MEMORANDUM

To: Dialysis is Life Support Committee
From: Greg Russo, Mandy Asgeirsson
Date: November 19, 2019
Subject: Assessing the Impact of the Proposed Ballot Initiative "Protect the Lives of Dialysis Patients Act"

This memorandum summarizes the methodology and results of our analyses of the dialysis marketplace. We have calculated the potential financial impact that the ballot initiative entitled "Protect the Lives of Dialysis Patients Act" will have on the dialysis industry in California as well as its effects on the State of California. This analysis specifically focuses on the ballot initiative's proposed requirement that a practitioner[1] be present while dialysis services are being provided.

Summary of Findings:

- The initiative's physician at-all-times requirement would **increase costs statewide for all clinics by $328 million annually.**
    - That averages a cost **increase of $582,189 per clinic per year**
- **47% of clinics would have negative operating margins** if the initiative passes.
- By reducing clinics operating and forcing some dialysis patients into costlier forms of treatment, the initiative will increase costs to the State of California **between $17 million and $988** million to continue treatment for only those patients insured through three partially State-funded programs: CalPERS, Medi-Cal managed care and Medi-Cal fee-for-service.

Summary of Methodology:

To measure the effects of the proposed ballot initiative, we completed the following five steps:

1. Identify the costs of hiring a single practitioner,
2. Calculate the number of practitioner hours required at each individual dialysis clinic,
3. Calculate the cost to each individual dialysis clinic, and aggregate for all dialysis clinics in California,

[1] For purposes of this analysis, we have identified three groups of practitioners: physicians, physicians' assistants, and nurse practitioners.

4. Calculate the impact that this requirement would have on the operating margin of dialysis clinics in California,
5. Calculate the financial impact that this requirement would have on the State, and
6. Identify the impact that this requirement would have on dialysis patients, the healthcare industry in California, and healthcare practitioners.

The steps above address some of the direct financial impact of the proposed ballot initiative; however, these do not encompass the totality of the financial impacts that the proposed ballot initiative will have, if implemented. After discussing the points noted above, this memo provides some of the additional financial and other impacts of the proposed ballot initiative.

1. Identify the costs for hiring a single practitioner

We identified the costs of hiring a single practitioner using data compiled and published by the Bureau of Labor Statistics ("BLS"), which is a federal government agency and is part of the U.S. Department of Labor. The BLS publishes employment and wage estimates annually for most occupations. The most recent available data from the BLS was published in May 2018. We used the average of the "Physicians and Surgeons, All Other" occupation from the Offices of Physicians industry, the Outpatient Care Centers industry, and Employment Services industry. [2,3,4]

The rates published by the BLS represent the salary earned by employees, as opposed to the cost to employers. Therefore, we also used the BLS estimate of the costs of employee benefits. In September 2019, BLS released a study of employer costs for employee compensation in which BLS found that the average percentage of employer costs related to total benefits is 30.0% for private industry workers in the health care and social assistance industry.[5]

[2] "May 2018 National Industry-Specific Occupational Employment and Wage Estimates – NAICS 621100 – Offices of Physicians." *Occupational Employment Statistics*, Bureau of Labor Statistics, U.S. Department of Labor. https://www.bls.gov/oes/current/naics4_621100.htm#29-0000.
[3] "May 2018 National Industry-Specific Occupational Employment and Wage Estimates – NAICS 621400 – Outpatient Care Centers." *Occupational Employment Statistics*, Bureau of Labor Statistics, U.S. Department of Labor. https://www.bls.gov/oes/current/naics4_621400.htm#29-0000.
[4] "May 2018 National Industry-Specific Occupational Employment and Wage Estimates – NAICS 561300 – Employment Services." *Occupational Employment Statistics*, Bureau of Labor Statistics, U.S. Department of Labor. https://www.bls.gov/oes/current/naics4_561300.htm.
[5] "Employer Costs for Employee Compensation for the Regions." Bureau of Labor Statistics, U.S. Department of Labor. https://www.bls.gov/news.release/pdf/ecec.pdf

Note that included within the above referenced increase are some legally required benefits, which in the Pacific census region are 10% of the employee's total compensation.[6] The hourly rates we used for our analysis can be found in Table 1.

