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Sorting Out the Health Risk in California's State-Based Marketplace

Andrew B. Bindman, Denis Hulett, Todd P. Gilmer, and John Bertko

Objective. To characterize the health risk of enrollees in California's state-based insurance marketplace (Covered California) by metal tier, region, month of enrollment, and plan.

Data Source/Study Setting. 2014 Open-enrollment data from Covered California linked with 2012 hospitalization and emergency department (ED) visit records from statewide all-payer administrative databases.

Data Collection/Extraction Methods. Chronic Illness and Disability Payment System (CDPS) health risk scores derived from an individual's age and sex from the enrollment file and the diagnoses captured in the hospitalization and ED records. CDPS scores were standardized by setting the average to 1.00.

Principal Findings. Among the 1,286,089 enrollees, 120,573 (9.4 percent) had at least one ED visit and/or a hospitalization in 2012. Higher risk enrollees chose plans with greater actuarial value. The standardized CDPS health risk score was 11 percent higher in the first month of enrollment (1.08; 99 percent CI: 1.07–1.09) than the last month (0.97; 99 percent CI: 0.97–0.97). Four of the 12 plans enrolled 91 percent of individuals; their average health risk scores were each within 3 percent of the marketplace's statewide average.

Conclusions. Providing health plans with a means to assess the health risk of their year 1 enrollees allowed them to anticipate whether they would receive or contribute payments to a risk-adjustment pool. After receiving these findings as a part of their negotiations with Covered California, health plans covering the majority of enrollees decreased their initially proposed 2015 rates, saving consumers tens of millions of dollars in potential premiums.

Key Words. Health insurance marketplace, risk adjustment, CDPS health risk score

The Patient Protection and Affordable Care Act (ACA) created insurance exchanges and the opportunity for states to establish their own marketplaces. Sixteen states and the District of Columbia created their own marketplaces, and California has the largest based on number of enrollees in

its program called Covered California (The Henry J. Kaiser Family Foundation 2014). Most state-based marketplaces function as clearinghouses by contracting with all health plans that meet federal standards, but six, including Covered California, function as an active purchaser by limiting health plan participation and negotiating rates with health plans.

Negotiating rates with health plans requires an understanding of the underlying health risk of the enrolled population and how it is distributed among participating plans. The ACA requires states to use risk adjustment to redistribute premiums among all ACA-compliant health insurance products both within and outside of the marketplace (Center for Medicare & Medicaid Services 2014). Funds are transferred from lower risk to higher risk health plans. Risk adjustment typically uses 12 months of diagnostic information from claims or encounters and therefore the determination of whether a plan will contribute toward or receive funds from a risk-adjustment pool will not be known until more than a year after the open enrollment period. This creates financial uncertainty for health plans, which must set premiums for their second year of open enrollment prior to the availability of this information. For example, Covered California began its negotiation process with health plans for the 2015 open enrollment in June 2014, just 2 months after the end of the first year's open enrollment and prior to when many of the new enrollees would have used any services. The lack of reliable information on the health risk of a health insurance exchange's first year patient population, as well as the health risk of new individuals who might enroll during the second year of open enrollment, could lead plans to set rates unnecessarily high as they attempt to plan for an uncertain cost scenario.

To inform the negotiation process between Covered California and health plans for the second year of open enrollment, we characterized the underlying health risk of Covered California enrollees overall, by metal tier, state region, month of enrollment, and by plan using available statewide data external to that available from plans. This analysis was intended to help plans anticipate the health risk of enrollees in year 2 based on the trajectory observed in year 1, and to know at the time of the rate negotiations whether the plan was likely to have to pay into a risk-adjustment pool because the

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health risk of its enrollees in the current year was lower than the statewide average or if it would be receiving payments from that pool because its enrollees' health risk was higher than the statewide average.

This paper describes the methodology we used to rapidly characterize the health risk of Covered California's first-year enrollees. We also discuss how the research was used in the rate setting process for the second year of open enrollment and highlight the value of having a research partnership between a university and state health agencies as a means to facilitate a rapid translation of research into policy.

