STATE OF CALIFORNIA
DEPARTMENT OF INSURANCE
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Standardized Regulatory Impact Analysis

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Title: Network Adequacy Regulation

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Description of Problem and Proposed Regulatory Solution

The Problem

The Affordable Care Act (ACA) eliminated many of the means by which companies previously limited their claims expenses, particularly in the individual market, such as through excluding consumers with pre-existing medical conditions, through medical underwriting, or through imposing lifetime or annual maximum dollar limits on claims. In addition, insurers historically could offer higher premiums to individuals or small groups with higher risk profiles. The ACA prohibited the use of these rating tools and practices in the individual and small group markets. In those markets, insurers are only allowed to rate in a single risk pool based upon age, family size, and geographic area. In response to these and other changes in the health insurance marketplace, insurers began to change, creating narrow networks with limited provider choice.

One means by which insurers have narrowed networks is to include substantially fewer providers than those typically included in networks for large employers (and, as a corollary, substantially fewer providers than are available in a given geographic area). Insurers have also employed a "tiered" network design, where consumers bear an increased cost-sharing burden if they choose non-preferred, but still in-network, providers. In addition, insurers have narrowed networks by changing Preferred Provider Organizations (PPO), which provide an out-of-network coverage option, to Exclusive Provider Organizations (EPOs), which provide no out-of-network coverage for non-emergency services. Carriers also narrow networks by limiting geographic scope. In addition, insurers also engaged in the practice of "hollowing" their networks so that, while networks may have sufficient facilities, such as hospitals, the network fails to include a sufficient number of specialists who have practice privileges within that facility.

As health insurers transformed their networks, consumers found that the health insurers' provider directories were inaccurate, misleading consumers into signing up with a health insurer for access to a specific doctor, specialists or hospital only to learn that these providers were not a part of the health insurer's network. Consumers were also forced to pay significant out-of-network charges when their health insurer failed to provide adequate medical providers in their

network or when care was provided in network facilities, by out-of-network providers. These newer, narrower networks may have insufficient capacity to provide timely appointments, leading to delays in care, or abandonment of care by patients frustrated by the inability to obtain timely appointments. Both delay and abandonment can have adverse health consequences. Lacking access to adequate networks, consumers may be faced with financially devastating, unanticipated, uncovered expenses. Networks that restrict access to necessary care in-network will cause consumers to delay or avoid needed care due to the specter of increased out-of-network costs, resulting in consumer harm and in preventable death. As a consequence of these changes in network designs, consumers are more frequently exposed to out-of-network bills. Such large and unexpected out-of-network bills are now among the most common health-related complaints to state insurance departments.

The Solution

Revision of the existing network adequacy regulation is needed to enhance networks and improve reporting requirements so as to attain, assure, monitor, and enforce adequacy in a marketplace undergoing widespread transformation. This will assure that those with insurance have the opportunity to access needed health care services in a timely manner and without unacceptable physical or financial burden.

Cost/Benefit Analysis of Proposed Major Regulation

Benefits

This regulation offers several significant benefits to consumers:

Improving Health Outcomes
The most important benefit of this regulation is that it is likely to improve health care outcomes for consumers and save lives. As detailed below, the California Department of Insurance (Department) estimates that this regulation will save between 17 and 42 lives, through improved access to health care, annually.

The Department analyzed scientific papers comparing various health outcomes of the uninsured, underinsured, and insured. When considered together, the seven papers showed ample evidence that uninsured or underinsured patients have worse health outcomes than patients with insurance. Delays in receiving care or non-existent care are barriers that result in adverse health outcomes for individuals who are uninsured, underinsured, or have inadequate networks. Since barriers to care are experienced by the uninsured and underinsured, the Department used the reported health outcomes of underinsured or uninsured individuals to estimate the health outcomes sustained by those whose care is impeded by an inadequate network.[1] The results of the studies described below are statistically significant, meaning that the differences between the groups in each study

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[1] A comparison was necessary since there were no scientific papers specifically comparing the health outcomes of consumers who have adequate versus inadequate provider networks.

are unlikely to have happened by chance. The following is a summary of the most compelling results.

- In a 2013 study from *Health Services Research*, uninsured newborns were found to have decreased care and an increased risk of dying.
- In a 2012 study from the *Journal of General Internal Medicine*, uninsured status rather than race was strongly associated with death among those admitted to the hospital for a myocardial infarction (heart attack) or a coronary atherosclerosis event (plaque building up in the arteries).
- In a 2011 study from the *American Heart Journal*, lack of insurance and Medicaid insurance are both independently associated with an increased risk of dying in the hospital after undergoing a percutaneous coronary intervention (angioplasty).[2]
- In a 2007 study in the *Journal of General Internal Medicine*, patients without insurance had higher rates of stroke and death. They also had less awareness and control over their cardiovascular risk conditions.
- In a 2014 study in the *Journal of Surgical Oncology*, uninsured and Medicaid patients were more likely to have later stage tumors. Being uninsured or having Medicaid was independently associated with having a worse overall survival rate.
- A 2009 study in the *American Journal of Public Health* concluded that lack of insurance was significantly associated with mortality. In the US, this number may be as high as 44,789 deaths per year.
- In a 2007 study published in *Health Services Research*, veterans who visited a VA medical center with wait times of more than 31 days had significantly higher odds of dying.

The seven studies above show a clear correlation between a lack of healthcare coverage and increased morbidity and mortality. Health coverage with networks that create barriers to care can result in outcomes similar to those seen with a lack of insurance. Insurance without access to care is essentially equivalent to not having insurance. Health insurance networks with limited specialists or specialists located long distances from insureds present barriers to care which can result in adverse health outcomes. For example, a consumer experiencing numbness and tingling discovers there are no neurologists in their network. This person may fail to obtain necessary tests because of the increased costs associated with out-of-network care. As a result, their condition could worsen, become more difficult and expensive to treat, and have an adverse clinical outcome (including increased morbidity or risk of death). Likewise, a consumer could have a cancer diagnosis delayed because there are not enough oncology specialists in their network, or because the specialists are too distant, or because the specialists are not seeing new patients, or because they have no appointments available. This person could advance to late-

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[2] Medicaid is used as a comparison for a narrow network since many providers limit the numbers of these insured patients or completely exclude them from their practices.

stage cancer before the initiation of treatment. Beginning treatment when cancer has progressed to an advanced stage is associated with an increased risk of death (increased mortality). Conversely, health insurance networks with adequate numbers of providers, specialists, and facilities are more likely to provide consumers with timely access to the healthcare they need. For example, in an expanded network a child with leukemia can obtain appropriate tests and treatment from a pediatric specialist in a timely manner. The seven studies evaluated by the Department and cited above demonstrate that health outcomes of individuals with barriers to care will improve as their access to care improves.

