



**A NEW VISION FOR CALIFORNIA'S HEALTHCARE SYSTEM:  
Integrated Care with Aligned Financial Incentives**

**Appendix V. Global Budgets/Integrated Care Systems  
(Initiative Memorandum)**

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## Appendix V. Global Budgets/Integrated Care Systems (Initiative Memorandum)

See “Appendix IV: Introduction to Appendices V-XI” for brief background on this Appendix.

### Executive Summary

Numerous public and private payment reform initiatives are designed to encourage a transition from fee-for-service to new payment models based on risk-adjusted global budgets and integrated systems of care. These initiatives attempt to improve upon the capitated payment models used in the 1990s, which caused a consumer backlash against health maintenance organizations (HMOs) and resulted in many provider organizations declaring bankruptcy after taking on too much financial risk.<sup>1</sup> In some risk-adjusted global budget models, patients are not restricted to a particular provider network as they are under an HMO. However, in other cases, global budgets are overlaid on an HMO product. Quality measures are central to a risk-adjusted global budget. Most agreements require providers to meet specific quality of care measures before they become eligible for shared savings or related rewards. Compared to a global payment, the financial risk facing providers under a global budget is better mitigated through shared risk agreements between payers and providers, as well as through the use of better risk-adjustment models and reinsurance. Global budgets are an important component of Accountable Care Organizations (ACOs), which are increasingly being used by both public and private payers.<sup>2</sup>

To estimate the expenditure reductions and costs associated with expanding the use of risk-adjusted global budgets and integrated care systems, we utilized studies that estimated expenditure reductions and costs, and then applied these estimates to the projected number of insured individuals that would be enrolled in a plan using a global budget. To estimate expenditure reductions, we used estimates from recent studies of ACOs that included global per member budgets for commercially insured individuals and for Medicare beneficiaries. We recognize that ACOs are not the only model of risk-adjusted global budgets and integrated care. However, ACOs are currently the only model that has been adequately studied, and are a proxy for the expenditure reduction potential of integrated care systems based on global budgets.

Based on these studies, we assumed annual expenditure reductions would range from a low of 2.8% to a high of 7.3% in the commercially insured and Medi-Cal populations, while the annual expenditure reductions would range from 0.5% to 1.4% in the Medicare population. We estimated the administrative and information technology costs of implementing an ACO with a global budget using studies from the

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<sup>1</sup> Frakt, et al. (2012).

<sup>2</sup> A global budget refers to a global healthcare budget for a defined population. Providers take upside (and potentially downside) risk on whether the budget is met, but often not 100% of the risk. Reimbursement for services may still be on a fee-for-service basis. In contrast, a global payment is akin to a risk-adjusted global per member per month capitated payment, wherein providers take both upside and downside risk at 100%, which can be mitigated through reinsurance.



Centers for Medicare and Medicaid Services (CMS), the Institute for Health Technology Transformation (IHTT), and the American Hospital Association (AHA). We assumed first-year start-up costs that ranged from \$1.8 million to \$3.6 million per ACO, assuming 20,000 members, with subsequent-year costs being 25% of first-year costs.

We estimate that approximately 23% of California's insured population received care in 2012 under a risk-adjusted global budget via Kaiser Permanente or an existing ACO.<sup>3,4</sup> Under our Current Developments scenario, we assume this percentage will increase to 45% of California's insured population by 2022 as ACOs and other integrated care models expand.<sup>5</sup> Under that scenario we estimate that healthcare expenditures would decrease between \$14.0 billion and \$37.9 billion in current-year dollars during the period 2013-2022, or 0.32%-0.86% of California's total projected expenditures under the status quo.

Under the more optimistic Forum Vision scenario, we assume 70% of California's insured population will receive care from an ACO or globally budgeted integrated care system by 2022. In this scenario we estimate that healthcare expenditures would decrease by \$30.9 billion to \$83.6 billion between 2013 and 2022, or 0.70%-1.91% of California's total projected healthcare expenditures under the status quo. In 2022, we estimate the percent expenditure reduction from this initiative will represent 2.6% of the status quo projections, because we assume the ACO/integrated care system penetration rate will be at its highest level (i.e., a full 70%) in that year.

## **The Underlying Situation**

In 2012, 44% of the California population received insurance through an HMO.<sup>6</sup> This share has remained relatively consistent over the last eight years and is more than double the rate for the United States as a whole.<sup>7</sup> However, many Californians still receive care in a fragmented system that fails to emphasize coordination of care or take into account the costs incurred outside of the primary care setting. Many HMO beneficiaries still receive care through fee-for-service payments to non-physician providers, with very limited or no financial risk borne by these providers. Some organizations, such as Kaiser Permanente, have mitigated some of the challenges of fragmented care and misaligned incentives by having a salaried physician organization, coupled with global payments that encompass virtually all of their members' healthcare needs. This aligns incentives throughout the organization, encouraging the delivery of more cost-effective, coordinated care.

