California’s New Groundwater Law and the Implications for Groundwater Markets

Ellen Bruno

Groundwater is an important component of California’s water supply that has historically been unmeasured and unmanaged at the state level. Groundwater accounts for about 38% of total water use in California on average, and many communities and agricultural areas depend primarily on it. In fact, as of 2013, about 20% of agricultural water users relied exclusively on groundwater for irrigation, and another 52% relied on both surface water and groundwater. Users with access to both sources apply more groundwater during drought years to compensate for reductions in surface water supplies.

Groundwater plays an important role in reducing water risk; it acts as a critical buffer to the climate variability that drives uncertainty in surface water supplies. Central Valley farmers use surface water, delivered through state infrastructure projects, that originates from Sierra Nevada snowpack. In the absence of snowfall, groundwater becomes the primary source of irrigation water. Estimates show that groundwater storage has been declining significantly in parts of California over the past several decades; groundwater is often pumped faster than the rate of replenishment. This overdraft, the result of extracting more than the maximum sustainable yield, has created concerns about maintaining a long-run groundwater supply.

Groundwater in California, with its lack of well-established property rights, exhibits the classic problems of an unmanaged, commonly held resource. Access to groundwater is largely unregulated, yet one user’s consumption negatively affects others by increasing pumping costs and reducing future availability of the resource. Groundwater over-pumping can also cause land subsidence, poor water quality, and other undesirable outcomes. This is a classic “tragedy of the commons” scenario where, in the absence of well-defined property rights, the result from each individual acting in his own self-interest is an outcome that is preferred by none. Prompted by years of drought, the California state legislature passed a groundwater law in 2014 that provides a statewide framework for local management of groundwater.

California Passed Groundwater Law in 2014

The Sustainable Groundwater Management Act of 2014 (SGMA) imposes timelines for basins in California to reach a long-term sustainable groundwater level. The law provides a statewide framework for local agencies, established within individual basins, to coordinate data management and organize basin management plans to eliminate overdraft. The more severely over-drafted basins are required to meet sustainability goals more rapidly.

The Department of Water Resources (DWR) assessed the degree of overdraft in all 515 California basins and designated them by priority level. The legislation applies to high- and medium-priority basins, of which there are 127 throughout the state that account for 96% of the total groundwater pumped. See Figure 1 for DWR’s basin prioritization map. From this, we can see that SGMA applies to the Central Valley aquifer system, the Salinas...
Valley, several Southern California basins, and others. New, self-organized groundwater agencies are required to form and adopt management plans. Following the adoption of groundwater management plans between 2020 and 2022, local agencies are given 20 years to achieve sustainability.

Groundwater sustainability is defined in terms of the maximum amount of water that can be withdrawn from a basin without causing “undesirable results”; these include seawater intrusion, land subsidence, degraded water quality, and depletion of the water supply to a “significant and unreasonable” degree. The maximum sustainable groundwater yield will be defined at the basin scale on a case-by-case basis.

SGMA mandates the establishment of new governance structures called Groundwater Sustainability Agencies (GSAs) on each basin to determine sustainable yields and to implement management plans of their own making. These public GSAs can take many forms; they can emerge from pre-existing water agencies (e.g., city or county agencies, water or irrigation districts) or as brand-new coalitions of groundwater stakeholders. One entity may govern an entire groundwater basin or several can share the responsibility. In many cases, multiple GSAs are being established over a single basin because, among other reasons, it is difficult for all groundwater stakeholders to organize at the basin-scale. Often, the basin is a larger area than the jurisdiction of any one pre-existing agency, nor does it align with city or county boundaries.

If there are multiple GSAs within a basin, they must choose the degree with which they will cooperate through the development and implementation of basin management plans. When there are multiple agencies over one basin, the law allows them to either write a single joint Groundwater Sustainability Plan (GSP) or to have multiple GSPs that coordinate data collection methods. That is, the stakeholders on each DWR-defined basin must decide by June 2017 to: (1) form a unifying GSA with a single basin management plan, (2) form multiple GSAs but write a unifying management plan, or (3) form multiple GSAs with multiple management plans.

Although not mandatory, GSAs are given authority to require registration of wells, measure extractions, and charge fees for pumping. For basins with multiple groundwater agencies, all governing agencies must adhere to the same definition of sustainable yield and coordinate the collection of certain variables. The law does not specify, however, how each groundwater agency should achieve its sustainability goal.