The Department concluded that health insurance policies with networks that present barriers to access will likely result in poor outcomes and worse morbidity and mortality of insureds compared to health insurance policies that are based on networks that offer adequate access. Using data from the above-mentioned studies, the Department's Health Actuarial Office (HAO) developed a model (discussed in detail in Appendix A, below) to estimate the number of lives that may be saved annually following the adoption of the proposed regulation. Utilizing this model and estimates of the parameters employed in the model, the Department estimates that the adoption of the proposed regulation will save between 17 and 42 lives, annually.
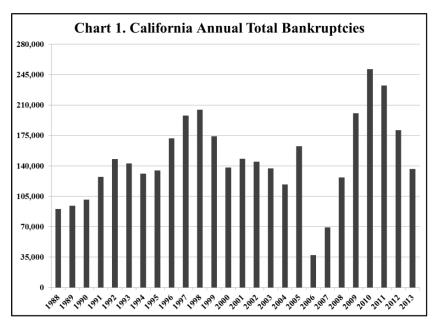
Providing Enhanced Standards

Additionally, the proposed regulation will benefit insurers by providing additional specific, measurable standards for judging the adequacy of their provider networks, including measures such as maximum wait times for scheduling appointments, specified criteria for network design, and requirements for written policies for provider selection and tiering, and standards governing the availability of telephone staff to cover questions and other customer service issues. These proposed changes also harmonize the Department's regulations with those of Department of Managed Care (DMHC).

As a result of the proposed regulation, consumers will have clearer standards for access and needed care will be more readily available. These standards include the maximum number of days consumers must wait for appointments, assurance that network physicians will have privileges at network hospitals, access to specialists at in-network rates under certain conditions, and improved availability of telephone staff to answer consumer concerns and schedule appointments. Consumers will also have access to enhanced, accurate provider directories for making choices between plans and providers. The increase in information available to consumers will likely lead to better informed decisions about care, allowing more consumers to avoid circumstances that might otherwise result in large out-of-network expenditures or more expensive emergency room visits. Because insurers are expected to improve access to specialists at in-network rates, the Department's HAO estimated that the proposed regulation will save consumers $11.5 million in out-of-pocket expenses. The effects of increased costs and the premium impact due to the proposed regulations are discussed separately below. The model and assumptions used to develop this estimate is discussed in detail in the actuarial analysis section below.

Averting Medical Bankruptcy

With the implementation of the proposed regulation, consumers may avoid potentially crippling medical bills for out-of-network services. As a result, some families may avoid the devastating consequences of medical bankruptcy. The Department estimated the amount of money potentially saved by households who in the future would avoid bankruptcy as a result of the proposed regulations. Bankruptcy is a complex issue and the Department's estimate is focused only on those whose bankruptcies were related to significant medical bills ($5,000 or more). The Department assumes that in the future some bankruptcy filers would find total relief due to visiting newly available in-network providers as prescribed by the proposed regulations. The ripple effects of consumers or households avoiding bankruptcy are numerous including: medical providers being paid in full; other creditors, such as auto loan, home mortgage, student loan, and credit card companies being paid in full. Further, consumers will enjoy direct benefits from avoidance of bankruptcy. Avoiding bankruptcy allows households to retain access to credit markets, saving them money on future debts since lower-interest loans and payments are usually only offered to those who have not had recent home foreclosures or bankruptcies. The effects of bankruptcy curtail households' access to inexpensive credit for seven years and sometimes longer. Bankruptcies may also limit access to certain jobs, limiting future earnings potential. In this analysis, however, the Department focuses solely

Chart 1. California Annual Total Bankruptcies

on the benefit to households while acknowledging that the macroeconomic effects could be much greater.

To estimate the impact of medical bankruptcies in California, the Department used data from the US bankruptcy courts, which indicated that there were approximately 136,500 bankruptcy filings.[3] The 2013 data used by the Department was the most current available. Most likely, the effects of the ACA and an improving economy would show some further declines in total bankruptcies for 2014 and 2015. In particular, the Department expects that the extension of insurance coverage in 2014 and 2015 to those previously uninsured will lower medically related

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[3] US Courts: Report F-5A. U.S. Bankruptcy Courts Business and Nonbusiness Bankruptcy County Cases Commenced, by Chapter of the Bankruptcy Code, During the 12- Month Period Ending December 31, 2013, http://www.uscourts.gov/Statistics/BankruptcyStatistics/2013-bankruptcy-filings.aspx

bankruptcy rates in California by about 5% from 2013 levels. The decrease in bankruptcies in 2006 was related to a change in bankruptcy laws. Since then, the Department attributes much of the volatility in bankruptcies over the last few years to the housing foreclosure crisis and the economic boom and bust cycle, with medically-related bankruptcies being relatively steady for the 2008-2013 time period. A small decrease in medically-related bankruptcies is projected going forward as health coverage expands under the ACA.

A clinical research study published in The American Journal of Medicine titled <u>Medical Bankruptcy in the United States, 2007: Results of a National Study</u> (MBUS) concluded that 62.1% of bankruptcies in 2007 were medically related, up from 49.6% in 2001, and 57.1% of bankruptcies were specifically attributed to problems with medical bills (the 5% difference being associated with persons who suffered loss of income due to illness). The lower percentage (57.1%) is more specifically related to the proposed regulation, with network adequacy and out-of-network (OON) billing problems, as opposed to the broader 62.1% of bankruptcies claimed to be medically related (see Table 1).

Table 1. Bankruptcies Potentially Affected by the Proposed Regulation	
Total Bankruptcies in 2013	**136,529**
Bankruptcies from any Medical Cause	62.1%
Bankruptcies due to Medical Bills	57.1%
Remaining Bankruptcies	77,958
Bankruptcies with Private Insurance	60.3%
Remaining Bankruptcies	47,009
Drop in bankruptcies from 2013 due to expansion of medical coverage	5%
Remaining Bankruptcies	44,658
CDI Private Insurance Market Share	9.8%
Remaining Bankruptcies	4,377
Individual and Small Group Share of Bankruptcies	90.0%
Remaining Bankruptcies	**3,939**

In a paper responding to the first 2001 MBUS, <u>Medical Bankruptcy: Myth Versus Fact,</u> the authors observed that medical bills are a cause of only 17% of bankruptcies and that they are not the most important cause. They asserted that the MBUS authors failed "to perform the multivariate statistical analysis necessary to determine the magnitude of the causal relationship or to rule out other factors such as loss of job, education expenses, or housing costs."[4] The second MBUS study published in 2009 and based upon 2007 data sought to improve upon the earlier 2001 study. However, even with improvements in the MBUS methodology, the authors admit that, "Teasing causation from cross-sectional data is challenging."