METHODS

Covered California's open enrollment ran from October 1, 2013, to March 31, 2014 (with an extension into April 2014 for consumers who had begun but not completed the process as of March 31st). We developed a health profile of all enrollees in a qualified health plan through Covered California as of May 1, 2014, by linking the information from the enrollment process to diagnostic information available in all-payer statewide hospital and emergency department (ED) databases. The enrollment information includes information on age, gender, social security number (SSN), rating region (based on county of residence), date of enrollment, selected health plan, metal tier, and health plan premium. We used SSNs in the enrollment file to create a list of unique individuals enrolled in insurance through Covered California. There were 4,364,973 unique SSNs entered into the Covered California website as of May 1, 2014. Of these, 1,341,528 either selected a plan using affordability credits (564,406) or effectuated their enrollment (777,122) through a payment. Of the 1,341,528 enrolled in a plan, we excluded 55,439 who were anticipated to qualify for Medicaid coverage (23,338) or who were enrolled in a dental only plan (32,101).

We used SSNs and date of birth information to perform a deterministic link among the resulting 1,286,089 in Covered California health plans to information on hospitalizations and ED visits available from the California Office of Statewide Health Planning and Development (OSHPD). OSHPD produces an annual file of all hospitalizations and ED visits to nonfederal acute care hospitals in California regardless of whether there is a payer for the service (Office of Statewide Health Planning & Development 2014). The ED file reflects only those ED visits that do not result in a hospitalization; ED visits that result in a hospitalization become a part of the OSHPD hospitalization

records. The OSHPD data include SSNs and birth date as well as information on a patient's diagnoses (up to 25) and the expected source of payment. The data linkage was performed at the California Department of Health Care Services behind the state agency's information firewall so as to protect the confidentiality of personal health information.

We elected not to use probabilistic matching techniques to enhance the match between the enrollment information from Covered California with the utilization data from OSHPD because this approach is more time-consuming than deterministic matching techniques that rely on unique identifiers, such as SSNs. We had only 2 months to complete the project between the time that the 2014 open enrollment period ended and negotiations between Covered California and health plans for the 2015 open enrollment period began. The data on SSNs were complete and presumed to be accurate in the Covered California enrollment data because they were the basis of checking with the Internal Revenue Service whether an individual qualified for an affordability credit to purchase a plan. Hospitals are required to accurately report SSNs to OSHPD. While SSNs may be lacking for undocumented residents and newborns, these individuals were effectively excluded from the study. Undocumented residents are not eligible to receive subsidies to purchase health insurance through Covered California, and thus are less likely to enroll. Infants were excluded because, at the time of this study, the most recent information available from OSHPD was for 2012. There were 7,169 Covered California enrollees who were excluded from analysis because they were not born as of January 1, 2012.

We created a risk score using an individual's age and sex from the Covered California enrollment file and all of the diagnoses captured for an individual from the hospitalization and ED files. An individual's risk score was derived using the Chronic Illness and Disability Payment System (CDPS), which is a risk-adjustment model that is used to adjust capitated premium payments to health plans (Kronick et al. 2000). We applied the prospective weights developed for Medicaid Temporary Assistance for Needy Families (TANF) populations, figuring it was most similar to the enrolling Covered California population using separate weights for adults and children (0–17) (University of California, San Diego 2012). CDPS risk scores are based on an individual's age, sex, and chronic disease diagnoses that are captured from hospitalizations, ED visits, and encounters in the ambulatory setting. We did not have the latter for this analysis, but hospitalizations and ED visits have a 70 percent correlation with all available diagnoses (hospitalization, ED visits, and ambulatory care) for a Medicaid population (data not shown). The risk

score for individuals who did not have a hospitalization or ED visit in 2012 is based only on their age and sex.

Consistent with the CDPS risk-adjustment methodology, we standardized risk scores by dividing the unadjusted values by the mean risk score for the entire Covered California population. Standardized health risk values less than 1 imply that on average an enrollee has a lower risk for health care spending than an average individual within the entire CC population; standardized scores greater than 1 indicate a higher risk for health care spending than the CC population as a whole.