Coordinated groundwater management plans overlying a common basin are only required to sync the measurement of key variables. They must use the same data or methods in estimating a) groundwater elevation, extraction, and storage data; b) total water use and surface water supply; and c) the sustainable yield and water budget. After coordinating these metrics, GSAs are free to design management plans within their respective boundaries as they see fit.

SGMA was intentionally designed to be a decentralized form of regulation, allowing flexibility among local agencies. Lawmakers acknowledged the heterogeneity in hydrogeology and stakeholder needs across California,
and are therefore relying on local decision-makers to make locally informed decisions.

This flexibility leads to several unresolved issues when it comes to management, particularly if economic instruments will be used. With multiple agencies governing a shared basin, reaching sustainability goals will likely involve a considerable amount of coordination beyond that required for syncing data collection. Effectively addressing the “tragedy of the commons” problem associated with a common property resource like groundwater is challenging, and it becomes more difficult as the governance over an aquifer is subdivided by the emergence of multiple GSAs.

Groundwater sustainability agencies are currently being formed. By reviewing notices submitted to the Department of Water Resources, we can see how many agencies have already filed to be a GSA and how many basins already have multiple GSAs governing them. A recent report by Stanford University’s Water in the West analyzes this unfolding process, concluding that most basins will have multiple GSAs, many of which will not write a unifying GSP. This lack of consolidation will influence which management tools are used. See Figure 2 for a map of the number of agencies submitting notices to serve as a GSA by basin as of October 2016. Note that most basins already have more than one GSA, and there are still several months for additional agencies to file.

Possible Management Strategies

Prior to SGMA, about a third of the local water agencies throughout California voluntarily wrote non-binding basin management plans. We can draw on previously written basin management plans to get a flavor for what may unfold in the coming years. For example, a basin management plan from Coachella Valley Water District cites pumping restrictions, demand management (e.g., increasing irrigation efficiency), groundwater recharge, and source substitution (using additional delivered surface water in-lieu of groundwater) as possible management alternatives for fighting declines in groundwater levels. However, there may be limits to many of these strategies. For example, additional water for direct or in-lieu recharge may be costly or impossible for some agencies to obtain.

Groundwater overdraft can be reduced by decreasing extraction and/or increasing replenishment or recharge. Natural recharge in California is small relative to pumping and artificial recharge is not widely practiced. Thus, in terms of correcting overdraft, the most substantial gains can be made by reducing pumping. Increasing recharge alone is unlikely to eliminate the deficit in severely overdrafted areas. Although measuring groundwater extraction is not explicitly required of GSAs, it is within the GSAs’ authority to do so. For groundwater sustainability goals to be met in certain basins, groundwater use will likely need to be measured and restricted.

Aside from in-lieu recharge, there are several ways to reduce groundwater use. To enforce basin-wide reductions in pumping, agencies can either: (1) impose prescriptive standards that put mandatory limits on individual use, or (2) apply market-based policy instruments that use price as an incentive to change behavior. Economic or market-based instruments like taxes, subsidies, or transferable permits allow users greater flexibility in dealing with restrictions than prescriptive standards. Some of these economic tools also generate revenue that can be used to fund
groundwater projects like a recharge program.

Groundwater markets are an appealing mechanism for reaching sustainability goals for several reasons. Unlike quantity restrictions that put limits on individual pumping, groundwater markets can be designed to reach the same aggregate sustainability goal in a cost-effective manner. And unlike taxes for pumping or subsidies for recharge, groundwater markets eliminate the uncertainty in reaching a particular management goal. However, the efficiency property of markets, where trading enables the maximization of net benefits for society, breaks down in certain circumstances. These circumstances, such as when there are only a few buyers or sellers, may arise in this California groundwater setting.

Potential Impacts of Groundwater Trading

Groundwater markets are one possible management solution to emerge from SGMA. By examining GSA formation notices submitted to and approved by DWR, we can forecast the emerging regulatory landscape and interpret what it might mean for future groundwater markets in California. In many cases, DWR has already approved multiple GSAs to jointly govern common basins. This implies potential for both groundwater trading among farmers under one groundwater authority and trading of groundwater permits between GSAs.

Potential for trade will of course be influenced by local, pre-existing laws governing groundwater. SGMA does not change pre-existing groundwater rights, but rather provides an overlying framework to structure groundwater regulation. For example, some counties have ordinances restricting the delivery of groundwater outside the county. Thus, groundwater trading will likely look different in each basin within which it occurs.