The Department determined that, while recognizing the limitations of the MBUS study, its data provided a sufficient basis for the Department's estimates. If 57.1% of bankruptcies are due to medical bill problems, that means as many as 78,000 bankruptcies in California in 2013 were due to significant medical bills (136,529 bankruptcy filings x 0.571 = 77,958 or approximately 78,000). Using the MBUS study's average medical cost of $17,943 in 2007 and adjusting it for

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[4] Medical Bankruptcy: Myth Versus Fact, David Dranove and Michael L. Millenson, published online February 28, 2006; 10.1377/hlthaff.25.w74, Health Affairs, 25, no.2 (2006):w74-w83, http://content.healthaffairs.org/content/25/2/w74.full.html

medical inflation implies $21,729 in average medical bills per bankruptcy in 2013.[5] Multiplying the 78,000 medically related bankruptcies by $21,729 in average medical bills implies an estimated $1.7 billion burden to California in 2013. The significance of mounting OON medical bills is part of a broader and very complex problem, as stated in the MBUS study. However, the Department's proposed regulation will still help to address the growing problem of medically-caused bankruptcies. The impact of the proposed regulation will be smaller when adjusted for Department-regulated insurers for the following reasons:

First, not everyone has medical insurance. There are still many people without coverage even though the ACA and Covered California provided coverage for 1.4 million Californians in its first year.[6] The MBUS study found that only 60.3% of bankruptcy filers had private medical insurance, which means an estimated 47,000 filings for 2013 (77,958 x 60.3%= 47,009) could be attributed to those with private insurance. Additionally, the Department made several other assumptions: (1) about 9.8% of those with private insurance are in Department-regulated plans that would be affected by the proposed regulation; (2) the extension of coverage in 2014 and 2015 to the previously uninsured will lower bankruptcy rates by about 5% from 2013 levels; (3) the impact of the regulation due to the share of bankruptcies among individual and small-group policyholders is a reduction of about 10%; and (4) those with outstanding medical debt would file for bankruptcy at the same rate as they do currently. These combined impacts imply about 3,900 bankruptcy filings that would potentially be affected by the proposed regulation (47,009 x 9.8% x 95% x 90% = 3,939 (see Table 1)).

The potential magnitude of the impact of the proposed regulation is further limited for several other reasons. First, out-of-pocket costs are typically higher for the uninsured than for those with private insurance. While the average out-of-pocket medical cost cited by the MBUS study was $17,943 in 2007, it was $17,749 for the privately-insured, and $26,971 for the uninsured. When adjusting the 2007 average medical cost of $17,749 for the privately-insured for medical care inflation, the value in 2013 is estimated to be $21,494. Multiplying the estimate of costs by the estimated number of medical bankruptcies results in a projected impact of $84.7 million (3,939 x $21,494). The $84.7 million is the 2013 total cost of bankruptcies due to large medical bills in the CDI regulated markets. This figure was a starting point for the Department's further actuarial analysis, since not all of the 3,900 households would be equally affected by the proposed regulations.

Actuarial Analysis

HAO conducted an extensive review of in-network versus out-of-network costs and evaluated the distribution of medically-related bankruptcies. The Department estimates that based on the

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[5] Bureau of Labor Statistics: Consumer Price Index - All Urban Consumers: Item: Medical Care
Series ID: CUUR0000SAM, Accessed August 6, 2014, http://data.bls.gov

[6] California Healthline: Analysts Say Covered California Premium Increases Unlikely, Published: July 29, 2014, Accessed: August 13, 2014.
http://www.californiahealthline.org/articles/2014/7/29/analysts-say-covered-california--premium-increases-unlikely

expected in-network versus out-of-network cost breakdown for an ACA silver plan, the proposed regulation would save consumers 2.5% in out-of-pocket medical expenses, equating to a savings of $546 per household.

Table 2. Estimated Impact on Bankruptcies from Expanded Networks				
	Before Regulation	After Regulation	Change (#)	Change (%)
Bankruptcies	3,939	3,916	23	-0.6%
Avg Medical Debt	$ 21,494	$ 20,948	$ 546	-2.5%
Total Medical Debt	$ 84,666,534	$ 82,025,824	$ 2,640,710	-3.1%

However, bankruptcy is a very complex issue where bankruptcy filers often have more than one creditor. For analytic purposes, the Department's calculation only takes into account those who might be helped by this regulation and have significant medical bills. The calculation also assumes that in the 3,939 cases that might benefit from the proposed regulation, the medical debt is what compels the household in debt to eventually file for bankruptcy. Given those assumptions, the expected shift in the distribution of medically related bankruptcies caused by the $546 savings per household would save an estimated 23 households from filing for bankruptcy on an annualized basis. The 23 households represent those most likely to file for bankruptcy because of medical debts, but are saved from doing so because of this regulation. As seen in Table 2, total out-of-pocket expenses would decrease by about 3.1% for the affected population ($84.7 million x 3.1%), or $2.6 million.

This narrow estimate excludes other causes of bankruptcy. It may take time for the out-of-network cost savings to filter to consumers who are contemplating bankruptcy, perhaps as much as three years since substantial lags in processing and billing by insurers and providers might delay any aggregated savings to consumers or households. However, since the timing is unknown, the Department assumes the effect to occur by the first full year after the effective date of the regulation.

Given the out-of-pocket savings in both the actuarial and bankruptcy models, consumers are likely to save $14.1 million directly ($2.6 million + $11.5 million). Additional industry, employment and output effects were assessed using standard Regional Input-Output Modeling System (RIMS II) multipliers. The application and use of multipliers is more fully discussed below in the "Economic and Job Impact" section. The multipliers capture the ripple effects not just the direct benefits. When using the RIMS II output multiplier of 1.3694 to take into account the ripple effects (indirect and induced effects) of the $14.1 million dollar savings to consumers, the proposed regulation may save the California economy $19.3 million (1.3694 x $14.1 million) annually beginning in 2016.[7]

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[7] Table 1.5 Regional Input-Output Modeling System (RIMS II) Multipliers (2002/2010). RIMS II data are from the U. S. Department of Commerce, Bureau of Economic Analysis (BEA). There are three assumptions. First, industries can increase their demand for inputs and labor as needed to meet additional demand. Second, firms have fixed patterns of purchasing, e.g. an industry must double its inputs to double its output. Third, firms purchase inputs from firms within the region (California) before using imports.

Costs of Proposed Regulations

The Department's HAO estimated that the proposed regulation would impose costs on California insurers. The regulation would have a broad impact on costs related to insurer networks (both network utilization and the percentage of billed charges) and a small impact on administrative costs.

In determining the cost impact related to networks, the Department assumes that if insurers have to expand their provider network to be in compliance with new regulations, they are likely to have to negotiate higher cost contracts with certain providers in order to bring them into their network (either physicians or hospital systems). As a result, their claim costs may go up. The cost impact will largely depend on how many additional providers an insurer will have to add to their networks. HAO identified two other factors that could also drive up claim costs:

1. providers in the current network may ask to renew their contracts at the higher reimbursement rate commensurate to the new providers and,
2. members currently utilizing the relatively lower cost in-network providers may start using the new in-network providers who have higher reimbursement rates.

The cost impact calculation depends on the in-network utilization (the in-network share of total billed charges) and overall percent discount in the provider contracts before and after the proposed regulation.