We aggregated and calculated the mean standardized risk score and 99 percent confidence intervals for all individuals by metal tier (catastrophic, bronze, silver, gold, and platinum), state region, month of enrollment, and health plan recorded for them in the Covered California enrollment data. The metal tier reflects the percentage of the total cost of essential health benefits for which health plans are responsible. This is called actuarial value. Consumers purchasing health insurance through a state-based or federal health insurance marketplace can choose bronze plans, which have an actuarial value of 60 percent; silver plans, which have an actuarial value of 70 percent; gold plans, which have an actuarial value of 80 percent; or platinum plans, which have an actuarial value of 90 percent. Individuals under the age of 30 years or who qualify for a hardship exemption based on the cost of available plans relative to their income are also able to choose catastrophic health plans, which have an actuarial value of less than 60 percent.

Covered California aggregates the state's 58 counties into 19 rating regions, which reflect markets with different underlying costs for the provision of health care services. For 2014, Covered California invited 12 health plans to sell health insurance coverage in one or more of its 19 rating regions. Health plans selling health insurance coverage through Covered California are required to provide at least one choice at each of the four metal tiers as well as a catastrophic plan for eligible individuals. We have masked the names of Covered California health plans in the presentation of the results.

CDPS scores are calibrated against expected costs such that a 1 percent difference in standardized CDPS scores corresponds to a 1 percent difference in anticipated costs for the population. We used the combination of payments by individuals and any available subsidies in the Covered California enrollment file to calculate the average health insurance premium for a single adult across all participating plans.

We used the information on expected payer source available from the hospitalization and ED visit data to determine the prior insurance coverage

status of Covered California enrollees who had these events in 2012. To assess whether individuals' prior insurance status creates a bias in their calculated health risk scores, we examined the standardized CDPS scores among those with ED visits and hospitalizations stratified by whether they were uninsured. We also examined for each health plan the percentage of Covered California enrollees who were uninsured for hospitalizations and ED visits in 2012.

Data sharing necessary for this project was facilitated by data use agreements between the California Department of Health Care Services with Covered California and the California OSHPD. The University of California investigators performed the analysis using a deidentified version of the linked data. The study design and procedures were reviewed and approved by the University of California San Francisco Committee on Human Research.

RESULTS

The mean age of the 1,278,920 Covered California enrollees was 42 years old and fewer than 5 percent were children (Table 1). Females slightly outnumbered males. Among the 1,278,920 Covered California enrollees, 120,573 (9.4 percent) had at least one hospitalization (31,499) and/or ED visit (90,565) in 2012 that was identified in the linked all-payer statewide data. The rate of hospitalizations (2.5 percent) and ED visits (7.1 percent) in 2012 among the Covered California enrolled population was lower than the rate of hospitalizations

Table 1:   Age and Sex Distribution of Covered California Population and Subset with Hospitalizations and/or Emergency Department (ED) Visits

	Covered California Enrollees May 1, 2014 (N = 1,278,920)		Covered California Enrollees with Hospitalizations and/or ED Visits in 2012 (N = 120,573)	
	Number	*%*	*Number*	*%*
Age (years)				
0–17	57,942	4.5	1,799	1.5
18–44	578,390	45.2	61,163	50.7
45–64	634,655	49.6	57,072	47.3
65 and older	7,933	0.6	539	0.4
Female	661,097	51.7	72,008	59.7

Notes: Chi-square comparisons of distributions by age and gender $p < .0001$. Chi-square comparisons of distributions by 0–17, 18–44, and 45–64 years age bands with all other age bands $p < .0001$.

(5.5 percent) and ED visits (20.3 percent) for the statewide population under age 65 years.

Covered California enrollees ages 18–44 years were disproportionately more likely to have hospitalizations and/or ED visits (50.7 percent) than those in other age groups ($p < .0001$). Female enrollees were also overrepresented among those with hospitalizations and ED visits primarily related to births, which was the leading cause of hospitalizations (8.7 percent) in the Covered California population.

The mean unstandardized CDPS risk score based on demographics for all Covered California enrollees and diagnoses for those with hospitalizations and ED visits was 0.54. After standardizing this value to 1.00, those Covered California enrollees with hospitalizations and/or ED visits had a mean standardized CDPS score of 1.76 standardized, while those without such an event had a mean standardized score of 0.91.