However, for much of California's population, there still exists a significant opportunity to incentivize reduced expenditures and higher quality of care through risk-adjusted global budgets and improved

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<sup>3</sup> Cattaneo & Stroud Inc. (2012a).

<sup>4</sup> Cattaneo & Stroud Inc. (2012b).

<sup>5</sup> For the purposes of this analysis, insured Californians include those covered by all forms of public and private insurance. Kaiser Permanente members and others are already receiving care from highly or fully integrated systems, some which use global payments

<sup>6</sup> Cattaneo & Stroud Inc. (2012a).

<sup>7</sup> Kaiser Family Foundation (1993-2003); California HealthCare Foundation. (2004-2011).



integration of care.<sup>8</sup> Incentives must be created beyond existing HMO structures to cover more providers across the care continuum. In doing so, physicians and hospitals must have the freedom to reorganize and redesign care delivery specifically for their patient populations and their provider networks. To incentivize physicians and hospitals to invest in care redesign and take the risk of losing fee-for-service revenue, risk-adjusted global budget contracts allow them to share in any expenditure reductions they help bring about. This payment model can also support population health by creating incentives for individuals to stay healthy, such as subsidizing access to physical fitness, providing health and nutritional education, and encouraging immunizations.

Medicare and private insurers have attempted to align incentives with providers by encouraging the creation of ACOs. In an ACO, a group of primary care physicians, specialists and typically at least one hospital establish a contract to assume responsibility for the comprehensive care of a group of patients. These providers may be paid directly via fee-for-service or capitation, but all share a common goal of keeping total patient costs within a risk-adjusted global budget. ACO contracts with payers allow providers to share in potential savings in the form of bonuses. They also must meet established quality targets in order to qualify for shared savings. Global budgets with quality of care goals are not unique to ACOs, but could be linked to such other managed care product types as HMOs. We acknowledge that ACOs vary greatly in their size, structure, payment mechanisms and management approach. Therefore, when we discuss ACOs in this appendix, we do not refer to a specific model or insurance product, but instead to entities using an integrated care system that:

- Provides care for specified group of patients who can also generally receive care outside the ACO,
- Operates under a global budget or spending target,
- Reports and receives incentives related to quality of care, and
- Shares financial risk.

The ACO model evolved partially out of the Medicare Physician Group Practice Demonstration (PGPD) and was formalized in the Affordable Care Act as the Medicare Shared Savings Program (MSSP). MSSP ACOs can utilize a “one-sided” shared savings model, in which providers may share in cost savings if they stay below a target budget for their population’s care, but face no financial risk if their costs exceed it. The alternative “two-sided” model shifts at least some of this downside risk to the provider, but allows for a higher shared savings rate in exchange for that risk. CMS’s Pioneer ACO program is based on a “two-sided” model.<sup>9</sup> Although the ACO model was initially developed to lower costs for Medicare beneficiaries, ACOs caring for commercially insured patients are spreading rapidly.<sup>10</sup> It is estimated that

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<sup>8</sup> In California’s dual regulatory structure, capitation arrangements are restricted to Department of Managed Health Care Health Maintenance Organization (HMO) products, and are not allowed in Department of Insurance Preferred Provider Organizations (PPOs). Therefore, this report primarily uses the broader terminology of “global budgeting” rather than “global payments.” Global budgeting refers to a global healthcare budget for a defined population, and providers take upside (and potentially downside) risk on whether the budget is met, but not necessarily 100% of the risk. Reimbursement for services may still be on a fee-for-service basis. In contrast, a global payment is akin to a risk adjusted global per-member per-month capitated payment system in which providers take both upside and downside risk at 100%, which can be mitigated through reinsurance.

<sup>9</sup> Centers for Medicare and Medicaid Services (2012).

<sup>10</sup> California HealthCare Foundation (2012).



623,700 Californians are currently served by one of 41 official, operational ACOs, as tracked by Cattaneo & Stroud Inc. As of January 2013, Los Angeles County's 16 ACOs covered approximately 213,000 patients, followed by Orange County's 11 ACOs covering 94,600. Enrollment in California ACOs varies from as few as 500 patients to as many as 68,000, the latter the number of enrollees in the Heritage Provider Network's Pioneer ACO.<sup>11</sup>

## Proposed Initiative

This initiative would expand the number of ACOs and other integrated care systems in California to better align clinical and financial incentives. While additional incentives may be required in the Medicare market to spur adequate ACO formation, commercial insurers and providers are already experimenting with ACOs to hold down costs and to compete with Kaiser Permanente's integrated model.