Table 1: 2018 Hourly Rates by Practitioner

Practitioner	BLS Hourly Rate	w/ Benefits
Physician	$114.83	$149.28
Nurse Practitioner ("NP")	$54.13	$70.38
Physician Assistant ("PA")	$53.43	$69.45

The Medical Group Management Association ("MGMA") is an independent, industry organization that has membership of "more than 55,000 medical practice administrators, executives, and leaders."[7] One effort of this organization is to collect salary/wage information for healthcare professionals from around the country. The MGMA's nationwide physician compensation data indicates that the median salary for family medicine physicians is $252,759, which equates to $121.52 (assuming 2,080 work hours per year). This data from the MGMA illustrates a slightly higher salary than we calculated using the BLS data. This MGMA data supports our opinion that the wages used are conservative and, therefore, our financial impact is conservative. We believe that our financial impact is conservative for the following three reasons:

a. The wages used from the BLS represent average wages across the U.S. and across a variety of geographic regions. Given what we know of California's cost of living, we anticipate that the wages of workers in California are higher than average. Additionally, the dialysis centers are primarily located in urban areas of California and the wage data used does not account for the wage differences between urban and rural locales.
b. The wages do not account for differentials in pay that are frequently applied in healthcare settings for employees working at non-normal business hours. For example, many dialysis centers are open early in the day and late in the evening to accommodate patients and provide access to care. Employees working at these times will require the dialysis centers to pay a premium on the average wages used in the analysis.
c. The wages do not include any inflation to account for wage growth that will occur by creating additional demand in a constrained supply market. The Association of American Medical Colleges sponsors a study of the physician market conducted by the firm IHS Markit Ltd.[8] which

[6] "Employer Costs for Employee Compensation for the Regions." Southwest Information Office, Bureau of Labor Statistics, U.S. Department of Labor. https://www.bls.gov/regions/southwest/news-release/employercostsforemployeecompensation_regions.htm.
[7] "About MGMA." Medical Group Management Association. https://www.mgma.com/news-insights/press/mgma-board-of-directors-to-embrace-innovation-and
[8] "2019 Update, The Complexities of Physician Supply and Demand: Projections from 2017 to 2032." *IHS Markit Ltd*, Association of American Medical Colleges. April 2019. https://www.aamc.org/system/files/c/2/31-2019_update_-_the_complexities_of_physician_supply_and_demand_-_projections_from_2017-2032.pdf

published a recent study in April of 2019. The study projects a shortage of 21,100 to 55,200 primary care physicians in addition to a shortage of 24,800 to 65,800 specialty physicians by 2032. The shortage of physicians not only exists in the future though; the study identifies a current shortage of between 29,000 to 42,900 total physicians. If dialysis centers need to hire physicians to staff each of the centers, then there would be wage growth from this demand.[9]

For these reasons, our financial impact is conservative.

2. Calculate the number of hours required at each individual dialysis clinic

In order to calculate the number of practitioner hours required at each individual dialysis clinic, we relied on data from the 2018 Office of Statewide Health Planning and Development ("OSHPD") Utilization Reports.[10] This data includes financial and demographic information for all dialysis clinics in California, excluding five (5) that were "not in operation" during 2018, and five (5) that did not respond.[11] For the remaining 590 dialysis clinics, we estimated the number of hours the clinic would need to have a practitioner present.

In order to determine the number of hours each clinic would need to have a practitioner present, we used industry data provided by stakeholders, and calculated that on average, dialysis clinics are open for 75 hours per week. This accounts for the fact that some clinics are open much longer, and some are only open a few days a week. We also determined that most clinics are open six (6) days a week, indicating that clinics are open for 12.5 hours a day, six (6) days a week, on average.

3. Calculate the cost to each individual dialysis clinic, and aggregate for all dialysis clinics in California

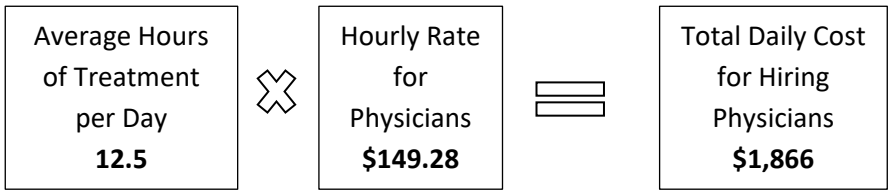
After using the methodology outlined above, we multiplied the number of hours required to staff each individual dialysis clinic (12.5) by the hourly rate for each practitioner type (physician, NP, PA). By doing so, we calculated a range of possible costs depending on the type of practitioner staffing each dialysis clinic, with physician assistants having the lowest costs and physicians having the highest costs.