A Few Definitions and Assumptions

Billed charges are what providers ask for their services if there is no contract with insurers. Allowed cost is the contractual, often discounted price between a provider and an insurer for covered services, and incurred claims is what the insurer pays after member cost-sharing. Without current data from insurance companies reflecting the new ACA market, the assumptions on in-network utilization and percent of billed charges were modified to reflect the implementation of the proposed regulation as detailed in Table 3. Assumptions differed for the

Table 3. Expected Usage and Claims Assumptions						
	Pre Regulation			Post Regulation		
	Individual	Small Group	Large Group	Individual	Small Group	Large Group
Utilization						
In-network	85%	85%	90%	88%	88%	92%
Out of network	15%	15%	10%	12%	12%	8%
Percent of billed charges paid						
In-network	65%	65%	70%	67%	67%	70%
Out of network	90%	90%	90%	90%	90%	90%

large group versus small and individual group markets as discussed in detail below.

For the individual and small group insurance plans, current in-network utilization is assumed to be about 85%. With the proposed regulation adding more specificity regarding network

requirements, insurers will have to expand their network by bringing in additional providers. The Department assumes that in-network utilization will go up to about 88%. Also, in-network medical services are estimated to cost about 65% of billed charges (this represents a 35% discount for policyholders and households from providers due to their insurer's contracted rate). Some of the additional providers are likely to be higher cost providers, which will in turn probably negotiate higher cost contracts (smaller discounts from their billed charges) – though offset somewhat by improved notification to policyholders regarding which doctors and hospitals are already in-network. The Department expects the net effect will be to raise the in-network percentage of billed charges from 65% to 67%.

In large group insurance plans, current in-network utilization is about 90% and is expected to increase to 92% as a result of the regulation. Large groups tend to have better in-network coverage than individual and small group policyholders and are more sophisticated purchasers of insurance (e.g. they may have a benefits department to review carrier proposals for employee health care benefits). The Department assumes that currently in-network medical services cost about 70% of billed charges. With the proposed regulation, insurers may have to add some providers to be in compliance. However, the Department doesn't anticipate a significant increase in the overall contract cost by adding these extra providers. This is because the current broad networks already include some high cost providers and member shifting may be minor because the current in-network providers may not be much different from those newly brought into insurance plans, both in terms of cost and practice.

For example, a large group insurer might only need to add a few specialist physicians to round out their network in order to be in compliance. Such an insurer is already likely to have a robust network (as opposed to the *narrower* network characteristics of individual and small group plans), so adding a few more specialists will not significantly increase claim volume or cost overall.

The total cost impact on claims of the proposed regulation is defined as the difference between the total paid for medical services before and after the regulation. The Department started with estimated premium amounts for 2014 of $3.36 billion for the individual, small group and large group markets that it regulates. The Department then applied the expected loss ratios and expected paid-to-allowed ratios to estimate the allowed cost before regulation. Based off of that calculation, the baseline for 2014 total paid charges (what the insurers are assumed to pay for covered services) amounts to $2.792 billion.

Using the assumptions in Table 3, the Department modeled the proposed regulation. Under the new assumptions, the total paid charges would rise to $2.813 billion. The new set of assumptions included network utilization percentages, the percent of billed charges for current contracts between insurers and providers, and the estimated cost of medical services if performed out-of-network. The new assumptions were applied to the baseline for allowed charges. In summary, the total cost paid for medical services would have increased by $21.4 million ($2.813 billion – $2.792 billion) for 2014 had the proposed regulation been in force for the entire year. The Department assumes that the cost impact will be similar in 2015 and thereafter. However, if the CPI-U inflation trends from 2007-2013 are representative of future trends, costs might rise 3.5% per year.

The Effect on Premiums

Carriers are likely to recover their higher costs through rate increases passed on to policyholders. The average required rate increase to recover the expected cost is about 0.6% ($21.4 million / $3.36 billion = 0.6%). Insurers may respond to the regulations in one of three ways. They may absorb the additional costs since the enrollment pool expanded in 2014 with the start of the federal ACA and may expand again in 2015. Health insurance management programs such as network management, disease management, and case management might allow insurers to absorb the higher costs, reduce staff or cut operating budgets or profit margins. In combination with implementation of the ACA, some costs to insurers may be recovered as the benefits of better care increasingly pay off and as costs are spread across more new, first-time policyholders. Otherwise, insurers may raise premiums or a take a combination of these actions and only partially pass the costs on to households or policyholders.

Administrative costs. The Department also reviewed the provisions in the proposed regulations that could have an economic impact on administrative costs. As a basis for comparison, the Department looked at recent regulations promulgated by the state of Washington, which concluded, "Because health plans issuers will now have specific, measurable standards for network access to meet and report this could mean some additional reporting by health care providers. The most likely measures for such reporting by providers would be wait times for scheduling appointments and emergency response times or instances where the new state standards are not met. To the extent that this data is not presently collected or reported this may represent an additional initial cost to the health care providers and/or insurers to set up this reporting. The cost of this reporting could range from minimal to moderate, depending on how the insurers choose to respond to the state standards".[8] The Department assumes that like Washington, California insurers will experience an increase in administrative costs as a result of the reporting requirements as defined in the regulation. The Department estimates that historically insurance plans spend about 6-11% of premiums on administrative costs. The Department then calculated an additional $1.2 million impact based on a one-half percent increase in administrative spending, as shown in Table 4.

Table 4. Breakout of Administrative Expenses Totaling $1,165,570			
	Individual	**Small Group**	**Large Group**
2014 estimated premiums (in millions)	$346	$771	$2,112
Average premium spent on administration (%)	11%	7%	6%
Additional administration costs due to regulation (%)	0.5%	0.5%	0.5%
Additional administration costs due to regulation ($)	$262,105	$269,865	$633,600

The total **direct** economic cost of the proposed regulation on health insurance networks and administration is estimated to be $22.6 million ($21.4 million + $1.2 million).

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[8] WAC Health Coverage Issuer Provider Network Formation, Adequacy, and Filing and Approval Standards, Final Cost Benefit Analysis: April 2014, Chapters 284-43

Economic and Job Impact Analysis

Senate Bill 617 (Chapter 496, Statutes of 2011) requires state agencies to thoroughly assess the potential for significant, statewide adverse economic impact due to the adoption, amendment, or repeal of regulations. The Department is required to assess whether and to what extent the proposed major regulations may affect the creation or elimination of jobs, the creation or elimination of businesses, the competitive advantages of businesses currently doing business in California, and the benefits of the major regulation to the health and welfare of California residents, worker safety, and the state's environment as set forth in Government Code section 11346.3(c)(1).