Let us suppose that property rights for groundwater become more clearly defined in the future and permits for groundwater pumping are allocated within a basin. How will the permits be traded and what will the welfare impacts be? If GSAs compete with each other on behalf of the constituents in their service area, groundwater markets may be characterized by only a few buyers or sellers.

When markets are characterized by either small numbers of buyers or small numbers of sellers, there is potential for welfare loss. Depending on the number and size of emerging GSAs, there is potential for seller or buyer market power in the trading of groundwater. Market power here refers to the ability of a GSA to manipulate price and make it something different than it would be in the presence of healthy competition. A bargaining framework may also emerge where strategic interaction on both sides of the market determines outcomes. Under these trading scenarios, groundwater markets may not achieve a sustainability goal in the most cost-effective manner.

Conclusion

Several groundwater basins throughout the state have seen significant reductions in the water table over time. California recently passed legislation to sustainably manage groundwater, which will result in short-term cutbacks for long-term gains to irrigated agriculture and others that depend on groundwater. However, implementation of the new groundwater law is clouded by uncertainty. How will agencies reach their sustainable groundwater goals? Which management strategies are best for different stakeholders?

The guidelines regarding the formation of GSAs across California’s groundwater basins will influence the development of groundwater markets. While the law specifically requires groundwater agencies to sync data collection and estimation methods, it does not specify how these agencies should achieve reductions in groundwater use. Groundwater markets are one appealing strategy for managing this resource. However, where multiple groundwater agencies are forming over a single basin, there is potential for strategic interaction and efficiency loss when groundwater trading occurs.

When designing local groundwater rules, groundwater agencies should be aware of the potential shortcomings of different management tools. Furthermore, it will be important for policy-makers to continue monitoring the formation of GSAs and GSPs, and introduce corrective policies as necessary.

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For additional information, the author recommends:
How Rural Hospital Closures Affect Rural Residents

Deepak Premkumar, Dave Jones, and Peter F. Orazem

This study estimates a model of rural patient hospital choice between the nearest rural, urban, or research hospital. We present separate estimates for inpatient and outpatient visits, for different diagnoses, and for emergency and nonemergency admissions. The analyses illustrate the tradeoffs between hospital quality and distance in deciding whether to choose the nearest hospital or to travel farther for an alternative. We then simulate two hospital closing scenarios. We find that closing the lowest-quality rural hospitals is a better policy prescription than closing the least used hospitals since closing low-quality hospitals results in a substantial increase in average quality of hospital with only a slight increase in distance traveled for chosen hospitals.

The population shift from rural to urban regions has decreased the population density around hospitals in small towns and rural areas. The combination of thinning populations and greater competition from urban hospitals makes it more difficult for rural hospitals to maintain a large enough patient base to cover their costs.

Following a pattern of decline that started in the 1970s, these factors have led to a steady decrease in the number of rural hospitals over the last two decades. Since 1990, the number of rural hospitals decreased 20% while the number of urban hospitals only decreased 3.5% (Figure 1). An issue we investigate in this study is the loss of a local hospital for rural residents.

Healthcare Setting and Data

To help stop the decline in the number of rural hospitals, in the 1990s Medicare enacted the Critical Access Hospital (CAH) program. With rural hospitals being particularly dependent on publicly subsidized healthcare—almost 60% of their revenue comes from Medicare and Medicaid—the program was devised to prop up hospitals in isolated areas where residents had few other healthcare options.

Under its original rules, these hospitals had to be located at least 35 miles away from any other hospital, which means only about one-third of the nation’s 1,300 Critical Access Hospitals would have qualified under the original rules.

However, the law was amended to allow states to designate “necessary provider” hospitals, which lessened or removed proximity restrictions.

More recently, federal budgetary constraints have led to renewed interest in imposing the more stringent funding rules, which would lead to further closure of rural hospitals in Iowa and elsewhere.

We focus our analysis on Iowa, a state with a large number of rural hospitals where a substantial majority of them receive funds from CAH. The Iowa Hospital Association records include every inpatient admission and outpatient visit to Iowa hospitals. We have access to the recorded visits occurring between January 1, 2002 and December 31, 2002. The database includes 209,687 inpatients that were treated and discharged from an Iowa hospital during this period and 138,685 outpatient records. We divide hospitals into three groups: rural, urban, and research.

