (after investment return offset)	16.4	10.9	13.8	12.1	14.4	15.9	13.8	12.9	14.0	13.9
Commissions	4.0	7.1	8.2	6.6	8.3	7.2	6.7	7.6	9.1	7.4
Other Acquisition	7.2	7.1	8.5	7.0	7.6	7.0	6.8	6.5	6.3	7.1
General Expenses	9.1	9.5	10.8	9.4	10.4	9.7	8.5	8.4	8.9	9.4
Taxes, Licenses & Fees	2.7	2.7	2.9	2.9	2.9	2.9	2.9	2.8	2.8	2.9
Profit & Contingencies Net of Invest Income	5.7	6.1	5.6	5.9	6.0	8.3	8.1	7.3	8.6	7.0
Net Rate Deviation	-2.0	-0.9	-1.0	9.5	-1.8	3.2	4.8	12.4	10.5	4.2
Total Administration	43.1	42.6	48.7	53.3	47.9	54.2	51.6	58.0	60.2	51.9
Administration/Losses										1.08

Using the above data we can create a weighted average predicted losses and predicted administrative costs as a percent of premium. The weighting is by calendar-year gross written premium. The weighted average of predicted losses is 48.1 % of premium. The weighted average of predicted administrative costs is 51.9%. And the average cost of delivering \$1 of benefits is \$1.08

Actual losses, expenses, and profit

¹⁵ For a detailed discussion of the impact of the financial impact of this period on insurer solvency, see the forthcoming study by RAND for the Commission on Health and Safety and Workers' Compensation (likely release date, November, 2009).

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In Table 5 we present the data on insurers ultimate or actual losses and expenses. Unlike insurers' predicted losses and expenses, the actual results are subject to unanticipated changes in the market, laws, and technology. However, the results are not subject to any errors or biases in the models and accounting insurers use to predict long-term trends.

**Table 5: Ultimate (Actual) Losses and Expenses--Percent of Final Premium
(Weighted by actual policy year written premium)**

	1999	2000	2001	2002	2003	2004	2005	2006	2007	Avg.
Losses (after Invest Return offset)										
Medical	45.7	40	34.6	27.7	17	11.7	11.9	16.5	21.7	21.4
Indemnity	58	48.8	40.5	30.4	18.7	10.5	8	11.5	15	21.6
Total Losses	103.7	88.8	75.1	58	35.6	22.2	19.9	28	36.7	43.0
Administrative Costs										
Loss Adjustment Expenses (after Invest Return offset)	20.9	19.6	16.3	13.4	11	9.6	9.6	13.5	16.3	13.1
Commissions	7.4	7	7.3	8.4	8.7	7.5	6.1	7.6	8.5	7.6
Other Acquisition	5.5	4.6	4.1	3.7	2.7	3.1	3.8	4.1	4.9	3.8
General Expenses	7.8	7.3	5.3	4.5	3.8	4.2	4.9	6.3	7.7	5.3
Taxes, Licenses & Fees	3	3.2	2.8	2.8	2.8	2.8	2.9	3.1	3.9	3.0
Profit & Residual	-49.5	-29.2	-10.5	10.1	36.3	51.7	53.5	37.8	21.8	24.7
Net Administration ¹	-3.7	11.2	24.9	42	64.4	77.8	80.1	72	63.3	57.0
Administration/Losses										1.33

¹ When calculating "Net Administration" we constrain the total cost to the total premium and subtract the fraction of premium represented by "Total Losses." $100 - \text{Total Losses} = \text{Net administration}$

The major contrasts to the filed estimates, besides the variation in losses, are in the General Expenses and Profit and Residual categories. General expenses were substantially lower than insurers proposed to CDI and this was true for every year.