The Department evaluated the changes in a variety of economic variables such as output, employment, and Gross State Product (GSP), also known as state Gross Domestic Product (GDP), which could result from this proposed regulation.[9] Employment, business formation, and other changes in these state components are captured in GSP the same way that national measures of output capture national changes in employment, business output, and other economic activity from one quarter to the next and from year to year. Industry employment and output effects were assessed using standard RIMS II multipliers. Employees are captured in GSP through their earnings and/or income.[10] For example, as employees retire or leave their jobs and are not replaced, either due to technological advancements or downsizing, the losses are reflected as reductions in GSP and other measures of output. Job and economic impacts, including the ripple effects (indirect and induced costs) of the regulation on employment, GSP, and output are calculated for the direct cost estimate of $22.6 million.

The Impact on Jobs. The projected employment impact is a net overall loss equivalent of up to 159 full-time jobs. This was calculated by using the RIMS II multiplier for insurance carriers and then offsetting the benefit to households. The RIMS II multiplier is a ratio of 13.1748 jobs lost for every one million dollars in extra cost to insurance companies (13.1748 x $22.6 million = 298 jobs). Given that an additional 139 jobs are estimated to be created by the savings to consumers (9.8665 x $14.1 million), the projected number of future jobs potentially lost is estimated to be up to 159. However, as discussed below, any job impact will likely result in slightly slower job creation in the growing finance and insurance sector, rather than an actual loss of existing jobs.

The proposed regulation is expected to have a minimal effect on total statewide employment. According to the most current data from the Bureau of Economic Analysis (BEA) for 2013, full-

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[9] GSP, or GDP by state, is the broadest measure of the growth (or contraction) of the state economy. GSP is an aggregate measure of a state's current production of goods and services, representing the net economic value-added by industry sector. Output measures total market value, including the value of all intermediary goods and services used in production of a final good or service.

[10] See Regional Multipliers, A User Handbook for the Regional Input-Output Modeling System (RIMS II), https://www.bea.gov/scb/pdf/regional/perinc/meth/rims2.pdf

and part-time wage and salary employment was 16.2 million in California.[11] When dividing the projected number of jobs lost by the number of people employed in nonfarm jobs in California, the result is that the proposed regulations would not affect even one hundredth of a percent of the total employment in California (i.e., 159 / 16,225,103 = 0.001%). Although standard modeling projects a loss equivalent up to 159 full-time jobs, it should be noted that none of the insurance companies are expected to actually lose jobs. The impact would instead be reflected in slightly slower growth in insurance industry jobs as the economy continues to grow.

GSP analysis is included for reference, as it is the most common measure of economic activity and as such is valuable when analyzing the economic impact of a regulation. However, the Department will refer to the more inclusive measure of output when referring to the total economic impact. It is important to define the difference between GSP (net output) and output (gross output) as they use different means for valuing intermediate goods and services. GSP includes the value of labor, depreciation, income taxes or government subsidies, and profit. For example, look at a manufacturer who produces widgets. The value of the widget takes into account labor costs, taxes, and profit, all of which represents the widget manufacturer's value-added to the final product, or its GSP. However, making widgets also requires inputs purchased from other sectors, such as processed steel and fuel. Since the steel and fuel are outputs of another industry sector, only their value-added is counted in GSP. Capturing the complete economic impact, including the total value of goods and services used in the production of widgets would require the use of output or gross output.

The estimated total economic impact on California GSP is $17.3 million. This impact was also calculated using the RIMS II multipliers and is meant to capture the incremental value added to (or subtracted from) the economy. Multiplying the cost of the regulation by the RIMS value-added multiplier of 1.2719 results in an estimated negative economic impact on GSP of $28.7 million (1.2719 x $22.6 million = $28.7 million). Offset by the benefits, $11.4 million is estimated to augment the economy as savings accrue to consumers or households (0.8109 x $14.1 million). In sum, the projected impact on the California GSP is $17.3 million. This regulation is projected to have a very small effect on the $2.2 trillion California GSP reported by the BEA for 2013.

The Department also calculated the effect of the regulation on output. The RIMS II multiplier for output of 2.2583 represents a $2.26 total economic impact for every $1 impact to insurers (accounting for all direct, indirect, and induced costs). Multiplying the cost of the regulation by the RIMS output multiplier results in an estimated total economic cost of $51 million (2.2583 x $22.6 million = $51 million). When adding the projected impact on output due to the $14.1 million in savings to consumers, the Department estimated a $19.3 million offsetting addition to

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[11] Bureau of Economic Analysis (BEA), U. S. Department of Commerce is responsible for a wide range of data and information series including the national income and product accounts, gross domestic product (GDP) and personal or household income variables. BEA wage and salary employment data is the most comprehensive and inclusive, but comes available only with a considerable time lag since BEA must include IRS taxpayer data to estimate the employment of the self-employed and proprietors. As of January 14, 2015, the most current annual data was 2013.

the economy (1.3694 x $14.1 million). Therefore, the total projected net impact on output for the California economy is $31.7 million ($51 million – $19.3 million).

Impact on Small Businesses and Insurers
The proposed regulations will directly affect health care insurers as discussed in the foregoing analysis, but by law they are not considered small businesses (Government Code section 11342.610(b)(2)).

If insurers choose to raise premiums and pass costs on to households, some self-employed individuals or individual proprietors may be affected. Proprietors represent 5.2 million (25.2%) out of 20.7 million of the total employed in California in 2012, according to the latest BEA data. This category often includes multiple job holders, part time workers, as well as the self-employed. These individuals may be issued 1099s for contract work and are traditionally reported in Internal Revenue Service (IRS) data as Schedule C filers. Contract employment, self-employment, consulting, temporary work and employment outside of more traditional non-agricultural jobs have increased substantially as a proportion of total employment since 1990. These types of workers are expected to number 5.5 million in 2015, or 25.4% of total BEA employment. The anticipated increase in premiums due to the proposed regulation would be about 0.6% and would pose no significant risk to small business creation or employment.

Government Code sections 11346.3(c)(1)(A) through (C)

The proposed major regulations will have a minimal effect on overall employment within the State of California (Government Code section 11346.3(c)(1)(A)), no measurable impact on the creation of new businesses or the elimination of existing businesses within California (Government Code section 11346.3(c)(1)(B)), and no measurable impact on the competitive advantage of businesses currently doing business within the state (Government Code section 11346.3(c)(1)(C)).

Government Code section 11346.3(c)(1)(D) through (F)

The Department has also assessed whether and to what extent the proposed regulations affect other criteria set forth in Government Code sections 11346.3(c)(1)(D) through (F).

Impact on Investment in the State
Since this regulation deals with adequate access to networks of hospitals, specialists, and doctors, it will probably not have any effect on capital investments, equipment, structures or real estate investments made in California (Government Code section 11346.3(c)(1)(D)).

Effect on Incentives for Innovation in Products, Materials, or Processes
The assurance of coverage or enhancement of coverage made possible by this regulation may incentivize telemedicine. Since the regulation is intended to minimize the burden of unanticipated costs coming from out-of-network providers, insurers may make investments in telemedicine and other technology saving practices in order to keep costs down and provide timely access.