Our focus is on the determinants of hospital choice for rural residents, where a rural resident’s status is defined by their zip code in the 2000 U.S. Census. As shown in Table 1, hospital choices do not differ much between inpatient and outpatient treatments. Almost 70% of rural residents choose a rural hospital for inpatient and outpatient service. Urban hospitals serve 12% of rural residents and 18% are served by research hospitals. The average rural patient lives about five miles from the nearest rural hospital, but lives 51 miles from the nearest urban hospital and 71 miles from the nearest research hospital.
Table 1. Mean Values of Variables by Hospital Location and Inpatient/Outpatient Status

<table>
<thead>
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<th></th>
<th>Total</th>
<th>Rural</th>
<th>Urban</th>
<th>Research</th>
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<tbody>
<tr>
<td><strong>Hospital Choice (Share)</strong></td>
<td>0.69</td>
<td>0.12</td>
<td>0.19</td>
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<tr>
<td><strong>Distance</strong></td>
<td>43</td>
<td>5</td>
<td>51</td>
<td>71</td>
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<tr>
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<tr>
<td><strong>Percent Male</strong></td>
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<td></td>
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<tr>
<td><strong>Percent with Insurance</strong></td>
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<tr>
<td><strong>Percent Self-pay</strong></td>
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<th>Total</th>
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<th>Urban</th>
<th>Research</th>
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<tr>
<td><strong>Hospital Choice (Share)</strong></td>
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<td>0.12</td>
<td>0.18</td>
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<td><strong>Age</strong></td>
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<td><strong>Percent Male</strong></td>
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<tr>
<td><strong>Percent with Insurance</strong></td>
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<tr>
<td><strong>Percent Self-pay</strong></td>
<td>2%</td>
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Health Grades, Inc. compiled the data on hospital quality. There are significant quality differences between hospitals, exemplified by the company’s simple one-to-five-star rating system. To avoid missing data, we used the two most common ailments, heart failure and pneumonia, to measure hospital quality since quality measures based on other criteria were missing for at least 31% of hospitals. There is a pronounced rise in quality when comparing rural hospitals to urban or research hospitals, with urban hospitals actually marginally outperforming research hospitals, as illustrated in Table 1.

**Hospital Choice Model and Hospital Closing Simulation**

We base our analysis on an empirical model that estimates the sensitivity of rural choice of local, urban, or specialized research hospitals on distance to and quality of each of the three hospital options. We derive estimates of hospital choice for inpatient visits, for outpatient visits, separately for the most common diagnoses, and for emergency or nonemergency admissions. We use these estimates to simulate how potential hospital closings will alter hospital choices made by rural Iowa patients. We illustrate how two hospital closing scenarios: (1) closing 25% of the lowest-quality rural hospitals, and (2) closing 15% of the least-used rural hospitals in Iowa, affect the average distance to, and quality of, the chosen hospital.

Few studies have evaluated the role of hospital quality in patient choices; however, this is likely to be a key factor explaining the incentives to bypass rural hospitals. Liu et al. (2007) surveyed 647 hospital inpatients for their assessments as to why patients would bypass a local hospital. Following the lack of local specialists, the second-most common reason cited for bypassing a local hospital was poor reputation or quality of local care.

While a hospital closure may lower utility because of increased distance to the nearest hospital, the decrease in utility may be offset if other hospital options are of higher quality. Individual attributes including age, gender, and insurance status will affect relative utility from the three hospital types. Consistent with that reasoning, we assume that rural residents choose hospitals to maximize expected utility from hospital services.

We initially estimate a model which assesses the probability of choosing a hospital, separately for inpatient and outpatient choices. We then allow for more heterogeneity by estimating hospital choice equations for each admission type and the most common diagnoses, which isolate each patient group by urgency. For each set of results, it is important to interpret the coefficients within the context of the sample being used. For example, we will have one set of results that averages the hospital choice effects of factors across all inpatient conditions, and then another set of results for each of the hospital admission codes. The coefficients on distance and quality are difficult to interpret directly, and so we transform the results into elasticities for ease of interpretation.

In our simulation where we close the least-used hospitals, we opt for a utilization threshold of 50%. Therefore, we shutter all of the hospitals that were chosen less than 50% of the time. These hospitals would be the most threatened if the Medicare Critical Access Hospital standards become more stringent. Rural patients living nearest to the closed hospitals under this simulation selected them between 6% and 41% of the time. Our second simulation assumes that the reduction in subsidy would be tied to hospital quality rather than current use. Our simulation results in closing 25% of the lowest-quality rural hospitals. The 24 hospitals closing under this scenario had quality rankings ranging from 1 to 1.83, well below the average hospital quality of 3.3.