The Profit and Residuals category is what is left after losses and expenses are deducted from premiums. Not surprisingly given the variation introduced by the insurance cycle, this category varies a great deal over the period. However, across all of the years, the actual or ultimate results are more than three times as high (24.7%) as filed by insurers with the CDI (7.0%). In part, this likely reflects at least the impact of the large, positive pure premium rate deviations filed by insurers in five of the six years (2002-2007). Rate Deviations and Profit and Contingencies are separate categories in rate filings. Rate deviations are not a

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reported expense in the ultimate loss and expense reporting. Hence, to the extent that the rate deviations are positive (negative) their impact increases (decreases) the residual category, Profits & Residuals. However, the most important factor is likely to be the greater impact of investment returns which are much higher in our calculations than reported by insurers to CDI (see Table 3).

While the Net Deviation contributes an important component of the difference between insurers filed and actual profit, the most important contributor is the investment income. Insurers' methods of calculating policy year predicted investment return anticipate much more conservative total returns than the method we use in this analysis. This does not appear to be driven by different estimates of the percent annual return on investment. When available, the annual return was centered around our primary estimate (5.5%). The insurers' methods for calculating return were not always stated and when stated were unclear or inappropriate for this type of analysis (for example, basing total returns over the policy period on one year returns on current surplus). A more thorough analysis of the assumptions underlying estimation of investment return is an important future direction for regulators and researchers.

Using the above data we can create a weighted average of ultimate losses and ultimate administrative costs as a percent of premium. The weighting is by policy year gross premium. Weighted average losses are 43.0% of premium. Weighted average for administration is 57.0%. Put another way, it costs \$1.33 in administrative cost to deliver \$1 of direct medical benefits.

Private health insurance administration

For estimates of private health insurance administrative cost, we rely on research widely referenced by other researchers and government agencies. The National Health Expenditure Accounts (NHEA) are published annually by the Centers for Medicare and Medicaid Services (CMS). NHEA estimates combine losses and expenses for all private medical insurance including group health, individual policies, workers' compensation and auto, but excluding government programs.

NHEA estimates the fraction of premium dollars that is paid to medical providers (hospitals, doctors, pharmacies, chiropractors, etc.) and the fraction that is used for all other insurance related administrative processes, called the "Net Cost of Private Health Insurance." The Net Cost category is the difference between health premiums earned and benefits incurred. CMS includes in this category insurers' costs of paying bills, advertising, sales commissions, and other administrative costs; net additions to reserves; rate credits and dividends; premium taxes; and profits or losses.

We use the average "net cost" for the period covered by our study, 12.4%, as the cost of delivering private insurance. Using 12.4%, we get an estimate for the overhead cost of delivering \$1 of direct medical benefits under private health insurance of \$0.142.¹⁶

¹⁶ $.124/.876 = X/1.00$ or $X = .142$

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This estimate is likely high for employment-based coverage. The private insurance market includes the individual policy market as well as the group market. Individual policies are much more expensive to sell and carry a higher risk than group policies. The private insurance market also includes medical treatment paid under property casualty carriers (e.g., workers’ compensation and auto) that associated with higher administrative costs. Hence, 14.2 cents to deliver a dollar of direct benefits should be seen as the upper bound for private, group health insurance

Comparing the components of administration between workers’ compensation and private health insurance.

In Table 6 we make a comparison of our detailed data on California workers’ compensation administrative costs to national estimates for private health insurance. The estimate of the several components of private health insurance administrative costs were published by PriceWaterhouseCoopers (PWC) for the American Health Insurance Plans (AHIP) and industry association representing health insurers. We combine several categories of our more disaggregated workers’ compensation categories to approximate PWC divisions. The overall national estimate is from the National Health Expenditure Accounts reported annually by the Centers for Medicare and Medicaid Services. We used the average NHEA estimate for the “net cost of health insurance” for 1999-2007.