Physician costs were calculated by multiplying the number of hours required each day by the hourly physician rate. Based on our knowledge of the industry and discussions with industry stakeholders, we found that while physicians often work a 50-hour week, their typical schedule is spread throughout the

[9] Further in this memo, we discuss the plausibility of ample physician supply existing such that the dialysis centers could hire enough physicians (regardless of the wages).
[10] "Final 2018 Specialty Clinics Utilization Database." Data and Reports, California's Office of Statewide Health Planning and Development. https://data.chhs.ca.gov/dataset/specialty-care-clinic-complete-data-set/resource/e891cdff-6092-4316-b406-dcbcf4a9c016.
[11] This is limited to dialysis clinics for which we have operating information from California's Office of Statewide Health Planning and Development ("OSHPD"), including Encounters, Stations, Operating Revenue, and Operating Expense.

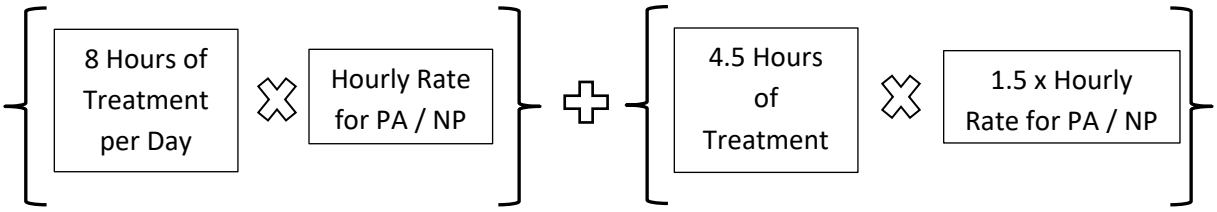
week,[12] and they were less likely to agree to work overtime. Therefore, we multiplied the hourly rate by the physician rate, with no adjustments for overtime. If a clinic was open for more than eight hours a day, we assumed the clinic would hire a second physician, rather than require that the physician work overtime. Exhibit 1 shows the formula used to calculate the total cost for hiring a physician.

Exhibit 1



Nurse practitioner and physician assistant costs were calculated while considering typical nurse schedules and include overtime. Nurse practitioners and physician assistants often operate on a schedule that includes multiple twelve-hour hour shifts per week.[13] In order to calculate these costs, we multiplied the first eight (8) hours of the shift by the calculated cost for the nurse practitioner and physician assistant. Because we assumed that the clinic was open for 12.5 hours a day, we assumed that the same nurse practitioner or physician assistant would work eight (8) hours of regular time, and four and a half (4.5) hours over overtime. The overtime hours were multiplied by the cost for the nurse practitioner or physician, and then by 1.5 (time and a half). Exhibit 2 shows how the cost for nurses and physician assistants are calculated.

Exhibit 2



Using the formula above, we calculated the cost of the ballot initiative to each individual dialysis clinic, and then overall for the State. In Table 2, we aggregated these costs for 2018.

[12] "Physician Wages Across Specialties: Informing the Physician Reimbursement Debate." Arch Intern Med. 2010;170(19):1728-1734. doi:10.1001/archinternmed.2010.350. https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/226114.

[13] "Most new nurses work 12-hour shifts, some have second jobs." Becker's Clinical Leadership and Infection Control. 20 Feb. 2019. https://www.beckershospitalreview.com/quality/most-new-nurses-work-12-hour-shifts-some-have-second-jobs.html.

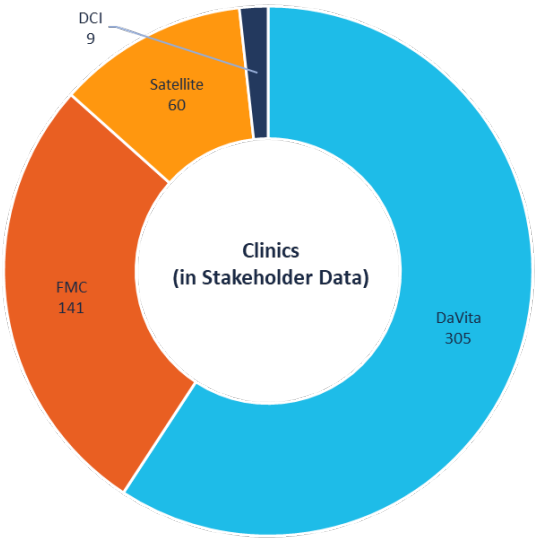
Table 2: Total Staffing Cost of the Proposed Ballot Initiative in 2018