**Hospital Choice Results**

The key elasticities from the hospital choice model are presented in Table 2. Distance is the single largest driving factor in the choice of hospital. At sample means, a 10% increase in distance lowers the probability of choosing that hospital type for inpatient services by 12.9%. Hospital choice is
less sensitive to quality, although a tradeoff between distance and quality is apparent. A 10% improvement in quality increases likelihood of choosing that hospital by 2.3% for an inpatient procedure. Hospital demand for outpatient services is also sensitive to distance, but not as much for quality. Our findings suggest that women, older patients, and patients who do not pay through insurance are more distance sensitive.

We expect that those patients with more severe or time-sensitive needs might be more sensitive to distance and less sensitive to quality. For inpatient hospitalizations, the three admission codes—ordered from most to least critical—are emergency, urgent, and elective. Consistent with our expectations, emergency and urgent admissions are much more sensitive to distance than elective ones. A 10% increase in distance leads to a 17.5% and 16.1% reduction in the probability of choosing a hospital for emergency and urgent patients respectively, while it only leads to a 8.3% drop for elective procedures. Choice of where to receive emergency and urgent care is also sensitive to quality, while choice of hospital for elective procedures is virtually unaffected by quality. There are apparent tradeoffs between distance and quality even for the most time-sensitive admissions.

**Simulation of Closing 15 Percent of the Least Used Rural Hospitals**

We estimate the resulting changes in expected distance and quality due to the simulated closures of 15% of the least-used hospitals. We investigate the effects separately by grouping all rural patients, then the subset of rural patients who originally chose a rural hospital, and then finally the subset of rural patients who originally chose one of the hospitals closed in the simulation. We find that the estimated distance and quality effects are surprisingly small. In the outpatient data, we see only a 2.2-mile increase (15.4%) in expected distance and a 0.044 increase in expected quality (1.6%). Though the percentage terms seem high, the magnitude of these changes are rather small. To put in perspective, the change in expected quality and distance for outpatient procedures has a baseline expected distance of 14.1 miles and a quality measure of 2.8.

The effects are larger when we confine the estimates to patients that chose rural hospitals or that chose one of the closed hospitals. Those patients who sought outpatient procedures and selected closed hospitals have an expected distance increase of 7.1 miles (284%) and a decrease in expected quality of -0.34 (-26.9%). When compared to inpatients, rural outpatients are more negatively affected by this hospital closure policy. Their expected travel distance to hospitals increases to 16 miles and the quality of hospital marginally rises to 2.8 on average.

In the inpatient data, there remains a consistent increase in distance and decrease of quality for those who chose rural hospitals and those who chose a closed hospital (the more adversely affected groups). Patients who chose closed hospitals experience an increase in expected distance of 6.1 miles and a decrease of -0.39 in expected quality. The inpatient data generally shares a more muted effect size when comparing to the outpatient data.

Generally, from closing the least-utilized rural hospitals, there are only modest increases in distance and nearly negligible decreases in quality. The magnitude of these changes vary by admission, but are at most a 7.2 mile increase in expected distance. All admission types see a reduction in the probability of choosing their closest rural hospital, which is largely shifted to the urban hospital. These small changes results may be indicative of rural populations moving closer to hospital care as they become older or sicker, reducing the impact of closing less-favored hospitals.

<table>
<thead>
<tr>
<th>Table 2. Cross Sample Comparisons</th>
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<tbody>
<tr>
<td><strong>Distance</strong></td>
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<tr>
<td><strong>Inpatient Elasticity</strong></td>
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<tr>
<td>All Inpatient</td>
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<tr>
<td>Nervous</td>
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<tr>
<td>Respiratory</td>
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<td>Circulatory</td>
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<td>Digestive</td>
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<td>Muscular</td>
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<td>Pregnancy</td>
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<td>Emergency</td>
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<tr>
<th><strong>Outpatient Elasticity</strong></th>
<th><strong>Outpatient Selection Rate</strong></th>
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<tbody>
<tr>
<td>All Outpatient</td>
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</tr>
<tr>
<td>Nervous</td>
<td>-1.05**</td>
</tr>
<tr>
<td>Respiratory</td>
<td>-0.76**</td>
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<tr>
<td>Circulatory</td>
<td>-0.74**</td>
</tr>
<tr>
<td>Digestive</td>
<td>-1.69**</td>
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*Significant at the 10% level; ** Significant at the 5% level
Simulation of Closing 25 Percent of the Lowest Quality Rural Hospitals

Compared to eliminating the least-used hospitals, closing the lowest-quality hospitals has a more significant effect on distance but with an improved quality of the remaining choices. For outpatient data, there is an increase in expected distance of 2.9 miles (20.3%) and increase in expected quality of 0.22 (7.4%). Patients with outpatient procedures who originally chose a closed hospital saw an increase in 9.6 miles in expected distance but with an increase of 0.7 in expected quality.