Covered California enrollees were most likely to enroll in silver (796,174) or bronze plans (327,149). The mean standardized CDPS risk score increased in association with the actuarial value of the coverage (Figure 1); the mean standardized CDPS score was lowest (0.76) among those enrolling in catastrophic plans (actuarial value of less than 60 percent) and highest (1.14) among those enrolled in platinum plans (actuarial value of 90 percent).

The mean standardized CDPS scores across Covered California's 19 rating regions were narrowly clustered around the statewide mean of 1.00 (Table 2). Although the large sample sizes contributed to many regions having CDPS scores that were significantly different than the statewide average, no region varied by more than 6 percent from the state mean and 15 of the 19 regions were within 3 percent.

The mean standardized CDPS score among Covered California enrollees decreased by month of enrollment from 1.08 in October and November of 2013 to 0.97 in March and April of 2014 (Figure 2). This decline in the mean standardized CDPS scores during the first year's open enrollment period corresponded to a decrease over time in the mean age of enrollees from 46.1 (99 percent CI: 45.9–46.4) years in October 2013 to 40.6 (99 percent CI: 40.5–40.7) years in April of 2014.

Twelve health plans, including a separate health maintenance organization and a preferred provider organization of the same company, offered coverage through Covered California during the first year of open enrollment. Four of these plans accounted for 1,169,573 of the enrollments (91 percent). The mean standardized CDPS scores ranged from 0.91 to 1.28 across all 12 plans (Figure 3). The two plans with the highest and lowest mean CDPS

Figure 1:   Covered California Mean Standardized Health Risk Scores by Plan Metal Tier, 2014
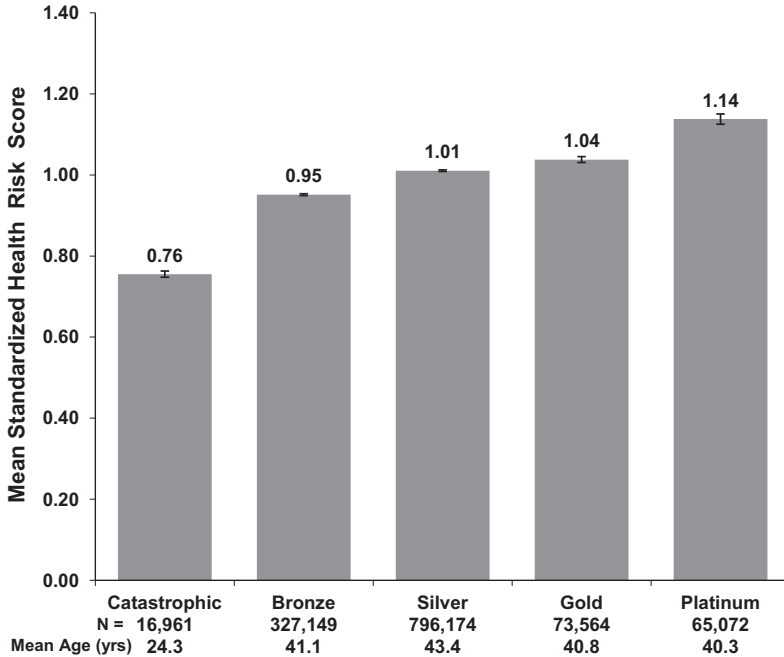
Note. Health risk scores calculated using Chronic Illness and Disability Payment System (CDPS). CDPS scores standardized by setting population mean to 1.00. Health risk scores greater than 1.00 indicate a subgroup of enrollees with expected health care costs that are greater than the average among all Covered California enrollees. Health risk scores less than 1.00 indicate a subgroup of enrollees with expected health care costs that are less than the average among all Covered California enrollees. Error bars reflect 99 percent confidence intervals. *Actuarial value:* Catastrophic health plans <60 percent; Bronze health plans, 60 percent; Silver health plans, 70 percent; Gold health plans, 80 percent; Platinum health plans, 90 percent.

scores accounted for less than 3 percent of total enrollees. Most plans had a percentage of the enrollees from the highest risk decile that was in proportion to that plan's total percentage of the Covered California population. However, one small plan (K) had a marked overrepresentation of these enrollees (data not shown).