Provider Type	Total Staffing Cost	Average Staffing Cost per Clinic	Average Staffing Cost per Treatment
Physician	$328,354,455	$582,189	$34.09
Nurse Practitioner	$182,660,283	$323,866	$18.97
Physician Assistant	$180,270,234	$319,628	$18.72

4. Calculate the impact that this requirement would have on the operating margin[14] of dialysis clinics in California

Our team sought to model the financial impact that the ballot initiative would have on dialysis clinics and the State. To do so, we separately collected data on a confidential basis from several stakeholders in the industry representing 80% of all clinics in the State. These stakeholders included both for-profit dialysis clinics and not-for-profit dialysis clinics operating in California. These clinics rendered over 22,000,000 dialysis treatments in the past three years (2015 through 2017) at 515 clinics. The companies in our sample operate clinic networks ranging in size from 9 clinics to 305 clinics. The companies that reported data to us are DaVita Inc. ("DaVita"), Fresenius Medical Care ("FMC"), Satellite Healthcare ("Satellite"), and Dialysis Clinic, Inc. ("DCI"). The graph below illustrates the split of the number of clinics for each of the entities.[15]

Exhibit 3

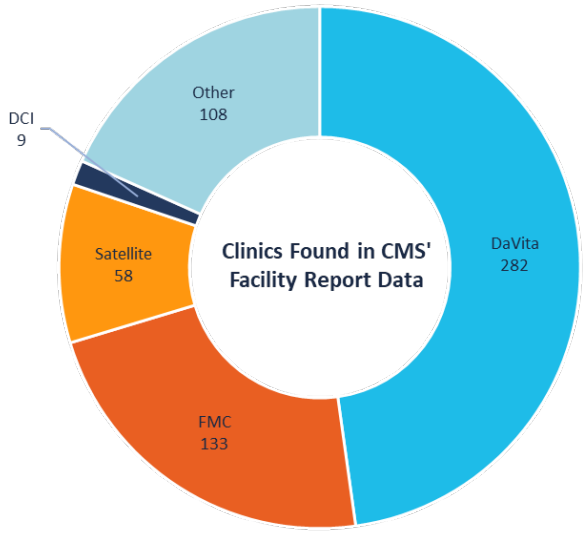


[14] For purposes of the analyses contained in this memo, operating margin excludes taxes and interest.
[15] The data used in the analyses represents 80% of total California dialysis clinics.

For these clinics, we requested data pertaining to the expenses, revenues, and treatments by clinic for each of the past three (3) years independently.

For many of the 515 clinics we reviewed, we received three (3) years of data. In total, we received complete data for 1,392 clinic/year combinations, which represents a clinic in a specific year. For example, if we received three (3) years of data for a single clinic then we would have three (3) clinic/year combinations in our analyses. This represents approximately 80% of the clinics in California, as shown in the graphic below. We note that this graphic shows a total of 480 clinics combined for DaVita, FMC, Satellite, and DCI. The difference of 33 clinics is due to utilizing two different data sources. For the following graph, we needed to rely on publicly available data to identify all clinics operating in California. We rely upon the 2015 Centers for Medicare & Medicaid Services CMS Facility Report Data. The difference of 33 clinics is due to one of two issues. First, there are 32 clinics that were either CMS certified in 2016 or 2017, or only submitted data to our team for 2016 and 2017, and thus are not represented in the 2015 CMS Facility Report. Secondly, one clinic has its CMS certification number pending and is not represented in the CMS Facility Report.