Worker Safety and Environmental Effects

The changes in the proposed regulations will not impact worker safety. Compliance with the proposed regulations does not change the nature of existing job responsibilities of employees in affected industries. Thus, the proposed regulations will neither increase nor reduce worker safety. The Department has also concluded that there would be no effect on the state's environment.

Health and Welfare Effects

The Department has determined that the proposed regulations will be beneficial to the health and welfare of California residents per Government Code section 11346.3(c)(1)(F). Consumers will have improved standards for access that they can use to hold their health insurer accountable. These standards include the maximum days waiting for appointments, the typical distances they must travel to access care, and the availability of staff to answer their concerns and schedule appointments. Additionally, consumers will have access to enhanced provider directory information for making informed choices between plans and providers.

Analysis of Alternatives to the Proposed Regulation

Prior to noticing the permanent regulations, the Department held public meetings on December 10, 2013 and June 30, 2014 regarding potential revisions to the existing network adequacy regulation, soliciting alternatives for a regulatory approach. The invitation for the June 30, 2014 public meeting stated:

> The Commissioner is proposing to update these regulations and advance the benefits afforded to health care insurance consumers required by Insurance Code Section 10133.5. This includes, but is not limited to, greater assurance of accessibility to provider services in a timely manner for the covered insurance benefits and to require the establishment of insurer health care provider networks that have adequate numbers of providers and locations relative to the locations in which consumers reside or work. The regulations will also require additional information be provided to consumers regarding availability and choice of providers and set standards for the time to access provider services.
>
> Please be prepared to specifically provide comment or input regarding any alternatives to these regulations that may be more cost effective and will provide equivalent benefits as those noted above along with any supporting data or documentation.

Based on the information obtained a those public meetings, the Department's research, and the additional public input received by the Department related to the corresponding emergency regulations, the Department considered the following alternatives:

Alternative 1: Follow Federal guidelines such as Medicare Advantage time and distance standards.
The Department considered changing the existing time and distance standard to use an approach similar to that of Medicare Advantage, which characterizes each county as being in one of five categories (large metro, metro, micro, rural, and Counties with Extreme Access Considerations), and within that framework sets different specialist access requirements for a range of specialties for each of the five categories of counties. In the Medicare Advantage approach, time and distance standards for some specialists outside urban areas may be less stringent than those within urban counties.

Primary advantage of the Medicare Advantage model proposed in this alternative is that its requirements vary based on the category assigned to a given county, which may correlate to a degree to the availability of providers and facilities within those counties. For densely urban counties, this would likely result in time and distance standards more stringent than those currently in the regulation, with a potential decrease in out-of-network claims which would save money for urban households and policyholders. Other benefits include improved access to and availability of in-network providers, better continuity of care, lower emergency room costs and utilization, higher utilization of clinically proven services, and fewer deterrents to routine care. In general, this proposed alternative would likely offer urban households a higher quality of care. However, as the Medicare Advantage access standard varies by county category, these potential advantages would not be realized statewide.

Using the same actuarial model as described above, but with different assumptions regarding the percentage of providers included in the network and their average discount, the estimated direct cost impact of this alternative on provider costs is $60 million. The Department assumes that insurers would have to significantly expand their provider network to be in compliance with the Medicare Advantage alternative. As such, they are likely to have to negotiate higher cost contracts with a number of different providers in order to bring them into their network. Since the cost impact largely depends on how many additional providers an insurer will have to add to their networks and the Medicare Advantage standards set a broad network, it is assumed that costs would increase significantly.

Reasons for rejecting Alternative #1
The Department was concerned that the approach of designating entire counties as distinct network regions may not be appropriate in California, where large counties such as Riverside or San Bernardino have dense urban areas and are characterized as metropolitan, yet also have very large, sparsely populated areas where a metropolitan based standard may not be appropriate. Additionally, there are concerns that the Medicare Advantage model might unduly restrict availability of insurance plans because there are ten counties in California without Medicare Advantage plans (Butte, Glenn, Inyo, Lake, Lassen, Mono, San Benito, Sierra, Tehama, and Tuolumne). The Department was also concerned that Medicare Advantage mostly serves a population of consumers over 65, and that therefore the number of specialists required to serve a Medicare population would not be a representative model for the general population.

The Department determined that the above concerns coupled with the cost of using the Medicare Advantage model make it unrealistic as a cost-effective alternative for California at this time.

Alternative #2: Adopt the DMHC network adequacy regulations without modification

The Department considered adopting the Department of Managed Health Care (DMHC) provider network adequacy regulation language in its entirety. The Department representatives met with counterparts at DMHC regarding their network adequacy regulations and discussed what has worked the best for them. The Department then applied its expertise in the regulation of Preferred Provider Organizations (PPO) and determined that not adopting certain exemptions in the DMHC regulation, such as provision for alternative timeliness standards in 28 CCR 1300.67.2.2(f), and the alternate quality assurance processes in 28 CCR 1300.67.2.2(d)(2)(F), provided better consumer protection in a marketplace transformed by the Affordable Care Act. The Department conducted an economic analysis of this alternative and found no discernable difference between the cost-and-benefit estimates of this alternative compared to the estimates for the proposed regulation.

Reasons for rejecting Alternative #2
This alternative was not fully rejected, as many of the DHMC guidelines are in the proposed regulation. However, as noted above, the Department determined that a complete adoption of DMHC guidelines would be undesirable due to changes in the health coverage marketplace since DMHC's adoption of its revision to its network adequacy regulation in 2009. These marketplace changes result from the new federal ACA and related state legislation. Also, the Department determined that the differences between the respective regulated markets called for variation in approach. This led the Department to develop its proposed regulation considering, in part, the DMHC regulation, as well as other sources such as feedback from two public discussions, and laws in other states that have already adopted network provisions related to the ACA.

The Department determined that, in addition to using many provisions of the DMHC regulations, it was important to consider subsequent changes in state and federal law, current market conditions resulting from federal and state health reform, and the network adequacy approaches used by other states in response to new federal requirements in developing the proposed regulation.

Conclusion

The Department has determined that the proposed regulations are the most cost-effective solution to the problem. The Department had two public hearings for stakeholder input. Currently, especially in the individual and small group markets, some insurers are responding to market changes by limiting choice and access thereby limiting premium increases or plan costs. The proposed regulations seek a delicate balance between low cost premium options and the unplanned surprises of high out-of-network costs. The proposed regulations will also foster choice in the insurance marketplace while mitigating the health and financial impacts of delayed or foregone care. As demonstrated in the "Cost/Benefit Analysis" section, the Department projects that the proposed regulations will only have a small impact on the California economy.