## Previous Studies

Table 1 includes six studies that estimate expenditure reductions from ACOs using a risk-adjusted global budget. Studies 1, 2 and 4 are based on actual ACOs, while Studies 3, 5 and 6 are based on projections or simulations. Studies 1, 2 and 3 include enrollees in commercial ACOs, while Studies 4 and 5 include enrollees in Medicare's pilot ACO initiatives or its Shared Savings Program. Study 6 includes both public and privately insured populations.

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<sup>11</sup> Cattaneo & Stroud Inc. (2012a).



**Table 1: Expenditure Reduction Estimates from Accountable Care Organizations and Global Budgets**

Study	Insurance Type	Population	Annual Expenditure Reduction <sup>12</sup>
1. Blue Shield CalPERS ACO <sup>13</sup>	Commercial	Blue Shield of California CalPERS commercial HMO enrollees	7.3%
2. Alternative Quality Contract <sup>14</sup>		Blue Cross Blue Shield of Massachusetts HMO enrollees	2.8%
3. Physician Group Practice Demonstration (PGPD) <sup>15</sup>	Medicare	Medicare fee-for-service beneficiaries who participated in the PGPD	1.4%
4. CMS Final Rule <sup>16</sup>		Projected enrollees in Medicare Shared Savings ACOs	0.5%
5. Shared Savings Program Diabetes Simulation <sup>17</sup>		Medicare Diabetes Patients	0%
6. Lewin Group <sup>18</sup>	Commercial and Public	All non-HMO patients in New York State	4.5%

Next, we summarize the studies listed in Table 1 and discuss each in more detail. Two studies estimate expenditure reductions from commercial ACO pilot programs in California and Massachusetts, respectively. For commercial enrollees, Markovich estimated expenditure reductions of an ACO involving CalPERS beneficiaries in Sacramento over two years to be 7.3%<sup>19</sup> per year.<sup>20</sup> Song and colleagues estimated the expenditure reductions of ACO participants in Massachusetts' Alternative Quality Contract (AQC) over two years to be 2.8% per year.<sup>21</sup>

For Medicare enrollees, estimated expenditure reductions were much lower. A study of the spending from the five-year Medicare Physician Group Practice Demonstration estimated savings to be 1.4% per year.<sup>22</sup> In addition, we evaluated the CMS final ruling on the Medicare Shared Savings Program.<sup>23</sup> Their projected expenditure reductions for the first three years of the program were estimated to be 0.5% per

<sup>12</sup> Annual savings are relative to the study's projected per-capita healthcare costs for the control group or general population.

<sup>13</sup> Markovich (2012).

<sup>14</sup> Song, et al. (op. cit.).

<sup>15</sup> Colla, et al. (2012).

<sup>16</sup> Department of Health and Human Services (2011).

<sup>17</sup> Eddy, et al. (2012).

<sup>18</sup> Lewin Group (2010).

<sup>19</sup> Expenditure reductions in studies of ACOs generally refer to health plan costs saved. We acknowledge these saving estimates do not account for portions of costs shared with the patient. Data was not available on total costs saved inclusive of patient costs.

<sup>20</sup> Markovich (2012).

<sup>21</sup> Song, et al. (2012).

<sup>22</sup> Colla, et al. (2012).

<sup>23</sup> Department of Health and Human Services (2011).





year. Eddy, et al. conducted a simulation of the Medicare Shared Savings Program for diabetes patients, but did not find any savings.<sup>24</sup>

The final ACO expenditure reduction estimate is based on the potential expenditure reductions that would be generated if ACOs were expanded across New York State's non-HMO population, including both publicly and privately insured patients. The Lewin Group estimated the savings to be 4.5% per year against the baseline.<sup>25</sup>

## Commercial ACO Studies

### *Blue Shield of California CalPERS ACO (Sacramento, California)*

In 2009, Blue Shield of California partnered with Hill Physicians and Dignity Health to create an ACO for 41,000 commercial HMO CalPERS beneficiaries in the Sacramento area. The three partners were looking to combat rising costs and competitive threats from Kaiser Permanente. CalPERS received a guaranteed premium credit of \$15.5 million in the first year that came from all three partners, establishing the impetus for them to collaborate to reduce expenditures.<sup>26</sup>

The three partners created a global per-member per-month spending target. However, physicians at Hill Physicians continued to be paid via capitation, as they had always been, while Dignity Health continued to be paid on a fee-for-service basis for hospital services. Together, working within a target global budget for the CalPERS population, they shared the risks and rewards across the three entities, based on their relative ability to control certain elements of cost and quality. For example, Dignity Health took on more risk related to facility costs, while Hill Physicians took on more risk for professional services.<sup>27</sup> However, each of the three organizations had a stake in every component of healthcare costs.