The average annual premium for a single adult purchasing a health plan through Covered California was $4,439. Health plans with mean

Table 2: Mean Standardized Health Risk Score by California Region, 2014

			99% Confidence Limits	
			---	---
Region	N	Mean	Lower	Upper
North State and Sierra	46,840	1.05	1.04	1.06
North Bay	47,876	1.05	1.04	1.06
Yolo-to-Tahoe	63,859	1.02	1.01	1.02
San Francisco	37,013	0.94	0.94	0.95
Contra Costa	35,881	1.06	1.04	1.07
Alameda	59,244	0.99	0.99	1.00
Santa Clara	58,870	0.99	0.99	1.00
San Mateo	24,313	1.02	1.01	1.03
Monterey Bay	31,327	1.00	0.99	1.01
Central Valley, North	57,622	1.01	1.01	1.02
Central Valley, South	27,596	1.01	1.00	1.02
Central Coast	57,131	1.02	1.01	1.02
Southeast Sierra/Imperial	5,613	1.00	0.98	1.02
Kern	17,174	1.02	1.01	1.04
Los Angeles, North	161,074	0.98	0.97	0.98
Los Angeles, South	203,327	0.97	0.96	0.97
Inland Empire	113,566	1.02	1.01	1.02
Orange	119,667	1.00	1.00	1.01
San Diego	110,923	1.00	1.00	1.01
All	1,278,916	1.00	1.00	1.00

Notes: Health risk scores calculated using Chronic Illness and Disability Payment System (CDPS). Standardized mean health risk score across all regions = 1.00. Health risk scores greater than 1.00 indicate a subgroup of enrollees with expected health care costs that are greater than the average among all Covered California enrollees. Health risk scores less than 1.00 indicate a subgroup of enrollees with expected health care costs that are less than the average among all Covered California enrollees.

standardized CDPS scores less than average could anticipate paying into the risk-adjustment pool approximately $44 per adult for each percentage point they differ from 1.00; health plans with mean-adjusted health risk scores greater than 1.00 could expect to receive the corresponding amount on the same basis.

Among those Covered California enrollees with hospitalizations and/or ED visits in 2012, 27 percent were uninsured at that time of those events. The mean standardized CDPS score was 0.90 (99 percent CI: 0.89–0.91) for those who were uninsured and 1.04 (99 percent CI: 1.03–1.05) for those with some form of coverage. The distribution by payer of individuals with these events in 2012 varied across health plans; the percentage that was uninsured ranged from 19.5 percent to 47.4 percent across plans (Figure 3).