Exhibit 4



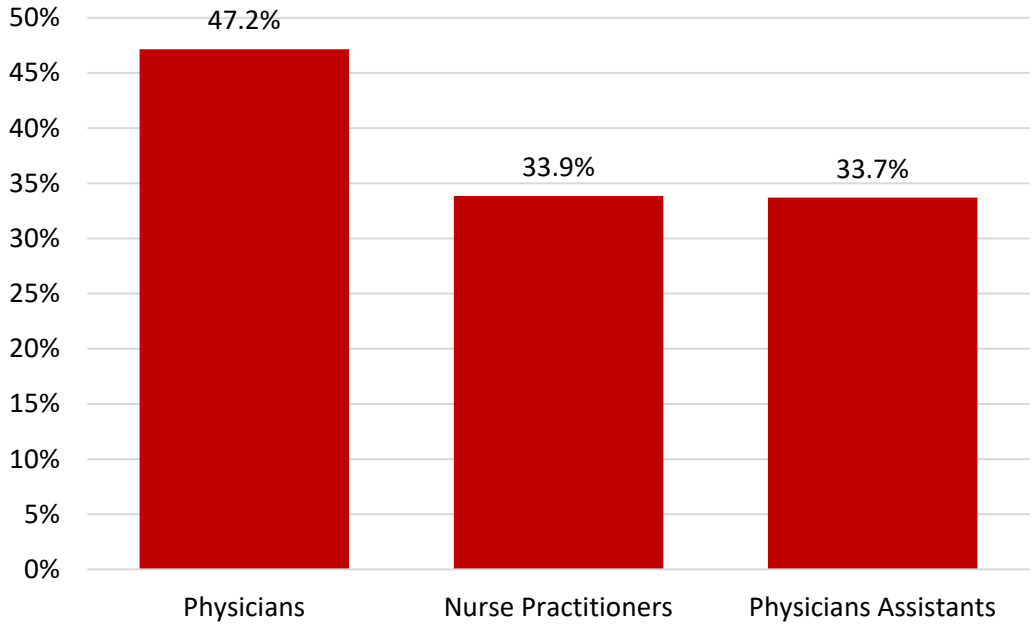
For each of the 1,392 clinic/year combinations for which we have revenue and expense data, we compared the number of treatments and revenue with the Healthcare Cost Reporting Information System ("HCRIS") data. "The cost report contains provider information such as facility characteristics, utilization data, cost and charges by cost center (in total and for Medicare), Medicare settlement data, and financial statement data."[16] While we did not expect to have exact agreement between the two data sets, we did expect to have roughly equivalent statistics and this concurred with our findings.

[16] "Cost Reports." CMS, 17 Apr. 2018, https://www.cms.gov/Research-Statistics-Data-and-Systems/Downloadable-Public-Use-Files/Cost-Reports/index.html.

We used the data received from the stakeholders, in combination with the CMS Facility Report data from 2015 and calculated the impact that these new expenses would have on dialysis clinics in California. For each of the clinics analyzed, we measured the actual operating margin and compared it to the operating margin that the clinics would realize if this proposed ballot initiative is approved and implemented. We found that 47% of the clinic/year combinations would have a negative operating margin if the initiative is implemented (with a physician).[17] Exhibit 5 shows the proportion of dialysis clinics with negative operating margins because of the additional staffing costs.

Exhibit 5

Operating Margin is Negative



To evaluate the overall impact of this ballot initiative on the State and local governments, we evaluated three plausible scenarios for clinic closure. We titled these scenarios #1, #2, and #3. In Scenario #1, all clinics with a post-initiative operating margin less than -15% are assumed to close. Our analysis indicates that between 114 and 168 clinics would fall into this category and close their doors. In Scenario #2, all clinics with a post-initiative operating margin less than -10% would close. Our analysis indicates that between 145 and 202 clinics would fall into this category. In Scenario #3, all clinics with a post-initiative operating margin less than -5% would close. Our analysis indicates that this would result in the closure of between 189 and 249 clinics. While the proposed ballot initiative also includes a provision designed to prohibit clinic closures without State approval, that provision, if fully implemented, is likely to cost the

[17] We identified 106 clinic/year combinations that appeared to have an inaccurate number of stations reported on their cost report. These clinic/year combinations were removed from the analysis.

state additional money outside the costs estimated in this memo. I am unaware of the State's ability to force companies to operate at a loss and, therefore, the State will need to develop a process to subsidize the clinics' operations and/or assume responsibility for the operation of the clinics.

Table 3: Number of Clinics Estimated to Close due to Proposed Ballot Initiative

Scenario	Criteria	Number of Clinics Estimated to Close		
		Physician	Nurse Practitioner	Physician Assistant
#1	Post-initiative operating margin less than -15%	168	115	114
#2	Post-initiative operating margin less than -10%	202	147	145
#3	Post-initiative operating margin less than -5%	249	189	189

5. Calculate the financial impact that this requirement would have on the State

Based on the results of our analyses, it is apparent that if this proposed ballot initiative is approved and implemented then the current arrangements for treating ESRD patients in need of dialysis would not continue. No company is able to stay in business for long if its operating margins are negative. Thus, it is certain that this proposed ballot initiative will result in the closure of many clinics and the withdrawal of dialysis services from thousands of patients who must have these services to stay alive. What is less certain is how many clinics will close, and where the displaced patients will go to receive dialysis treatment.

We sought to determine the impact that this initiative would have on the State and patient access. Specifically, we looked to identify the cost that the California Public Employees' Retirement System ("CalPERS") and the California Medicaid ("Medi-Cal") members would incur, if the clinics identified above were to close.