Similar changes take place in the inpatient data and across admission types. Depending on the sub-group, the probability of choosing a rural hospital falls by 1.2 to 8.8 percentage points. This effect is smaller than in the previous scenario because we are not closing any higher-quality rural hospital that might attract more distant rural patients when low-quality competitors are removed.

As a main takeaway, we find that closing the lowest-quality rural hospitals results in an increase in expected distance—a larger effect than when closing the least-used hospitals—and a substantial increase in expected quality of care, up to 77% of baseline levels for the most adversely affected groups. Given heterogeneous impacts by admission type, these results bolster the basis of reducing certain non-emergency services—particularly for diagnoses that are bypassed regardless—without tremendous ramifications for other diagnoses or patient utility.

Discussion and Conclusion

This paper highlights distance as the most significant factor in patient choice while illustrating the burden of plausible hospital closing scenarios on rural residents. We find that distance from home significantly lowers the probability of a patient choosing a particular hospital, while hospital quality marginally raises the probability of choosing the hospital. The tradeoff is most salient for inpatient treatments and for emergency or urgent care. Proximity largely drives hospital choice for elective procedures and outpatient services.

Closing 15% of the least-used rural Iowa hospitals results in a marginal increase in expected distance of 1.8 miles and a small decrease in expected quality. Closing 25% of the lowest-quality rural hospitals results in a larger increase in expected distance of 2.8 miles with a significant increase in expected quality. These outcomes suggest that closing the lowest-quality hospitals is a better policy prescription than closing the least-used, providing a substantial increase in quality with only a marginally higher increase in distance.

Increases in expected distance for a subset of patients may be potentially too large for a time-sensitive condition, even if one closing scenario results in significant increases in expected quality. The differential effects for urgent/emergency admission types suggest that the preferential policy is to limit services in lowest-quality hospitals to time-sensitive, urgent/emergency procedures.

Suggested Citation:

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For additional information, the authors recommend:
California’s ALRA and ALRB After 40 Years

Philip Martin and Bert Mason

“The greatest accomplishment of my administration was the enactment of a farm labor relations law.” (California Governor Jerry Brown, 1975-83)

The United Farm Workers Union claimed 67,000 members and 180 contracts in March 1973, and the Teamsters Union had dozens more contracts covering California farm workers before the Agricultural Labor Relations Act (ALRA) was enacted in 1975. Forty years later, the number of unionized workers has fallen to less than 10,000 and there are fewer than 40 contracts with California farms. Farm labor remains in the news as additional laws to protect farm workers are debated in the California Legislature, but there is little prospect of a return to the levels of unionization of the early 1970s.

California enacted the ALRA in 1975 “to ensure peace in the agricultural fields by guaranteeing justice for all agricultural workers and stability in labor relations.” When the ALRA granted union rights to farm workers, contemporary observers expected most of the state’s farms to have collective bargaining agreements, a belief reinforced by almost 100 elections a month in fall 1975. Unions won over 95% of the elections whose results were certified.

The ALRA granted farm workers the right to engage in concerted activities, organize into unions, bargain collectively, and refrain from union activities—free from interference from employers and unions—and to decide by secret ballot whether they wanted a union to represent them. The Agricultural Labor Relations Board (ALRB) was created to supervise elections, to determine if farm workers in secret ballot elections want to be represented by unions, and to resolve unfair labor practice (ULPs) charges alleging that worker rights were violated.

The ALRB supervised almost 700 elections its first 2.5 years, over half of all elections in the ALRB’s 40-year history. The results of 500 of these elections were certified, and unions became bargaining representatives for farm workers almost 95% of the time. (Figure 1)

Election activity slowed to between 60 and 70 a year at the end of the 1970s, and fell further to an average 27 elections a year during the 1980s, when the ALRB certified the results of an average 28 elections a year. The union victory rate fell to 57% in the 1980s.

During the 1990s, elections fell to an average 11 a year, the ALRB certified the results of 10 elections a year, and unions won six or 60%. Between 2000 and 2015, the ALRB supervised an average six elections a year, certified the results of five, and unions won an average two or 40%. Unions petition the ALRB to supervise elections, and they are requesting far fewer elections.