**Table 6: Comparison of Administrative Costs:
Workers’ Compensation & health Insurance**

Workers Compensation (CA. 1999-2007)	Health Insurance (US)	
	Filed	Ultimate
Loss Adjustment Exp.	13.9%	13.1%
General Expenses	9.4%	5.3%
Commissions	7.4%	7.6%
Other Acquisition costs	7.1%	3.8%
Taxes, Licenses, & Fees	2.9%	3.0%
Profit (including net rate deviation)	7.0%	24.7%
Total	51.9%	57.0%

Workers Compensation (CA. 1999-2007)	Health Insurance (US)
Ultimate	Ultimate
3%	Claims handling ¹
1%	Other Admin
4%	Commissions ¹
2%	Taxes, Licenses, & Fees ¹
3%	Profit ¹
12.4%	Total ²

¹ PriceWaterhouseCoopers (2008)
² National Health Expenditure Accounts (NHEA, 1999-2007)

In all categories except taxes, licenses & fees, workers’ compensation administrative costs are several times higher as a fraction of premium than private health insurance. Overall, administrative cost as a fraction of premium is more than four times higher under workers’ compensation. Even that multiple obscures the true comparison of the cost of delivering medical treatment between the two systems. In health insurance it cost about \$0.14 to deliver a dollar of medical treatment. In workers’ compensation it costs \$1.08 to \$1.33, or about eight to nine times as much.

A natural question to ask is, “Can we use California data to make national estimates? Or is California unique in its paid administrative cost structure? We do not have these very detailed data for other states, but we can compare an important benchmark for losses as a fraction of premium. The “Loss Ratio” is a rating bureau reported measure of the ultimate losses/premium without any of the adjustments considered in our calculations, including consideration of return on investment and administrative costs reported as medical benefits. Over the nine years of our study in California the calendar year loss ratio, weighted by calendar year written premium, was 0.630. The National Council on Compensation Insurance (NCCI) calculates loss ratios for the 37 states where it acts as the rating organization. NCCI gave us information on loss ratios for each of the 37 states for the years 2003 through 2007. While, the loss ratios vary substantially across the states, probably driven mainly by state specific insurance cycles, the average annual 37-state loss ratio weighted by premium ranged from .579 (2006) to .639 (2003) and the simple average for the 5-year period was .602.¹⁷ This crude estimate might suggest administrative costs are actually somewhat higher in other states (losses lower as a fraction of premium). However, the numbers may be more similar given that California insurer reporting is more aggressive at including certain administrative costs as losses, artificially raising the ratio of reported losses to premium.

4.0 Potential Impact of Integration on National Health Care Expenditures

We turn now to estimating the potential savings if we integrated medical treatment and delivered all treatment under the health insurance model. We will assume that all health care would be delivered at the more efficient administrative overhead characteristic of US private health insurance.

The latest data available at the time of this study were for 2007. However, we assume for both political and practical reasons that integration will occur in conjunction with universal coverage. Hence we are interested in the impact of integration on costs after implementation of universal health insurance coverage. We (optimistically?) assume that health reform legislation will be adopted in 2009 and universal coverage and integration will be effective starting in 2011. We project the important components of our estimation for 2011 to 2020.¹⁸ The ten-year time horizon is consistent with most budgeting estimates of health reform.

We use two different estimation methods which allow us to bracket outcomes and examine the validity of our estimation of underlying administrative cost. Both approaches use the national estimates of employer cost for workers’ compensation coverage calculated by the National Academy of Social Insurance (NASI) in conjunction with the Social Security Administration. NASI estimated 2007 employer costs at \$85.0 billion.¹⁹ The data series is

¹⁷ Data made available by NCCI

¹⁸ Current federal legislation may target implementation of near universal coverage closer to 1013-14. For each year the starting point is moved forward from 2011, the total 10-year savings increases by approximately 5.4% per year.

¹⁹ Latest estimates are from “Workers’ Compensation: Benefits, Coverage, and Costs, 2007” released August, 2009. An accompanying publication details the methods and data source: “Sources and Methods for Workers’ Compensation—2006” released September, 2008.

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available for the period 1987-2007. The average year-to-year change in employer cost over this period was +4.3%. Using the 2007 baseline and the annual growth rate we project employer cost in 2011 of \$100.4 billion rising to \$146.1 in 2020.