For the years 2010 and 2011, the ACO delivered \$37 million in savings to CalPERS and an additional \$8 million shared among the partners.<sup>28</sup> This represented 7.3% lower annual expenditures versus the comparison group, which was comprised of all other CalPERS beneficiaries.<sup>29</sup> For the two-year period, the rate of expenditure increase for the ACO enrollees was approximately half that of the comparison group. Approximately half of the expenditure reductions were from decreased utilization, with the other half were from patients utilizing lower-cost facilities. The ACO facilitated the decrease in utilization primarily by lowering the total number of inpatient days, which decreased by about 15% (on a per thousand member basis) over two years. In addition, 30-day readmissions rate fell 15%.<sup>30</sup>

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<sup>24</sup> Eddy, et al. (2012).

<sup>25</sup> Lewin Group (2010).

<sup>26</sup> Markovich (2012).

<sup>27</sup> Ibid.

<sup>28</sup> Ibid.

<sup>29</sup> In his Health Affairs article, Markovich does not calculate the annualized percentage savings over the two-year period. However, using the dollar savings rates provided in the study alongside the annual percentage savings, we calculated the figure ourselves.

<sup>30</sup> Ibid.



This study of the CalPERS ACO has some limitations. The study cautions that ACOs and global budgets work best to achieve expenditure reductions when used on a relatively small, tightly integrated network of patients and providers. If there are fewer provider relationships to manage, care coordination can more effectively reduce utilization.<sup>31</sup> It is possible that this particular ACO generated exceptional expenditure reductions because of the existing level of integration and partnership among the providers involved. In addition, the 10% first-year expenditure reduction versus the control group was not sustained, and was partially reversed during the program's second year. This raises the question of whether the 2010 expenditure reductions were caused by genuine sustainable gains in efficiency, or whether another factor temporarily lowered utilization, such as patients deferring expensive care. The study notes that an unexpected increase in catastrophic costs created the majority of the difference between 2011 and 2010. Without additional years of data, it is difficult to determine whether the program's annualized expenditure reduction rate of 7.3% is representative of the potential of this ACO model.

### ***The Massachusetts Alternative Quality Contract***

In 2009, Blue Cross Blue Shield of Massachusetts (BCBSMA) contracted with seven providers and established a global budget arrangement for each provider group known as the Alternative Quality Contract (AQC). In 2010, four additional providers joined. The providers include integrated systems, physician-hospital organizations, multi-specialty groups and independent practice associations. Eligibility for the AQC requires that a group include primary care physicians who collectively care for at least 5,000 members of BCBSMA HMO plans.

The AQC's model for ACOs is less integrated than the one employed by the Blue Shield of California CalPERS ACO. The provider groups and Blue Shield of California integrated their processes very tightly in order to recover guaranteed savings paid in advance to CalPERS. By comparison, the AQC model for physician group-based ACOs requires less integration and may be easier to expand to include many physician groups. Very few hospitals have been involved in the AQC thus far, and employers are not guaranteed upfront savings.

A 2012 study by Song and colleagues utilized a differences-in-differences approach to estimate the effect of the AQC on expenditures per enrollee.<sup>32</sup> The study population was BCBSMA enrollees who were continuously enrolled for at least one calendar year. Participation in the contract over the two-year period studied (2009 and 2010) yielded an annual per-member expenditure reduction of 2.8% (1.9% during Year 1 and 3.3% in Year 2) compared to spending in non-participating groups.<sup>33</sup>

The study also divided the enrollees into "prior-risk" and "no prior-risk" subgroups. The "prior-risk" group consisted of the four organizations (covering 88% of enrollees in the study) with previous

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<sup>31</sup> Ibid.

<sup>32</sup> Song, et al. (2012).