The ALRB protects worker rights by adjudicating ULP charges, allegations that worker rights were violated that are filed by workers, unions, or employers. Since 1975, the ALRB’s General Counsel (GC) received 16,560 ULP charges and issued over 1,900 complaints; by issuing a complaint covering one or more charges, the GC agrees that worker rights were violated and tries to get the parties to settle the dispute. If settlement talks fail, Administrative Law Judges (ALJ) hold trials on the complaints, and their decisions can be and often are appealed to the ALRB’s Board, which issued 1,100 decisions over the past four decades upholding, modifying, or reversing ALJ decisions.

Election and ULP activities reflect union activities. There was far more union activity during the first two decades of the ALRA than since 1995: 70% of the ULP charges, 83% of the complaints, and 85% of Board decisions were issued before 1995. In 1979 and 1983, over 1,000 ULP charges were filed (the 2001 spike reflects a temporary administrative change), while in 2011 and 2014 less than 100 ULP charges were filed. The number of complaints topped 100 each year between 1977 and 1982, but dropped to 10 or less since 2005. There were over 100 Board decisions in two years, 1978 and 1982, and fewer than 10 a year in most years since 1998.

The ALRB’s budget increased, from $4.4 million and 33 full-time employees (FTE) in 2010–11 to $9.5 million and 64 FTE in 2015–16.

Farm Labor Changes

In 1975 union organizers asked for automatic access to workers on farms to inform workers of their ALRA rights. Farmers opposed access for non-employee organizers, arguing access would violate their private property rights. The ALRB agreed with unions, granting union organizers automatic but limited access to workers on farms before work begins, during lunch time, and after work. They justified the access rule by asserting that many workers were migrants who “arrive in town in time for the local harvest, live in motels, labor camps, or with friends or relatives, then move on when the crop is in…[making union] home visits, mailings, or telephone calls …impossible.” Short stays in an area, contractors or supervisors driving workers directly on to private property, and workers living on farms meant, the ALRB reasoned, that union organizers would find it difficult to communicate with farm workers as they enter and exit farms, which is how nonfarm unions communicate with nonfarm workers.
The California Supreme Court in 1976 upheld the access rule, citing the combination of workforce characteristics and quick elections (the ALRB must hold an election within seven days of receiving a valid union petition, or within 48 hours if workers are on strike). A 2016 federal court decision cited the same migrancy, non-English, and similar factors to reject the efforts of several employers to restrict the access of union organizers to their properties.

The farm workforce has changed since 1975. The average employment of hired workers on the state’s farms was 275,000 in 1975, versus 420,000 in 2015. Farm employers changed as well. In 1975, almost 90% of the state’s farm workers were hired by the farm where they worked; by 2015, less than half of all crop workers were hired directly, meaning that nonfarm labor contractors and custom harvesters brought more workers to farms than were hired directly by farmers.

Farm workers have changed. A 1965 profile of the state’s hired farm workforce found that 46% were Hispanic and 44% white, often the descendants of so-called Arkie and Okie fruit tramps. About 30% of the state’s farm workers were migrants, staying away at least one night from their usual home to do farm work, and most were employed less than 150 days a year in agriculture.

Today, the farm workforce is more Hispanic and more immigrant but less migrant. Over 90% of California crop workers were born abroad, most often in Mexico, and 53% are not authorized to work in the U.S. The National Agricultural Worker Survey (NAWS), which defines migrants as persons who moved at least 75 miles from their usual residence to do farm work. The NAWS found that the migrant share of California crop workers fell from over 50% in 2000—when a quarter of workers arrived in the U.S. within the past year and were considered migrants because they moved from Mexico to the U.S. — to less than 15% migrants today. In 1965 migrant usually meant having at least two farm jobs in California too far apart to return home. Today, migrants who have two farm jobs at least 75 miles apart are less than 5% of farm workers.

The share of California crop workers who are indigenous, often from southern Mexican states such as Oaxaca where some residents do not speak Spanish, peaked at almost 30% in 2000 and has since fallen to less than 10%. Indigenous workers were the most recent unauthorized newcomers from Mexico, joining workers who moved to the U.S. from rural areas of West Central and Northern Mexico. The slowdown in Mexico-U.S. migration after 2008–09 explains the falling share of indigenous Mexicans in the farm workforce.

Farm labor data suggest that farm workers are increasingly like nonfarm workers, living off the farm where they work and driving or car pooling to work. Few migrate from one farm employer to another, but some who work for contractors are employed on multiple farms during the year. The share who speak at least some English is similar to the share who are unauthorized, about 55%.