To determine the number of treatments for beneficiaries in the CalPERS program, we relied upon data from CalPERS indicating the total number of treatments, which was deflated since our data only represented 80% of clinics. We determined that CalPERS treatments represented 6% of total treatments paid for by commercial health insurers. We then estimated the number of treatments for CalPERS beneficiaries in each clinic using this same proportion.

To determine the number of treatments for beneficiaries in Medi-Cal (fee for service or managed), we relied upon the percentage of beneficiaries enrolled in Medi-Cal managed care, as published by the Department of Health Care Services.[18] We then applied this percentage to the number of Medi-Cal treatments found using data from the CMS Facility Report.

[18] "Services." *Long Term Care Reimbursement*, http://www.dhcs.ca.gov/services/Pages/Medi-CalManagedCare.aspx.

We estimated the percent of CalPERS and Medi-Cal ESRD patients that would be affected if the clinics were to close as we have modeled in these scenarios. For example, in Scenario #2, approximately 10% of CalPERS patients would be impacted by the proposed ballot initiative, if a physician was employed.[19] The results for nurse practitioners and physician assistants can be found in Appendix A.

Table 4: Estimated Number of Patients at Clinics Expected to Close due to Physician Employment

Scenario	CalPERS	Medi-Cal Fee-For-Service	Medi-Cal Managed Care	Commercial Insurance[20]	Medicare	Dual Eligible[21]	Other[22]	Total
#1	48	448	1,488	743	3,754	2,183	875	9,539
#2	63	647	2,150	978	4,916	2,819	1,165	12,739
#3	90	906	3,010	1,393	6,335	3,990	1,646	17,370

Using the number of treatments for these three payers withdrawn in each scenario as a result of clinic closures, we evaluated the additional costs for patients if treatments were shifted to another place of service: either the ER or an inpatient hospital setting.

ER Setting: In our modeling, we assumed that patients would receive dialysis care through an ER for four months at the same utilization level (three times per week) as they would have received from a dialysis clinic. We knew from our experience as healthcare specialists that providing care through an ER would be costlier. We conservatively estimated that the additional cost would amount to $184 over and above the reimbursable costs for services provided at a dialysis clinic. We also understood that Medi-Cal did not reimburse for dialysis services in an ER. We assumed that a payment change would be made to compensate hospitals for dialysis care provided in an ER should these patients begin presenting for care.

The $184 is a weighted average of rates that we estimated would be paid by commercial insurers and Medi-Cal fee-for-service. The first step in calculating this weighted average was to determine the Medicare rates paid for the ER evaluation and management codes (99281 through 99285). We averaged the payment rates for these five codes, which assumed a medium level of intensity of services being delivered. Commercial payers were found to reimburse at 225% of Medicare rates based upon an article published in the New England Journal of Medicine. The Government Accountability Office (GAO) found that Medi-Cal typically pays 33%

[19] The percent of patients is calculated by using the number of treatments at each clinic for each payer. Due to the regularity with which patients receive treatments, the percent of treatments was used as a proxy for the percent of patients.
[20] Includes only patients with employer group coverage.
[21] A Dual Eligible patient is someone who is eligible for both Medicare and Medicaid coverage. Medicare covered services also covered by Medicaid are paid by Medicare first, because Medicaid is typically the payer of last resort.
[22] Other coverage includes any other coverage not yet included, and likely includes patients with non-employer sponsored commercial insurance plans.

of commercial rates. We assumed that any patients covered by CalPERS would have care paid for at rates commensurate with what a commercial payer pays. We also assumed that the Medi-Cal rates calculated would apply to both Medi-Cal fee-for-service and Medi-Cal managed care. Using the volume of treatments by payer class (CalPERS, Medi-Cal fee-for-service and Medi-Cal managed care), we calculated the weighted average reimbursement rate for ER care.

We believe that our estimate of the additional costs of treating dialysis patients in the ER is extremely conservative. For example, we assumed that patients would only need to be cared for at an ER for four months. We assumed that after this period there would be a correction made in the marketplace to provide dialysis care through another setting that would cost the same as it currently does at the clinics. For this correction to take place, hospitals or another provider would need to (1) open facilities that were not subject to the reimbursement limits contained in this ballot initiative, (2) achieve a cost structure no higher than the clinics', (3) have access to sufficient capital to cover the cost of opening and equipping the facilities, and (4) obtain all necessary licenses to operate the new facilities (a process that typically takes up to one year or more). At the present time, it is not clear that any of these conditions can be satisfied, and it is possible that our four-month assumption is not viable.