To estimate the fraction of employer cost that goes toward medical (versus indemnity) benefits, we obtained data on the split between medical and indemnity benefits for the 2006 accident year from the Workers' Compensation Insurance Rating Bureau of California (WCIRB) and the 37 states covered by the National Council on Compensation Insurance (NCCI). We weighted the data for each state by the fraction of total US employer cost identified by NASI for the state. The weighted average portion of all benefits identified as medical was 0.605 in 2006. Medical benefits have been increasing more rapidly than indemnity benefits. We used the year-to-year change in the ratio of paid medical benefits to total benefits to estimate an annual change in the fraction of employer cost assigned to medical benefits. The annual change was +0.007. The fraction of employer cost accounted for by medical benefits is projected as 0.641 in 2011, rising to 0.707 in 2020.

Employer cost for the medical portion of workers' compensation incurred in 2011 is projected to be \$64.4 billion ($0.641 * \100.4 billion) rising to \$103.2 billion in 2020 ($0.707 * \146.1).

Estimate 1—Using our estimate of difference in administrative cost

Our first estimate of employer savings relies on the difference we observed between administrative costs for workers' compensation and health insurance. The method is detailed in Appendix 4 and we summarize the main points here. We start with the estimated portion of employer cost assigned to medical benefits for accident years 2011-2020 (\$64.4 billion to \$103.2 billion) calculated above.

Second we calculated the fraction of that amount ultimately paid out as medical benefits by removing the average administrative cost. However, instead of using our estimate of actual administrative cost as a percent of premium (57.0%), we remove the impact of return on investment and use 43.5% as the administrative cost fraction. We take this very conservative approach because we are comparing the actual payments in each of the first ten years under integration with the actual payments under workers' compensation. These actual payments under integration are current year paid benefit dollars plus the cost of administration under health insurance (14.2%). Employers would retain the difference between premiums and the paid dollars and could earn investment return on these savings, but we are only looking at the premium cost and paid medical benefit transactions in each year and not making any assumptions about how the savings are invested or used for other expenses. Readers who feel this approach is too conservative can calculate an investment return on savings at the midpoint of each calendar year and add it to the total savings figure.

Next, we estimated the actual medical pay out for each accident year under integration. This is done by estimating the total payout for an accident year's claims and calculating the fraction of that amount that will be paid in each calendar year. For example, in the first year after integration, employer cost will be for the fraction of the first accident-year cost that is paid in the first calendar year. Employers would not be responsible for previous accident year liabilities that are paid out in the calendar year because these have been already paid for

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under insurance or set aside under self-insurance arrangements. In the second year of integration, employers pay the second calendar year costs of the first accident year claims and the first calendar year costs of the second accident year claims. We continue this estimate through year 10. The 10-year projections are presented graphically and in tabular form in **Figure 2** and **Table 7**.

Estimate 2—National Academy of Social Insurance paid data and NCCI paid development

For the second estimate of savings we use only national data from NASI and NCCI. First we project direct medical payments for occupational conditions for 2011-2020 based on NASI data. The NASI estimate of all occupational medical treatment dollars paid in 2007 was \$27.2 billion. The year-to-year change (+4.1%) is estimated from the NASI historical series (1996-2007).²⁰ These data give projected employer calendar year paid amounts for medical services of \$30.2 billion (2011) to \$43.1 billion (2020). From these figures we subtract 5% for the estimated cost of administration coded in workers' compensation as medical benefits and add 14.2% for administration under group health.