<sup>33</sup> Ibid.





experience managing risk-based contracts with BCBSMA, and accounted for 88% of the enrollees. The remaining 12% were in the “no prior-risk” group, which included the other physician organizations that had previously managed only fee-for-service contracts with BCBSMA. The study found that expenditure reductions were substantially larger in the no-prior-risk subgroup. The no-prior-risk group showed a reduction of 6.3% in Year 1 and 9.9% in Year 2, for an 8.2% annualized expenditure reduction over the two years. By comparison, members of the prior-risk group did not significantly decrease their utilization, achieving reductions of only 1.1% for Year 1 and 1.9% for Year 2.<sup>34</sup>

Song et al. stated that the AQC’s savings resulted from the lower unit costs achieved by the use of less expensive facilities for procedures, imaging and tests, and from the reduced utilization rates among some groups. Estimates from Year 1 revealed that reductions in utilization relative to the control group accounted for about 50% of the savings.<sup>35</sup> The study’s breakdown of prior-risk and no prior-risk provider organizations suggests that a large proportion of the utilization decrease was concentrated among the relatively small group of patients with the no-prior-risk providers.

The expenditure decrease for patients whose physicians had risk management experience with BSBCMA was modest, indicating they likely had already achieved higher levels of efficiency and could not significantly reduce utilization. However, the findings in the no-prior-risk group of providers are promising. These findings indicate that fee-for-service beneficiaries in California who enter an ACO model similar to the AQC could potentially achieve similar savings to those seen in the CalPERS ACO, in the 7-8% range.

## Medicare ACO Studies

### *Physician Group Practice Demonstration*

A recent study by Colla and colleagues estimates the expenditure reduction achieved by the five-year Physician Group Practice Demonstration (PGPD).<sup>36</sup> The PGPD was the predecessor to the Medicare Shared Savings Program (MSSP). Under the PGPD, participating physician groups received bonuses if they met quality targets and achieved savings beyond a 2% threshold for Medicare beneficiaries. Colla et al. use quasi-experimental analyses to compare pre- and post-intervention groups of Medicare beneficiaries who received care from a PGPD organization, compared to a control group of Medicare patients. They found a modest average annual expenditure reduction of 1.4% per beneficiary (\$114) as compared to the control group.<sup>37</sup>

As the study notes, the mean expenditure reduction masks significant heterogeneity across geographies and demographic groups. For example, the results from different provider groups ranged from annual savings of \$866 per beneficiary at the University of Michigan to an expenditure increase of \$749 per

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<sup>34</sup> Ibid.

<sup>35</sup> Ibid.

<sup>36</sup> Colla, et al. (2012).

<sup>37</sup> Ibid.



beneficiary at the Middlesex site. Furthermore, annual savings for Medicaid-Medicare “dual eligible” beneficiaries were \$532 per beneficiary.

Given this level of heterogeneity, we acknowledge that Medicare ACO expenditure reduction could be significantly higher or lower than 1.4% annually, depending on the population served and the care practices employed. As more providers care for increasing numbers of ACO patients, this could lead to spillover effects. Providers may redesign their practices if a greater proportion of their patients are part of ACO contracts with risk-adjusted global budgets. Finally, if disproportionate numbers of dual Medicaid-Medicare eligible individuals are included in successful ACOs, an increased rate of savings as shown in the PGPD may also reduce overall expenditures.

### ***Center for Medicare and Medicaid Projections***

In early 2011, CMS released its final ruling for the MSSP,<sup>38</sup> projecting MSSP ACOs would save Medicare \$510 million over the first three years. CMS released relatively little detail on its calculation process, but did show its range of estimates for savings (\$170 million to \$960 million), as well as for participation among Medicare recipients (1.5 million to 4 million). Assuming the midpoint of the estimates (i.e. 2.75 million Medicare beneficiaries were enrolled) and the midpoint of the savings estimate, this translates to only a 0.5% savings against status quo.

### ***Medicare Shared Savings Program Diabetes Simulation***

In a 2012 study, Eddy and Shah use a computer-based simulation to project the costs and savings associated with implementing the Medicare Shared Savings Program ACO model for diabetes patients.<sup>39</sup> The simulation found that a 10% increase in diabetes care quality measures under MSSP would yield no cost savings when accounting for new costs required by MSSP quality targets. Given that the study did not use observed cost data from ACOs and limited its focus to diabetes patients, we chose to not include its results in our expenditure reduction estimates.

## **Other ACO Studies**

### ***Lewin Group ACO Projections***

The Lewin Group’s report, *Bending the Healthcare Cost Curve in New York State: Options for Saving Money and Improving Care*, estimates the potential cost savings that would be generated if ACOs based on the independent practice association (IPA) HMO model were expanded across all of New York State’s insured population. The study’s “mandatory ACO model” scenario assumes New York could simply require all public and private payers (apart from those already enrolled in capitated HMO plans) to immediately adopt an ACO model.<sup>40</sup>

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<sup>38</sup> Department of Health and Human Services (2011).

<sup>39</sup> Eddy, et al. (2012).

<sup>40</sup> Lewin Group (2010).