Standardized Regulatory Impact Analysis: Appendix A

Network Adequacy Regulation

Citations for Studies Referenced in SRIA Benefits Section Titled *Improving Health Outcomes*

1. *Increased Risk of Death among Uninsured Neonates*, Frank H. Norris Jr, Health Services Research 48:4 (August 2013)

2. *Insurance Status, Not Race, is Associated with Mortality after an Acute Cardiovascular Event in Maryland*, Derek K. Ng et al., Journal of General Internal Medicine, July 21, 2012

3. *Association of Health Insurance Status with Presentation and Outcomes of Coronary Artery Disease among Nonelderly Adults Undergoing Percutaneous Coronary Intervention*, Puja B. Parikh, MD, et al., American Heart Journal , September 2011

4. *Risk of Cardiovascular Events and Death – Does Insurance Matter?,* Angela Fowler-Brown, MD, MPH, et al., Journal of General Internal Medicine, February 16, 2007

5. *The Effect of Health Insurance on the Treatment and Outcomes of Patients with Colorectal Cancer*, Alexander A. Parikh, MD. MPH, et al., Journal of Surgical Oncology, 110: 2014

6. *Delayed Access to Health Care and Mortality*, Julia C. Prentice PhD. and Steven D. Pizer PhD., Health Research and Educational Trust, 2006 [DOI: 10.1111/j.1475-6773.2006.00626.x]

7. *Health Insurance and Mortality in US Adults*, Andrew P. Wilper, MD, MPH, Steffie Woolhandler, MD, MPH, et al., American Journal of Public Health, December 2009

Standardized Regulatory Impact Analysis: Appendix A

Description of Lives Saved Calculation

Definition of Symbols:

X	Estimated under-65 population of California in 2015 excluding Medi-Cal
p	Proportion of 'X' with Health Coverage
q	Percentage of insured Californians in 2015 that will benefit from **CDI's proposed network regulation**
r	Percentage of insured Californians considered "in-network" ***before adoption* of proposed regulation**
s	Percentage of insured Californians considered "in-network" ***after adoption* of proposed regulation**
ω	Anticipated mortality rate of Californians in 2015, ***before adoption* of proposed regulation**
α	Relative mortality (Odds Ratio) of uninsured to insured *before **adoption* of proposed regulation**
β	Relative mortality (Odds Ratio) of insureds **using out of network services** to insureds **using network services**
$\omega_{i(pre)}$	Mortality rate of **insured** Californians in 2015, ***before adoption* of proposed regulation**
$\omega_{i(post)}$	Mortality rate of **insured** Californians in 2015, **after *adoption* of proposed regulation**
ω_u	Mortality rate of **<u>uninsured</u>** Californians in 2015
N	Number of lives that may be saved in 2015 if the proposed regulation is adopted

Standardized Regulatory Impact Analysis: Appendix A

<u>Deriving the Formula</u>

Following the adoption of the proposed regulation we anticipate, N, the number of lives saved to be:

$$N = X \times p \times q \times (\omega_{i(pre)} - \omega_{i(post)}) = X \times p \times q \times \omega \times (s - r) \times (\beta - 1)/[(p + \alpha \times (1-p)) \times (r + \beta \times (1-r))].$$

Derivation of the formula for the number of lives saved:

From the definition of odds ratio we have:

$$\text{Odds Ratio: } \alpha = \omega_u / \omega_{i(pre)}. \tag{1}$$

Also, the overall mortality rate of population is a weighted average of the mortality rate of insured and uninsured. Therefore, we can write:

$$\omega = \omega_{i(pre)} \times p + \omega_u \times (1 - p). \tag{2}$$

Substituting $(\omega_{i(pre)} \times \alpha)$ for ω_u from equation (1) above, we have:

$$\omega = \omega_{i(pre)} \times p + \omega_u \times (1 - p)$$

$$= \omega_{i(pre)} \times p + \omega_{i(pre)} \times \alpha \times (1 - p) = \omega_{i(pre)} \times (p + \alpha \times (1 - p)). \tag{3}$$

Solving equation (3) above for $\omega_{i(pre)}$, we have:

$$\omega_{i(pre)} = \omega / (p + \alpha \times (1 - p)). \tag{4}$$

Next, let:

ω_{ii} Mortality rate of **insured** Californians in 2015 who receive all their services in network

ω_{io} Mortality rate of **insured** Californians in 2015 who receive all their services out of network

Using the above assumption, we can write:

$$\omega_{i(pre)} = \omega_{ii} \times r + \omega_{io} \times (1 - r), \tag{5}$$

Here r represents the percentage of insured Californians receiving services in network **before the proposed regulation.**

And, from the definition of β, the odds ratio of insureds receiving out-of- network services to insureds receiving services in network, we can write:

$$\omega_{io} / \omega_{ii} = \beta. \tag{6}$$

Substituting $(\omega_{ii} \times \beta)$ for ω_{io} from equation (6) above we get:

$$\omega_{i(pre)} = \omega_{ii} \times r + (\omega_{ii} \times \beta) \times (1 - r) = \omega_{ii} \times (r + \beta \times (1 - r)). \tag{7}$$

Solving equation (7) for ω_{ii}, we get:

$$\omega_{ii} = \omega_{i(pre)} / (r + \beta \times (1 - r)). \tag{8}$$

And, from equation (6) and (8) we get:

$$\omega_{io} = \omega_{ii} \times \beta = \beta \times \omega_{i(pre)} / (r + \beta \times (1 - r)). \tag{9}$$

After the proposed regulation is adopted, the percentage of claims originating in network will increase from r to s, and hence the morbidity rate of insureds *after the adoption* **of proposed regulation** will be:

$$\omega_{i(post)} = \omega_{ii} \times s + \omega_{io} \times (1 - s). \tag{10}$$

Substituting values of ω_{ii} and ω_{io}, from equations (8) and (9) into equation (10), we get:

$$\omega_{i(post)} = (\omega_{i(pre)} / (r + \beta \times (1 - r))) \times s + (\beta \times \omega_{i(pre)} / (r + \beta \times (1 - r))) \times (1 - s)$$

After some simplification, we get:

$$\omega_{i(post)} = \omega_{i(pre)} \times (s + \beta \times (1 - s)) / (r + \beta \times (1 - r)). \tag{11}$$

And, the number of lives saved can be calculated using the following formula:

$$N = X \times p \times q \times (\omega_{i(pre)} - \omega_{i(post)}).$$

Substituting for $\omega_{i(pre)}$ and $\omega_{i(post)}$ from equation (4) and (11) we get:

$$\mathbf{N = X \times p \times q \times (\omega_{i(pre)} - \omega_{i(post)}) = X \times p \times q \times \omega \times (s-r) \times (\beta-1)/[(p+\alpha \times (1-p)) \times (r+\beta \times (1-r))]}$$

Numerical Estimate of Lives Saved:

Using the foregoing model, CDI's Health Actuarial Office (HAO) calculated a total estimate of lives saved annually due to the proposed regulation at between 17 and 42 lives. The midpoint for illustration purposes is 26. The following values and assumptions were used in this model:

X, Estimated under-65 population of California in 2015 excluding Medi-Cal: 24.7 million. The California Department of Finance projects a California population for 2015 of 38.8 million.[12] Medi-Cal and over 65 populations were then excluded using population estimates by