NASI estimates of calendar year paid medical benefits are for all occupational medical payments in 2007, regardless of the year of injury. Under integration, medical cost in the first year would only be for those injuries occurring during that year. In the second year medical cost would involve only claims occurring in the first two years after integration, and so on. We needed to calculate the fraction of the NASI estimate that is attributable to claims covered under integration in years one through ten of integration. We estimated the accident-year distribution of the cross-section of calendar year paid amounts. For this calculation we used data from the National Council on Compensation Insurance (NCCI) on national paid development patterns for medical benefits under workers' compensation. The NCCI pattern is more frontloaded and has a narrower tail than the data supplied by the WCIRB for California. Thus, the NCCI estimate gives a more conservative estimate of savings than if we used the California paid development pattern to estimate the cross-section.

Finally, like *Estimate 1*, we reduced estimated medical payments by 5% for administrative costs reported under workers' compensation as medical benefits²¹ and increased the adjusted estimate by 14.2% to reflect the cost of administration under health insurance.²² The 10-year projections are presented graphically and in tabular form in **Figure 2** and **Table 7**.

²⁰ NASI revised this historical series in 2007 and 2008. The revisions covered 1996 forward. Data before 1996 is not necessarily comparable to the later series.

²¹ This represents a much lower number than we observe for California, but California has a more expansive definition than other states as to what administrative costs can be reported as medical benefit costs. We created estimates for California (see appendix 1 for technical details). Estimates for other states are not currently available.

²² For details on the estimation, see appendix 4.

Figure 2

Total Cost of Occupational Medical Treatment: Comparison of Delivery Under Workers' Compensation and Private Health Insurance

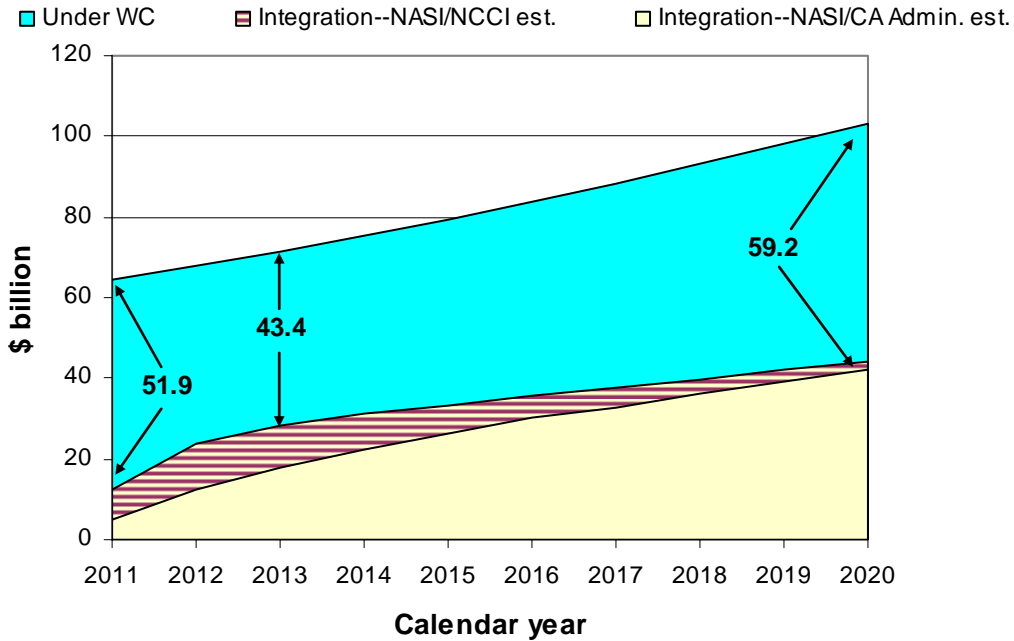


Table 7--10-Year Projected Savings Under Integration (\$ billion)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Under workers' compensation	64.4	67.9	71.6	75.5	79.5	83.8	88.3	93.1	98.0	103.3
Under Integration—NASI/NCCI based est.	12.6	23.9	28.2	31.0	33.4	35.6	37.7	39.8	41.9	44.0
Difference--NASI	51.9	44.0	43.4	44.4	46.2	48.2	50.6	53.2	56.1	59.2
Cum. dif-- NASI		95.9	139.3	183.7	229.9	278.1	328.7	381.9	438.0	497.3
Under Integration—NASI/CA Admin. est.	5.0	12.4	18.0	22.5	16.4	30.2	32.9	36.1	39.2	42.3
Difference-- admin. est.	59.4	55.5	53.6	52.9	53.2	53.6	55.4	57.0	58.8	61.0
Cum. dif.—admin. est.		114.8	168.4	221.4	274.5	328.1	383.6	440.5	499.4	560.4