Using previous estimates of the utilization reductions observed in IPA HMOs, Lewin calculates the 10-year impact of moving all non-HMO beneficiaries to ACOs similar to IPA HMOs. Lewin models this by applying the utilization reductions observed in studies of IPA HMOs to the aforementioned beneficiaries over 10 years. Lewin estimates that during this period, New York's total healthcare expenditures would be 4.5% lower than total projected expenditures.<sup>41</sup> These savings are somewhat lower than those observed under by the CalPERS ACO, but are higher than those in the Massachusetts AQC ACOs. Given that Lewin's analysis includes publicly and privately insured individuals and ACOs, their savings estimate provides us with a useful central anchor for the annual savings ranges we use in our model.

## Modeling Approach and Assumptions

This section describes how we estimated the expenditure reductions that would result during the period 2013-2022 by more Californians belonging to an integrated care system using a risk-adjusted global budget. It first describes how we used the estimated healthcare expenditure reductions in the above studies. That is followed by penetration assumptions, and then by our cost estimates for starting and maintaining an ACO or similar integrated care system.

### Commercial Beneficiaries' Healthcare Expenditure Reductions Assumptions

The two major studies on commercial ACOs with risk-adjusted global budgets<sup>42,43</sup> found significantly different rates of expenditure reduction. The differences may be the partial result of the different approaches to ACO development taken by Blue Shield of California (BSCA) in its CalPERS ACO and BCBSMA in its AQC. BSCA included a hospital group in its ACO and guaranteed savings to CalPERS up front. However, BCBSMA's ACO was based primarily on physician groups with no guaranteed savings. In addition to these two approaches, many other ACO and shared-risk integrated care models exist, and all of them are still evolving.

We estimate expenditure reductions from global budgets to range from a low of 2.8% annually from the Massachusetts Alternative Quality Contract to a high of 7.3% annually from the CalPERS ACO. This range is large, mainly because of the uncertainty regarding the structure that California ACOs will follow during the next 10 years.

### Medicare Beneficiaries' Healthcare Expenditure Reductions Assumptions

We rely on two estimates of expenditure reduction generated by Medicare ACO programs. We estimate that savings to California's Medicare beneficiaries will range from those projected by CMS for the Medicare Shared Savings Program's first three years (0.5% per year) for the lower-bound estimate,<sup>44</sup> to

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<sup>41</sup> Ibid.

<sup>42</sup> Markovich (2012).

<sup>43</sup> Song, et al. (2012).

<sup>44</sup> Department of Health and Human Services (2011).



those estimated by Colla and colleagues study of the Physician Group Practice Demonstration (1.4% reduction per year) for the upper-bound estimate.<sup>45</sup>

Because of existing federal law and incentives, California Medicare beneficiaries will likely enter into ACOs similar to those established via the MSSP. When it released the final rules on the MSSP, CMS offered low, median and high estimates for savings generated by the initial three-year MSSP. We used CMS' median estimate of \$510 million savings over three years for a predicted 2.75 million participants, to compute a \$61.82 per capita annual savings. The savings taken from a three-year average projected per capita expenditure of \$12,973 for Medicare enrollees is a modest 0.5%. Given that Colla et al. found savings of 1.4% annually, we model using an expenditure reduction range of 0.5% to 1.4% for Medicare ACOs. We acknowledge that these savings assumptions may be conservative, given the heterogeneity in the Colla et al. study of the PGPD, and the potential for higher expenditure reductions if dual Medicare-Medicaid beneficiaries are targeted by ACOs.

While this expenditure reduction rate for Medicare ACOs may seem low, the limited evidence thus far suggests that commercial ACOs have fared better at decreasing healthcare costs. This could be for a number of reasons. First, ACOs based on HMO insurance plans can limit the providers that patients visit, while Medicare ACOs cannot. In addition, the current MSSP shared savings mechanisms put providers at less risk for financial loss than the commercial ACOs studied here. In addition, insurers generally manage commercial ACOs, while hospitals and physician groups generally manage Medicare ACOs. In certain cases, there may be advantages to having commercial insurers serve as the arbiter among the different parties. Further study is needed to understand the expenditure reduction gap between commercial and Medicare ACOs.

### **Medi-Cal Beneficiaries' Healthcare Expenditure Reductions Assumptions**

California's Medi-Cal beneficiaries are increasingly enrolling in managed care. Partially because of relatively low provider reimbursement levels, Medi-Cal beneficiaries already have low per-capita expenditures as compared to participants in Medicaid programs in other states.<sup>46</sup> We did not find any studies of pilot programs or initiatives that place Medicaid beneficiaries in ACOs. Given the high rates of emergency department utilization and the care management complexity of many dual-eligible enrollees, there might be a significant opportunity for savings under ACO structures. These patients often face challenges to provider and specialty care access. These challenges could be better managed by ACOs.