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[12] State of California, Department of Finance, Report P-1: State and County Total Population Projections, 2010-2060. Sacramento, California, January 2013. Accessed December 4, 2014. http://www.dof.ca.gov/research/demographic/reports/projections/P-1/documents/P-1_County_CAProj_2010-2060_5-Year.xls

the California Health Benefits Review Program (CHBRP) in a Brief titled "Estimates of Sources of Health Insurance in 2014"[13]

p, Proportion of X with Health Coverage: 88.5%. This estimate is based on data from a Brief published by the CHBRP "Estimates of Sources of Health Insurance in 2014".

q, Proportion of (p*X) subject to proposed regulation: 9.8%. This estimate is based on data from a Brief published by the CHBRP "Estimates of Sources of Health Insurance in 2014". This represents the proportion of CDI regulated business to all people with health coverage in the under 65 California population excluding Medi-Cal.

r, Percentage of insured Californians designated as "In Network" *before adoption* **of proposed regulation:** Although in fact many individuals do receive services both in and out of network, the model makes the simplifying assumption that each member receives all his or her services in network or out of network but not both. The model designates members as having in- or out-of-network status in the same proportion as dollars are billed in or out of network, i.e. "r" and "1-r". "r" is therefore assigned the value of **87.2%,** which is the weighted average of the pre regulation participation assumptions used in table 3 of the SRIA.

s, Percentage of insured Californians designated as "In Network" *after adoption* **of proposed regulation:** For this value we use **89.8%**, which is the weighted average of the post regulation participation assumptions used in table 3 of the SRIA.

α, ratio of uninsured mortality to insured mortality: 1.4 is the hazard ratio found in the American Journal of Public Health Article published in 2009.[14]

β, The estimated mortality of individuals designated as "out of network" relative to the mortality of individuals designated as "in network": 1.30.

Derivation of the estimate: The studies cited in this Appendix suggest that an individual's expected mortality is related to access to care, which in turn is related to network status. Out-of-network members are found to have inferior access with respect to waiting times, distance traveled and out-of-pocket costs, all of which constitute barriers to care.

Waiting time alone can constitute a significant barrier to care and can influence mortality, as shown in the VA study where those patients with waiting times of over 30 days had mortality 21% higher than those with waiting times less than 30 days (β of 1.21).

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[13] Estimates of Sources of Health Insurance in 2014, California Health Benefits Review Program, April 11, 2014 http://www.chbrp.org/other_publications/docs/Estimates_for_Sources_2015_Final_041114.pdf

[14] Health Insurance and Mortality in US Adults. Andrew P. Wilper, Steffie Woolhandler, Karen E. Lasser, Danny McCormick, David H. Bor, and David U. Himmelstein. American Journal of Public Health December 2009

Standardized Regulatory Impact Analysis: Appendix A

When estimating β, HAO took the results of the VA study into consideration as well as the impact of distance and travel time and financial barriers. Taking all of these factors into consideration, HAO conservatively estimated 1.3 for the value of Beta-higher than what was reported in the VA study because of the inferior access for out-of-network members vis-à-vis veterans, as mentioned above.

To test the sensitivity of this parameter HAO tested the model using a low β of 1.2 and a high value of 1.5. Using the range of βs, the estimate of lives saved ranges from 17 to 42. Again, the midpoint for illustration purposes is 26 (as summarized in the table below).

ω, Estimated mortality rate for X, under-65 population of California in 2015 excluding Medi-Cal: 0.175%. Overall California and National mortality rates were taken from a recent National Center for Health Statistics issue brief (NCHS).[15] The mortality rate for California excluding Medicare and Medi-Cal Populations was estimated using the NCHS issue brief along with census data and California market share estimates published by CHBRP (as noted in footnote 2).

Substituting the above values for each variable in the final formula, HAO obtained:
    N = Number of Lives that may be Saved in 2015 = 26.

Estimated Lives Saved		
X	California Under 65 Population, excluding Medi-Cal	24,710,019
p	Proportion of **X** with health coverage	88.5%
q	Proportion of **p*X** which is subject to regulation	9.8%
r	In-network participation %, pre-regulation	87.2%
s	In-network participation %, post-regulation	89.8%
α	Odds ratio, uninsured mort. / insured mortality	1.4
β	Odds ratio of out-of-network mort. / in-network mort.	1.3
ω	Mortality rate	0.175%
$\omega_{i(pre)}$	Insured mortality rate	0.167%
ω_u	Uninsured mortality rate	0.234%
ω_{ii}	Insured "in-network" mortality	0.161%
ω_{io}	Insured "out-of-network" mortality	0.209%
$\omega_{i(pre)}$	Insured mortality rate, pre-regulation	0.167%
$\omega_{i(post)}$	Insured mortality rate, post-regulation	0.166%
N	**Lives Saved**	**26**

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[15] Death in the United States, 2010. Miniño AM, Murphy SL. National Center for Health Statistics data brief, no99. Hyattsville, MD: 2012.

Standardized Regulatory Impact Analysis: Appendix B

Further detail regarding bankruptcy impact calculation

The potential consumer financial impact of delay in implementing the proposed regulation was adjusted by the following factors.

First, not everyone has health insurance. There are still many people without coverage, notwithstanding the advent of the requirements of the Affordable Care Act. The MBUS study found that only 60.3% of bankruptcy filers had private medical insurance, which means an estimated 47,000 filings for 2013 (77,958 x 60.3% = 47,009) could be attributed to those with private insurance. Additionally, the Department's analysis involved several other assumptions: (1) about 9.8% of those with private insurance are in CDI-regulated plans that would be affected by the proposed regulation; (2) the extension of coverage in 2014 and 2015 to the previously uninsured will lower bankruptcy rates by about 5% from 2013 levels; (3) the impact of the regulation due to the share of bankruptcies among individual and small-group policyholders is a reduction of about 10%; and (4) those with outstanding medical debt would file for bankruptcy at the same rate as they do currently. These combined impacts imply about 3,900 bankruptcy filings that would potentially be affected by the proposed regulation (47,009 x 9.8% x 95% x 90% = 3,939 (see Table 1)).

The potential magnitude of the impact of the proposed regulation also involves additional factors. First, out-of-pocket costs are typically higher for the uninsured than for those with private insurance. While the average out-of-pocket medical cost cited by the MBUS study was $17,943 in 2007, it was $17,749 for the privately-insured, and $26,971 for the uninsured. When adjusting the 2007 average medical cost of $17,749 for the privately-insured for medical care inflation, the value in 2013 is estimated to be $21,494. Multiplying the estimate of costs by the estimated number of medical bankruptcies results in a projected impact of $84.7 million (3,939 x $21,494). The $84.7 million is the 2013 total cost of bankruptcies due to large medical bills in CDI regulated markets. This figure was a starting point the Department's further actuarial analysis, while recognizing that not all of the 3,900 households would be equally affected by the proposed regulations.