Under either *Estimate 1* or *Estimate 2* the cumulative, 10-year projected cost savings are large, between \$497 billion and \$560 billion. The results using the administrative cost differences give lower costs under integration and larger savings. The main differences are that *Estimate 1* projects higher ultimate medical costs, lower administrative overhead, and slower pay out of benefits. In the short to medium-term the higher medical cost and lower

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administrative overhead are more than compensated by the slower payout pattern predicted from California data. Over the long-term (between years 11 and 12), annual cost under Estimate 1 will exceed Estimate 2 and the savings will be slightly less in subsequent years.

Maybe the most interesting point is the implication that administrative costs nationally may actually be higher than the estimates made for California. However we cannot reach a clear conclusion on this issue without further study. The two estimates calculated above ignore the returns on investment that would accrue to the employer but currently represent administrative overhead under insurance. Returns on investment in California's market will be larger if the payout patterns for benefits and loss adjustment expenses (LAE) are slower. This might offset what appears to be higher administrative expenses (exclusive of investment return) nationally relative to California.

Two other characteristics of the savings under integration are demonstrated visually in **Figure 1**. First, the savings are very large in the first couple years because the actual paid benefits are very low initially. Employers, at least insured employers, have already insured all of the liability for prior injuries. Consequently, the only benefit payments in the first year after transition to group health would be the 16 percent (*Estimate 1*) or 31 percent (*Estimate 2*) of calendar year paid medical cost that are paid out in the first calendar year when an injury occurs. In the second year, about thirty-eight percent to sixty-six percent of total benefits paid benefits are for conditions occurring under integration.

Second, the gap between costs under workers' compensation and group health continues to shrink as more injuries occur under the new regime. However, the growth in expected ultimate medical costs for occupational conditions eventually drives the gap wider in absolute dollars. The inflection point occurs approximately between years three and five.

Covering the cost of universal coverage

The Institute of Medicine (IOM) estimated in 2003 that medical expenditures would increase by \$34 billion to \$69 billion as a result of extending insurance coverage to the uninsured. The Congressional Budget Office estimated that expenditures would increase by 2%-5% of total health care expenditures. The CBO estimate in combination with estimates of total health care costs (CHCF, 2009), translates to \$42 billion--\$106 billion (2006). More recently, Hadley et al. (2008) estimated the incremental cost for 2008 as \$122.6 billion. Projecting these estimates forward to 2011 and assuming a 6% annual growth, IOM projects to \$54 billion - \$110 billion, CBO projects to \$56 billion to \$142 billion, and Hadley et al, projects to \$146 billion. During the legislative debate in California over universal coverage, the Lewin Group estimated that the increase cost related to extending coverage to California's uninsured would be \$5.9 billion (2005) projecting to \$8.4 billion (2011).

Table: Estimates of the Incremental Cost of Covering the Uninsured
(\$ billion)

	Base year	Estimated Cost	Projected to 2011	10-year cost (2011-2020)
IOM (US)	2003			
Low		34	54	714
High		69	110	1,450
CBO (US)	2006			
Low		42	56	741
High		106	142	1,870
Hadley (US)	2008	122.6	146	1,924
Lewin (CA)	2005	6	8	110

The savings estimated from integrating occupational care into a universal health insurance product are between 26 percent and 78 percent of the estimates for the incremental cost of covering the currently uninsured.