Figure 2: Covered California Mean Standardized Health Risk Scores by Month of Enrollment
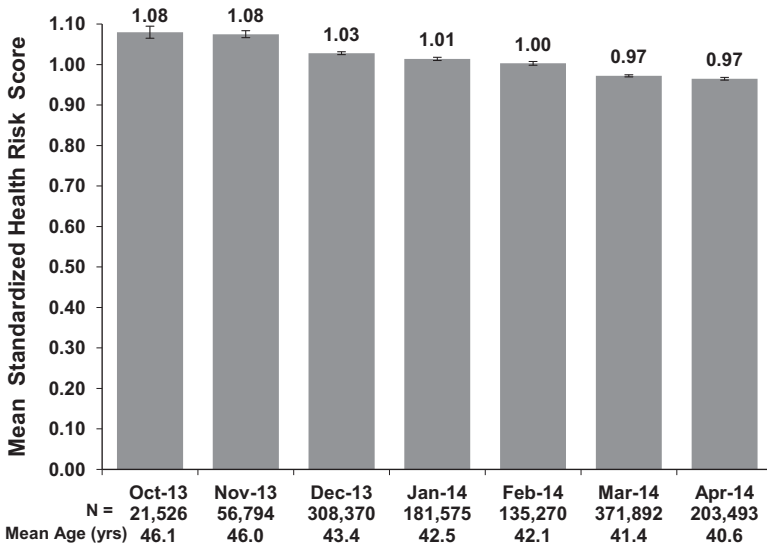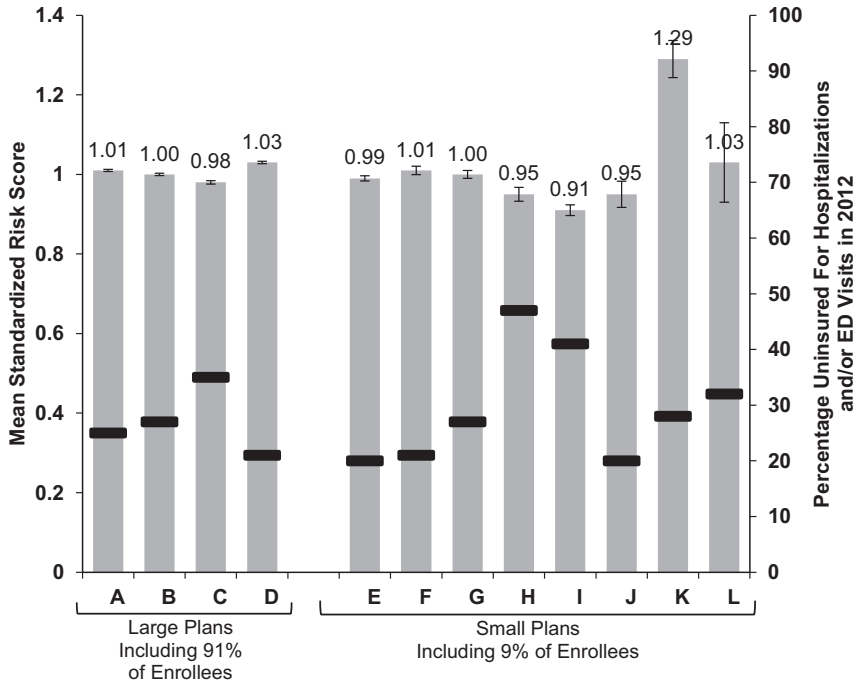

Note. Health risk scores calculated using Chronic Illness and Disability Payment System (CDPS). CDPS scores standardized by setting population mean to 1.00. Health risk scores greater than 1.00 indicate a subgroup of enrollees with expected health care costs that are greater than the average among all Covered California enrollees. Health risk scores less than 1.00 indicate a subgroup of enrollees with expected health care costs that are less than the average among all Covered California enrollees. Error bars reflect 99 percent confidence intervals.

DISCUSSION

This study of the Covered California population reveals several important insights into the health status of the population newly gaining coverage through the country's largest state-based insurance marketplace and how they sorted themselves into the different metal tier and plan options. Based on their rates of hospitalizations and ED visits in 2012, on average Covered California enrollees would be expected to utilize fewer health care services than the California population under age 65 years.

Enrollees sorted themselves into metal tiers in expected ways. Those who were sicker chose more expensive health plans with greater actuarial value suggesting that these individuals anticipated their need for services.

Figure 3:   Covered California Mean Standardized Health Risk Scores and Percentage Uninsured by Plan, 2014 ($N = 1,278,920$)

Note. Health risk scores calculated using Chronic Illness and Disability Payment System (CDPS). CDPS scores standardized by setting population mean to 1.00. Health risk scores greater than 1.00 indicate a subgroup of enrollees with expected health care costs that are greater than the average among all Covered California enrollees. Health risk scores less than 1.00 indicate a subgroup of enrollees with expected health care costs that are less than the average among all Covered California enrollees. Error bars reflect 99 percent confidence intervals. ▬ = Percentage Uninsured for Hospitalizations and/or ED Visits in 2012.

While we observed some variation in risk scores across the 12 competing health plans, the four largest plans that together accounted for more than 9 out every 10 enrollees each had average risk scores that were all within 3 percent of the statewide average in the health insurance marketplace. The distribution of high cost outliers for the most part reinforced what was observed using average health risk scores at the plan level. The finding that one small plan had a particularly large proportion of the highest cost enrollees relative to its total enrollment is a reminder of the financial challenges small plans face in competing in a health insurance marketplace. The ACA includes risk

adjustment along with risk corridors and reinsurance as a way to try to lower some of these financial risks for plans, and time will tell how successful these strategies are for helping smaller plans, which are often the newer plans, to compete in the health insurance marketplaces.