Inpatient Setting: We also forecasted the additional cost if the treatments were instead provided in an inpatient hospital setting. We assumed that patients would not seek inpatient care at the same frequency as they do at an outpatient facility. For our modeling, we assumed that a patient would seek inpatient care once per week (48 times per year) at a cost of $5,839 per admission. We calculated this cost in a similar manner to the costs associated with receiving care in an ER. We found the cost of care associated with renal dialysis admissions in the Medicare program and then adjusted these costs for the payers in this analysis.

We believe that our assumption of care being rendered by inpatient hospitals is conservative. Moreover, it is not clear that this assumption is viable, given the lack of excess capacity needed to treat the number of dialysis patients who would be displaced by clinic closures resulting from this ballot initiative.

Using these assumptions, we determined that the ballot initiative will cost between $17 million and $988 million to continue treatment for only those patients insured through three partially State-funded programs: CalPERS, Medi-Cal managed care and Medi-Cal fee-for-service. The additional costs incurred by the much larger federal taxpayer-supported Medicare program would be on top of these costs. The table below shows the cost related to CalPERS and Medi-Cal beneficiaries, if a physician was required to be onsite. Appendix A includes this information for the nurse practitioner and physician assistant iteration.

Table 5: Estimated Additional Total Cost Related to CalPERS and Medi-Cal Beneficiaries Treated in Hospitals if Dialysis Clinics Close Due to Physician Employment

	#1	#2	#3
ER Payment Difference			
CalPERS	$1,223,296	$1,610,129	$2,293,337
Medi-Cal Fee-For Service	$3,761,661	$5,435,576	$7,610,740
Medi-Cal Managed Care	$12,498,425	$18,060,145	$25,287,305
	$17,483,382	**$25,105,850**	**$35,191,382**
IP Payment Difference			
CalPERS	$34,206,717	$45,073,194	$64,192,525
Medi-Cal Fee-For Service	$105,443,067	$152,558,539	$213,692,847
Medi-Cal Managed Care	$350,343,245	$506,888,262	$710,012,009
	$489,993,028	**$704,519,996**	**$987,897,382**

We also estimated the budgetary impact on the State's General Fund since it funds 50% of all Medi-Cal costs. The federal government funds the other 50%.[23] We found that the State General Fund would have an increased cost for these patients of between $1.2 million and $82.8 million to pay for Medi-Cal fee for service patients.

Table 6: Estimated Additional Cost to State's General Fund for Medi-Cal Fee-For-Service Beneficiaries Only Due to Physician Employment

	#1	#2	#3
ER Payment Difference	$1,880,830	$2,717,788	$3,805,370
IP Payment Difference	$52,721,533	$76,279,270	$106,846,424

In addition, because the State's General Fund pays 50% of all Medi-Cal costs and a portion of CalPERS enrollees health care premiums, the State would incur increased General Fund costs to pay for dialysis treatment provided to these two types of patients. Local governments in California would also incur increased costs to cover the higher health insurance premiums for their employees.

We were not able to predict the likely magnitude of the increased costs for Medi-Cal managed care and employee health insurance premiums because the magnitude of the increase would depend on (1) decisions that would be made by commercial health insurers under contract to Medi-Cal, CalPERS, and

[23] "Federal Medical Assistance Percentage (FMAP) for Medicaid and Multiplier." *The Henry J. Kaiser Family Foundation*, The Henry J. Kaiser Family Foundation, 3 Mar. 2017, https://www.kff.org/medicaid/state-indicator/federal-matching-rate-and-multiplier/.

local governments with their own insurance programs, and (2) decisions made at the State and local level as to how much of the additional costs will be recovered from State and local employees.

6. Identify the impacts not measured in this memo but that the proposed ballot initiative would have on dialysis patients, the healthcare industry in California, and healthcare practitioners

The analysis presented above measures a portion of the financial impact of the proposed ballot initiative, which will have far reaching impacts if passed. Below we discuss three additional impacts that the proposed ballot initiative would have on the State of California.

Shortage of Providers Would Cause Increasing Wages Throughout California's Healthcare Market:
Medical providers are in limited supply. As indicated earlier in this memo, there is a shortage of between 29,000 to 42,900 total physicians. If dialysis centers need to hire physicians to staff each of the centers, then there would be difficulty doing so because of the current and projected shortage. The Bureau of Health Workforce at the Health Resources and Services Administration, a federal agency, published a report in 2016 analyzing the supply and demand of primary care practitioners.[24] This study projected a shortage of 23,640 primary care FTEs by 2025 that could be mitigated by reliance on PAs or NPs to fill the role of a primary care physician.