5.0 Discussion

At the very beginning of the paper we mentioned three prerequisites for achieving the savings from integration: universal coverage, integration of the occupational and non-occupational medical insurance products, and decoupling the liability for occupational medical treatment from the employer. These have important political as well as economic consequences. This is particularly true if we think of this as part of a political negotiation between labor and employers.

Integrating the occupational and non-occupational medical treatment under the more efficient health insurance model is key to the savings we project. Uncoupling the liability for occupational medical treatment from the at-injury employer is necessary if treatment is going to be integrated into health insurance. These conclusions arise naturally from the results presented above.

The requirement that universal coverage be in place arises because, in the absence of universal coverage, workers may lose a job at an employer that offers a health plan and move to a job without a health plan, potentially leaving the worker entirely uncovered for an occupational condition. The labor movement has carefully guarded its nearly 100-year-old right to treatment for occupational conditions. It is unlikely that they will surrender an important part of this protection without achieving another labor movement goal, universal coverage which also guarantees coverage for all conditions.

In addition, under workers' compensation a worker pays nothing for treatment of conditions classified as occupational. Under an integrated benefit, workers would pay the same co-pays and deductibles for treatment of work related and non-work conditions. Employer savings on the cost of covering occupational conditions should help control increases in workers' co-insurance payments for the health benefit and reduce the downward pressure on employer health costs have had on wages. But, these are indirect and unsure savings for

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workers. Again, labor is unlikely to trade sure protection for possible savings unless the goal of universal coverage is part of the package.

From the employer perspective, it is likely that any health reform package that achieves universal coverage will build on the current employment-based group health model. Indeed, most of the uninsured are in working poor households (Holahan and Brennan, 2000). Much of the opposition by employers arises from the perception that this will result in a costly new mandate on employers to provide coverage or contribute to a financing mechanism. If so, employer opposition to many healthcare reform proposals may be mitigated if they would be a main beneficiary of the savings from integration of occupational and non-occupational medical treatment. There is strong evidence that the employers with the highest workers' compensation costs are the least likely to offer health insurance (Neuhauser, Donovan and Mathur, 2009). These employers would be facing the greatest increase in payroll costs under an employer contribution, but would have the most to gain from integrating coverage.

The Neuhauser, Donovan, & Mathur study also found strong evidence that smaller employers, who are less likely to offer health insurance, also face much higher premium rates than larger employers, even within the same industry class. Some healthcare reform proposals that impose requirements on employers exempt smaller employers. However, it is precisely these employers that have to most to gain from integration and are the least likely to currently offer insurance.

Why this estimate may be high or low

The envisioned shift represents a very significant change in the US social insurance system. Like any social program, workers' compensation has important stakeholders and interest groups. Interest groups will lobby hard to modify any wholesale change, and to the extent that they chip away at the overall reform, it will likely involve adding back in portions of the administrative costs integration is expected to save.

In early discussions of these results, some observers wondered whether it was reasonable to assign administrative costs between medical and indemnity equal to their fraction of total benefits. Insurers and rating bureaus typically construct rates using the assumption that administrative costs are proportional to benefits without regard to the underlying benefit. In any case, it is likely that medical benefits are more complicated to deliver and should be assigned a greater fraction of administration. A related argument is that leaving a smaller workers' compensation system that delivers only indemnity benefits might lead to higher administrative costs for the remaining, limited benefits.

Some observers have argued that using insurance rate filings, even after excluding the off-balance provisions are likely to miss large discounts offered by insurers. The size of these discounts and credits, and any offsetting debits or surcharges, are hard to assess. But, the fact that the administrative cost estimates based on actual or ultimate losses and expenses are actually somewhat higher than administration estimated from the filed rates should allay much of this concern.