Those who purchased coverage early in the enrollment period had higher risk scores on average than those toward the end of the enrollment period. The observed decrease of 11 percent in the standardized health risk scores in the final 2 months of enrollment as compared to first 2 months could suggest that the 2015 Open Enrollment cohort might continue along this trajectory and be healthier than what was initially observed during the first year of enrollment.

More than a quarter of those who enrolled in coverage through Covered California in 2014 were uninsured when they were hospitalized or had an ED visit in 2012. While some of these individuals may have gained health insurance coverage in the interim independent of Covered California, it does suggest that Covered California expanded health insurance beyond those with alternative sources of coverage to include many of the previously uninsured. Furthermore, the percentage of the population that did not have health insurance coverage was increasing in 2012 (Cohen and Martinez 2012), so some of those covered with insurance for hospitalizations and ED visits in 2012 may have lost that coverage in the interim and thereby also benefitted from insurance via Covered California in 2014.

While the level of clinical detail available for health risk scoring in hospital and ED visit administrative records is less robust and complete than what might be possible from claims, encounter, or electronic health records, there are many benefits to this approach. First, it can be performed rapidly; we completed this study in the 2 months between when Covered California's open enrollment ended and when Covered California began negotiating premium rates with health plans for the second year of open enrollment.

Second, these data are widely available in most states. The Agency for Health Research and Quality's Healthcare Cost and Utilization Project (HCUP) program which facilitates access to these state files for research purposes reports that 47 states routinely collect all-payer hospital discharge data and 31 states routinely collect all-payer ED visit data (Agency for Health Research and Quality 2014). Ten of the 16 states (plus the District of Columbia) operating an exchange currently report the sort of all-payer hospitalization and ED data to HCUP, which could allow them to perform the same sort of analysis used in this study. States participating in the federal health insurance marketplace could potentially form collaborative partnerships with the federal

government to do this as well. Of course, care must be taken in the handling of these data to ensure that there is no unintended breach of the personal identifiers required for the data linkage. We believe that we minimized this risk by performing this work behind California's information technology firewall.

Third, the statewide hospital and ED visit data are automatically updated over time and do not depend on the self-reports of health plans. Health plans will be required as a part of the ACA to provide clinical information from claims and encounters to support risk adjustment. While the method described in this study is not meant to circumvent this process, it does provide an independent source of information that is not subject to the potential bias of information from health plans that have a financial interest in demonstrating greater health risk in their patient populations. This sort of bias in reporting by health plans has been observed in Medicare Advantage and is something that should be monitored in health insurance exchanges as well (Kronick and Welch 2014).

Fourth, the methods used to create risk scores for this project can also serve as a platform for evaluating the performance of health plans participating in an exchange. For example, we plan to apply AHRQ's Prevention Quality Indicators to determine the rates of hospitalizations for ambulatory care sensitive conditions among health plans participating in Covered California over time (AHRQ 2014).

While the method used in this study is efficient and generalizable, there are several limitations worth noting. First, the health scores we calculated for Covered California relied on a methodology; that is similar but not identical to what the federal government will use for the actual risk-adjusted redistribution of payments between health plans within a state. Our analysis used CDPS rather than the HCC risk-adjustment model (Centers for Medicare & Medicaid Services 2013), which the US Department of Health and Human Services will use in combination with adjustments for permissible rating factors, such as the use of 3:1 adult age rate bands. The HCC risk-adjustment model was still under development at the time that Covered California was negotiating premiums for the second year of open enrollment with health plans. Our analysis uses an available, widely recognized, and valid risk-adjustment tool to estimate the health risk of the Covered California population and its distribution by metal tier, rating region, month of enrollment, and health plan.

Second, the source of diagnostic information used to calculate health risk scores for the 2014 Covered California population are from statewide administrative records of hospitalizations and ED visits from 2012. Since the 2012 data are collected throughout the year, the diagnostic information used

to calculate risk scores is on average 1.5 years prior to the start of Covered California coverage in January 2014. This historical use of information on chronic diseases may slightly undercount the morbidity of the population by missing information of those who moved to California after 2012 and those more recently diagnosed with chronic conditions. While this could be a source of error in measuring the health risk of the Covered California population as a whole, we do not believe that it would systematically bias analyses of health risk scores by metal tier, rating region, month of enrollment, or health plan. The HCC risk-adjustment methodology that the Department of Health and Human Services will be using will rely on concurrent claims submitted by plans. Although Covered California anticipates having 2014 claims or encounter data from its plans by the middle of 2015, it anticipates making continued use of the statewide hospital and ED data as described in this study as an independent source of information about the health risk of enrollees in its plans.