We assume the expenditure reduction achieved in Medi-Cal ACOs will be the same as the commercial expenditure reduction rate, from a low of 2.8% to a high of 7.3%. We acknowledge that greater reductions may be achievable among the Medi-Cal population; however, no studies exist on potential ACO impacts for them.

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<sup>45</sup> Colla, et al. (2012).

<sup>46</sup> Medi-Cal had per-capita expenditures of \$3,527, as compared to Medicaid's national average of \$5,527. Source: Kaiser Family Foundation (2012).



### **ACO/Integrated Care System Penetration Rate Assumptions**

According to Cattaneo & Stroud Inc., as of January 2013, there were 41 ACOs operating in California, providing care to about 623,700 residents, or approximately 2% of the insured population.<sup>47</sup> This results in about 15,000 Californians per ACO. Combining these Californians with the 6.6 million enrolled in Kaiser Permanente plans,<sup>48</sup> we calculate that about 23% of insured residents receive their care via a risk-adjusted global budget from an organization similar to an ACO today. Under our Current Developments and Forum Vision scenarios, we assume 45% or 70% of insured Californians, respectively, will receive care under a global budget in an integrated care system such as an ACO.<sup>49</sup>

We assume ACO penetration will increase according to the typical S-curve of technology adoption, in which an initially low adoption rate is followed by a period of exponential growth, and then by slower growth. Our S-curve model assumes that California has already experienced most of the initial period of slow growth, and that ACO penetration will increase rapidly through 2017. We expect the years 2018-2022 to represent the flatter portion of the S curve, with ACOs seeing fewer new enrollees, reaching 45% and 70% penetration under each scenario, respectively.

### **Start-Up and Ongoing Maintenance ACO Cost Assumptions**

Estimates of the start-up and ongoing maintenance costs of operating an ACO vary substantially. Based on its own observations from the 2008 PGPD, CMS in 2011 estimated that average start-up and first-year costs for an ACO would be about \$1.76 million. Based on conversations with key opinion leaders, we assume an average ACO size of 20,000 members. This equates to \$7.50 per-member per-month. CMS acknowledged that costs varied substantially among their observed PGPD ACOs, up to a high of \$3.7 million, and that those organizations that already had well-established infrastructure, such as electronic medical record systems, may have been “uniquely suited” to ACO management.<sup>50</sup>

In 2011, the American Hospital Association (AHA) published its own study in response to the CMS estimates. It projected start-up and first-year costs ranging from \$5.3 million to \$12 million.<sup>51</sup> A report issued by the Institute for Health Technology Transformation (IHTT) estimated that the start-up and first-year costs would be \$7.5 million to \$11.3 million for a 200-bed hospital, and \$1 million to \$11.7 million for a 200-physician practice.<sup>52</sup> The significant variation in estimated costs across the studies is due largely to different assumptions about provider readiness to implement ACOs and integrated care systems, notably with regard to healthcare information technology. The AHA argues the CMS projections underestimate the information technology and information systems investments required to make a successful ACO and overstate a typical organization’s readiness and existing technology. The

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<sup>47</sup> Cattaneo & Stroud Inc. (2012b).

<sup>48</sup> Cattaneo & Stroud Inc. (2012a).

<sup>49</sup> Kaiser Permanente members and others are already receiving care from fully or highly integrated systems, some of which use global payments. The 45% and 70% goals target the population receiving care outside of fully or highly integrated systems using risk-based payments.

<sup>50</sup> Department of Health and Human Services (2011).

<sup>51</sup> Moore, et al. (2011).

<sup>52</sup> Barrett, et al. (2011).



AHA and IHTT studies estimate that on-going maintenance costs will be 15%-20% and 24%-28% of upfront costs, respectively.

The Blue Shield of California CalPERS ACO and Blue Cross Blue Shield of Massachusetts Alternative Quality Contract demonstrate that the definition of an ACO is quite broad, especially in the commercial market. As we have discussed, some ACOs may be highly integrated partnerships involving a single large multispecialty group, hospital and insurer, as was the BSCA CalPERS ACO. Alternatively, a hospital may not be involved, and the ACO may be a looser affiliation between IPAs and insurers, like in the BCBSMA AQC. Across this spectrum, upfront investments and ongoing maintenance costs may vary significantly. For our low-cost scenario, we estimate first-year (including start-up) costs of \$1.8 million, which aligns with CMS's low estimate, for each group of 20,000 individuals enrolled in an ACO, with expenses for each additional year of 25% of that amount. For our high-cost estimate, we double the low-cost estimate to \$3.6 million, consistent with the highest observed costs in the PGPD, and again figure 25% further costs in each subsequent year. We apply the low-cost estimate to our low-expenditure reduction estimate because achieving these reductions will likely involve less investment and on-going maintenance. We apply the high-cost estimate to our high-expenditure reduction estimate because achieving these reductions will likely involve more investment and ongoing maintenance.