On the other side of the ledger are arguments that the cost savings are too conservative. The most compelling argument for this perspective is the long history of research that has found

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substantially higher utilization of services and higher unit pricing in workers' compensation compared to group health (Zaidman, 1990; Johnson, et al., 1993; Baker & Krueger, 2005; Neuhauser, et al. 2000). These studies have found workers' compensation costs 50% to 200% higher than non-occupational treatment for the same medical condition. Even the low-end estimate would greatly increase the differences. For example, we estimated that it cost \$1.30 in overhead to deliver a \$1 of medical treatment in workers' compensation, compared to \$0.14 for health insurance. If there is 50% more treatment, then the cost of the same \$1.14 of treatment under health insurance becomes \$3.35 ($1.5 * \2.30), a much higher estimate of excess cost, and hence savings than we make in this study.

Automobile insurance and other types of insurance that include medical treatment in the coverage are also potential sources of savings not included in the estimates given above. Auto insurance premiums are of the same magnitude as workers' compensation insurance, but the medical benefit comprises only about 17% of losses versus 60% to 70% in workers' compensation for the projected period.²³ Consequently, integrating auto insurance medical treatment into health insurance might add another \$80 billion to \$100 billion to the potential savings. Other types of liability insurance would likely contribute much smaller amounts to total savings.

Challenges to the idea of integration

Addressing all of the challenges and issues raised about integration is an entire paper by itself. Many of these issues were debated during the 1993 health reform effort (Baker & Krueger, 1993). We will only briefly touch on some of the main themes.

First, workers' compensation is a state level program. National legislation on integration would require extensive changes at the state level. Some of the state statutes, for example California, are embedded in the state constitution. Many will argue that this will make change virtually impossible. On the other hand, if states implementing change gain significant advantage over other states, the change may happen fairly quickly.

Second, many observers have argued that workers' compensation costs represent an important incentive for employers to invest in workplace safety. Reducing the incentive may have negative consequences for the decades-long decline in the incidence rates of occupational injuries. However, about 80% of employers are not experience rated for worker's compensation, studies have not found compelling evidence for the incentive effects of experience rating in worker' compensation, and in any case, employers are experience rated for health insurance.

Third, some claim that the high administrative costs in workers' compensation lead to much lower direct costs for medical treatment and the duration of disability. There is no evidence to support these claims. Medical treatment costs are most likely higher, possibly much higher. And the best evidence on the duration of occupational versus non-occupational disability duration finds very small differences (Neuhauser, 2009).

²³ Data on auto insurance is from the "2009 Insurance Fact Book" published by the Insurance Information Institute.

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Finally, many observers find it anathema that a worker would have to pay anything for treatment of a condition that arises out of work, for example co-pays under integration. This position was easier to understand at the inception of workers' compensation when the cause of traumatic injuries was clearly identifiable and cause was easily attributable wholly to the occupational or non-occupational category. Today, workers compensation claims are dominated by back conditions, cumulative injuries, and illnesses where assigning the contribution among multiple causes is much more difficult (Guidotti, 2006).

Readers should not interpret these findings as an indictment of insurers or insurance. Property & casualty insurance plays an important role in our society. This is particularly true where there are no other insurance mechanisms that can spread risk and indemnify people and entities more efficiently. When workers' compensation was adopted in the early 1900s, health insurance was almost unknown and workers had limited options if injured on the job. Workers' compensation was expensive, but cheaper and less uncertain than litigation. Similarly, auto insurance fills gaps in coverage especially when fault is difficult to assign and a driver lacks health insurance.

Today, the majority of the US population has health insurance, usually employment-based or through government programs like Medicare and Medicaid. Health insurance, when available is a much more efficient way to deliver healthcare coverage. And, with two forms of coverage the overlap between health insurance and property & casualty health coverage often leads to inefficiencies and double payment. When an insurer and worker settle future medical for a lump sum, the amount is at best a guess at the average amount of future care. Since the cost of future care has a high variance, the insurer may overpay in some cases. The worker may receive too little in other cases, likely leading private health insurance or Medicare to make up the difference.

If near universal coverage becomes a reality, the medical portion of several types of property casualty insurance could be delivered in a much more efficient manner. Absent near universal coverage, we will likely have to continue relying on the more costly, but important role of other insurance models.

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