Third, questions have been raised about the accuracy of diagnostic information recorded in statewide, all-payer administrative databases. California's hospital and ED visit databases have been widely used in research and an audit of the hospitalization database confirmed that the recording of chronic conditions is valid and reliable (Goldman et al. 2012).

Finally, the lack of health insurance in 2012 for individuals who subsequently enrolled in Covered California in 2014 might have resulted in a biased estimate of health risk for this group of enrollees. Prior research has suggested that those who are uninsured use fewer health care resources (including hospitalizations and ED visits) than those who are insured (Baicker et al. 2013). However, the uninsured still make use of health care services and any uninsured individual who had a hospitalization or an ED visit in 2012 would have been observed in our data. Covered California enrollees who were uninsured when they had hospitalization and ED visits in 2012 had on average lower CDPS scores than those who had insurance coverage for those events. This could indicate that those who were uninsured in 2012 and who later obtained coverage through Covered California truly have a lower health risk than those who had insurance coverage in 2012 or that there is some bias in the health risk assessment of the previously uninsured related to their lower rate of use of health care services. We cannot distinguish between these two possibilities using the data we have for this study, but we expect to evaluate this issue in the future when we are able to observe changes over time in the health risk scores of those

who did and did not have health insurance coverage prior to enrolling through Covered California.

Despite these limitations, this analysis had significant value to both Covered California and to the contracted health plans. It informed the senior managers at Covered California about the level of health risk and the distribution of this risk across the plans. During the negotiation process for setting premium rates for the second year of open enrollment, Covered California provided plans with their individual risk scores benchmarked against the state average using this study's methodology. This enabled Covered California to have candid discussions about the level of morbidity adjustments for pent-up demand and additional morbidity that health plans built into their premiums. One of the authors (JB) was in the room negotiating with plans during the final determination of 2015 premiums, and it was his observation reinforced by the comments of his colleagues at Covered California that the information provided by this study was a major factor in Covered California negotiating a net reduction in the final premium rates submitted by plans. After sharing these data, most health plans decreased their initially proposed 2015 rates, which resulted in a final average rate increase of 4.2 percent. Covered California's average premium increase for 2015 is not only well below annual increases of the last decade (before the ACA took effect) but also the average increase of 5.4 percent reported in a national survey of other health insurance marketplaces (PwC Health Research Institute 2014). It translates to tens of millions of dollars in savings for California consumers in the upcoming year.

Covered California was able to pursue its goal of an active purchaser that negotiates for lower rates with participating plans in part by forming a research partnership with the University of California and the California Department of Health Care Services. The cooperation among state-based organizations enabled the rapid transfer of data and resources required to do the project within a limited time window, and it created the relationships necessary to ensure that the findings would be anticipated and applied so as to be impactful in real-time policy decision making. More than a dozen states have state-university partnerships to pursue this type of participatory research between academics and health policy makers, and several additional states are developing these partnerships as they face increased challenges in managing their responsibilities for health care (Heller, Hoffman, and Bindman 2014).

The findings related to the health status and sorting into metal tiers and plans in Covered California may not fully apply to other states. However, Covered California constitutes 52 percent of all enrollees in state-based insurance marketplaces and 18 percent of enrollees purchasing health insurance

through a state or federal health insurance marketplace (The Henry J. Kaiser Family Foundation 2014). Our study provides not only an early glimpse into the health risk of individuals purchasing health insurance through the new health insurance marketplaces but also an approach for how states can make use of their available data to help consumers combat rising health insurance premiums over time.

ACKNOWLEDGMENTS

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Supporting Information

Additional supporting information may be found in the online version of this article:

Appendix SA1: Author Matrix.
Appendix SA2: Plans by Age Group and Gender.