**Workers and Laws**

Farm employers opposed many of the regulations issued to implement the ALRA, arguing that the access rule and other implementing regulations tilted the playing field too much in favor of unions. A Republican governor appointed a new general counsel and Board in the 1980s, prompting the dominant United Farm Workers to call for defunding the ALRB. After organizing one major strawberry grower in the late 1990s, Coastal Berry (now Dole), the UFW switched from organizing workers to pressuring Congress to legalize unauthorized farm workers.

The UFW also revisited “old” certifications. The UFW was certified to represent workers on over 500 farms, but never had more than 250 contracts. Once the ALRB certifies a union to represent workers on a farm, the employer has an obligation to bargain in good faith with the union to reach a collective bargaining agreement, but a legitimate impasse or deadlock in
negotiations can prevent an agreement. To ensure more contracts, the UFW in 2002 persuaded the Legislature to approve the first major amendment to the ALRA since 1975, Mandatory Mediation and Conciliation (MMC).

Under MMC, newly certified unions bargain with employers for at least 180 days. If they fail to reach agreement, either party may request a mediator to help them. If mediation fails, the mediator is required to recommend the terms of a collective bargaining agreement that the ALRB can impose, assuring workers a CBA within 10 months of voting for union representation.

MMC was expected to unleash another wave of elections and contracts, but there were fewer than five union certifications a year after MMC went into effect. Instead, the UFW persuaded the Legislature to enact card check, a procedure under which a majority of workers on a farm could sign authorization cards attesting that they wanted the union to represent them, and the ALRB could recognize these signatures without a secret-ballot election. One reason for card check was that the UFW had signed authorization cards from 70% of the Giumarra workers in September 2005, but lost the secret-ballot election 48-52%.

Governors Arnold Schwarzenegger and Jerry Brown vetoed card-check bills, prompting the UFW to turn to “old certifications,” farms where the UFW was certified to represent workers before 2002. On some farms where the UFW was certified but no agreement was negotiated, the UFW requested negotiations. When these negotiations failed, the UFW invoked MMC.

This is what happened at Gerawan Farms, the state’s largest fresh tree-fruit grower. The UFW won a 1990 election to represent Gerawan workers, Gerawan committed a ULP, and the ALRB certified the UFW to represent Gerawan workers. The UFW in 2012 requested that bargaining resume and, after no agreement was reached, the UFW requested MMC. Mediation failed, and the mediator developed a contract that the ALRB ordered Gerawan to implement.

Gerawan refused to implement the MMC agreement and challenged the constitutionality of the MMC law. In May 2015, the Fifth District Court of Appeal declared the MMC law unconstitutional on equal protection grounds because it allows the state to impose “a distinct, unequal, and individualized set of rules” on each farm employer. By contrast, the Third District Court of Appeal in 2006 upheld the constitutionality of MMC, and the California Supreme Court refused to hear an appeal. The conflict between the two appeals courts sets the stage for another Supreme Court review of MMC.

Conclusions
California enacted the ALRA at a time when farm labor disputes were front-page news. The wave of elections and union victories after 1975 seemed to confirm that most farm workers wanted the UFW to represent them, and that wages and benefits on most large farms would be negotiated in union contracts.

Today the union picture is different. There is little union organizing activity, explaining why there are few elections and ULP charges. The UFW has far fewer organizers in the fields than in the past, and devotes most its resources to federal and state campaigns to legalize and protect unauthorized workers.

Regardless of the constitutionality of MMC, there is little prospect of a resurgence in union activity in California agriculture for several reasons. First, seasonal farm work is more often a job than a career, and the workers most likely to organize and bargain for higher wages and better benefits are usually among the first to leave for nonfarm jobs. Second, the structure of farm employment has changed. With labor contractors as the largest single employer of farm workers, unions find it hard to threaten boycotts of the nonfarm products of the conglomerates that were quick to recognize the UFW and agree to wage increases as in the 1970s.

What could change this picture? Many unions believe that legalizing currently unauthorized farm workers could embolden them to demand union representation and higher wages. However, after legalization in 1978-88, most newly legalized farm workers found nonfarm jobs and were replaced by unauthorized workers. A second alternative would be for unions to organize the fast-growing H-2A guest worker labor force, as occurred in North Carolina. Finally, with more settled farm workers employed almost year-round, a renewed organizing campaign may be able to persuade more workers to vote for union representation. If there were a resurgence of unions in agriculture, farm workers would once again be a great exception, since the share of private sector workers in unions has declined to less than 7%.

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