## Estimated Impacts

Tables 2-3 show our healthcare expenditure reduction estimates.

**Table 2: Healthcare Expenditure Reduction Estimates Under the Current Developments Scenario, 2013-2022**

	2013		2022		2013-2022		
	Lower	Upper	Lower	Upper	Lower	Mid	Upper
Status quo expenditures (\$billion)	\$327.6		\$572.2		\$4,387.1		
Expenditure reduction (\$billion)	\$0.2	\$0.5	\$2.6	\$6.9	\$14.0	\$25.9	\$37.9
Expenditure reduction (%)	0.05%	0.15%	0.45%	1.21%	0.32%	0.59%	0.86%

**Table 3: Healthcare Expenditure Reduction Estimates Under the Forum Vision Scenario, 2013-2022**

	2013		2022		2013-2022		
	Lower	Upper	Lower	Upper	Lower	Mid	Upper
Status quo expenditures (\$billion)	\$327.6		\$572.2		\$4,387.1		
Expenditure reduction (\$billion)	\$0.4	\$1.3	\$5.5	\$14.8	\$30.9	\$57.2	\$83.6
Expenditure reduction (%)	0.12%	0.38%	0.97%	2.59%	0.70%	1.30%	1.91%

Table 2 shows that if ACOs were expanded to care for 45% of California's commercially insured, Medi-Cal and Medicare populations by 2022, healthcare expenditures are estimated to be between \$14.0 billion and \$37.9 billion lower in current-year dollars during 2013-2022, or 0.32%-0.86% of total projected expenditures under the status quo. Table 3 shows that under the more optimistic Forum Vision scenario, in which 70% of insured Californians receive care from ACOs by 2022, California healthcare expenditures are estimated to be from \$30.9 billion to \$83.6 billion lower through 2022, or





0.70%-1.91% of total projected expenditures under the status quo. At 2.59%, expenditure reductions are significantly higher in 2022 than in 2013, as many more Californians are projected to be receiving care from ACOs by then.

## Discussion

If ACOs were expanded to provide care to 45% of California's commercially insured, Medicare, and Medi-Cal populations by 2022, California healthcare expenditures are estimated to be between \$14.0 billion and \$37.9 billion in current-year dollars (or 0.32%-0.86% of projected expenditures) lower during 2013-2022. Under the more optimistic Forum Vision scenario, in which this share increases to 70%, the estimated expenditure reductions are between \$30.9 billion and \$83.6 billion, or 0.70%-1.91% of projected expenditures.

Our healthcare expenditure reduction estimates have three key limitations. First, our assumptions regarding the penetration levels of ACOs for the commercial, Medicare and Medi-Cal insurance populations are based on conversations with acknowledged experts from academia and industry who have insights into payment reform and the potential momentum for ACO development in California. We also considered the sustained level of penetration that HMO insurance products have achieved in California. However, there is little historical basis upon which to predict their future penetration levels.

Our second limitation involves the annual expenditure reductions percentages we use for ACOs. The Blue Shield of California CalPERS ACO and Blue Cross Blue Shield of Massachusetts Alternative Quality Contract, which are the two sources for our commercial ACO expenditure reduction estimates, cover only two years. Both BSCA and BCBSMA are currently developing strategies to achieve new expenditure reductions for their ACOs. Organizations not accustomed to collaborating with each other may need additional time to implement changes in their practices and cultures. This may be particularly true for the Medicare population, where the expenditure reduction estimates are much lower than they are for the commercial population. On the other hand, our expenditure reduction estimates could be overstated if the savings were the result of one-time rather than systemic effects. As the CalPERS ACO demonstrated, unforeseen expenditure increases occurred in the second year following expenditure reductions in the first year. These same issues apply to the Medicare studies. Finally, we were not able to de-couple the possible expenditure reductions inherent in risk-adjusted global budgets from the possible expenditure reductions that are inherent in the incentives provided by the structure of an ACO. The two are intertwined.

Our third limitation involves estimating the start-up and ongoing costs of an ACO with a risk-adjusted global budget. The existing estimates vary widely, because of uncertainties involving provider readiness to implement ACOs. Further research is needed to refine these estimates using real data from actual, operating ACOs.



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