Regardless of how one identifies primary care FTEs (i.e. only physicians vs. physicians and mid-level practitioners), there is either a shortage or a moderately adequate supply. Increasing demand along with limited supply will cause wages to increase in accordance with known economic principles. The increase in wages will not only exist for those practitioners working for dialysis clinics. Since the demand will relate to the overall healthcare market, wages throughout the market will increase. This means that providers (e.g., hospitals, clinics) who are not associated with dialysis may find it more difficult to hire primary care practitioners while also finding that those practitioners are more expensive.

Increasing wage growth will cause providers' costs to increase. As provider's costs increase, those providers will look to insurers to increase reimbursement/payments. As insurers experience increase in medical spend because of increased reimbursement/payments, then members' premiums will be increased.

Consolidating Locations Would Cost Providers:
If the proposed ballot initiative were implemented, we recognize that the dialysis centers could consolidate operations such that fewer locations would exist in a given geographic region. Doing so would spread the cost impact to a larger number of dialysis stations. While this could be a way that

[24] "National and Regional Projections for Supply and Demand for Primary Care Practitioners: 2013-2025." *National Center for Health Workforce Analysis, Bureau of Health Workforce, Health Resources and Services Administration,* U.S. Department of Health and Human Services. November 2016. https://bhw.hrsa.gov/sites/default/files/bhw/health-workforce-analysis/research/projections/primary-care-national-projections2013-2025.pdf

providers mitigate the overall cost impact, consolidation has real financial impacts on patients and providers. First, dialysis patients are constantly in need of services and most often access these services several times per week. Having a provider that is located close to a patient's home ensures that the patient accesses care, which helps alleviate the health burden or additional health related costs from not receiving treatment. Transportation costs and opportunity costs are mitigated when a patient has to travel a shorter distance to access dialysis. Second, providers would need to terminate current leases, buy/lease new space, and build-out that new space to accommodate the consolidated dialysis center. Each of those tasks would cause additional costs for providers that would offset any savings by having to employ fewer practitioners in a consolidated dialysis center.

Monitoring Compliance Would Cost the State:

The cost of monitoring the dialysis centers to ensure compliance with the proposed ballot initiative is a real cost that will be borne by the State of California and its taxpayers. The initiative includes several measures for which the State would need to ensure dialysis centers are submitting data on a timely basis and then analyzing that data to ensure compliance with the initiative. Our work has not sought to quantify the financial impact of this on the State.

7. Conclusion

The proposed ballot initiative "Protect the Lives of Dialysis Patients Act" has a long tail of effects that will have considerable financial impact on dialysis providers, the State of California, the citizens of California, and other providers in California's healthcare market. Our analyses show that if each clinic is required to employ a physician at any time that services are being delivered then the dialysis clinics will incur $328 million in additional cost. With this additional cost, the operating margin of dialysis clinics will be negatively impacted, and this could cause some of the dialysis clinics to close. If 249 dialysis clinics with an operating margin below -5% close, then those patients will need to be treated elsewhere. We have modeled a shift in these patients to other settings that are costlier and as a result the financial impact would between $35 million and $988 million. In addition to quantifying some of the costs of the proposed ballot initiative, we have discussed other effects that will add cost to the State, its citizens, and its healthcare market.

Appendix A

Nurse Practitioner Tables:

Estimated Number of Patients at Clinics Expected to Close due to Nurse Practitioner Employment								
Scenario	**CalPERS**	**Medi-Cal Fee-For-Service**	**Medi-Cal Managed Care**	**Commercial Insurance[25]**	**Medicare**	**Dual Eligible[26]**	**Other [27]**	**Total**
#1	29	268	890	444	2,256	1,365	671	5,923
#2	40	436	1,449	620	3,132	2,070	798	8,546
#3	61	649	2,155	942	4,566	2,851	1,151	12,374

Estimated Additional Total Cost Related to CalPERS and Medi-Cal Beneficiaries Treated in Hospitals if Dialysis Clinics Close due to Nurse Practitioner Employment			
	#1	#2	#3
ER Payment Difference			
CalPERS	$731,074	$1,020,504	$1,549,686
Medi-Cal Fee-For Service	$2,251,015	$3,664,263	$5,448,510
Medi-Cal Managed Care	$7,479,183	$12,174,813	$18,103,121
	$10,461,273	**$16,859,579**	**$25,101,317**
IP Payment Difference			
CalPERS	$20,392,473	$28,521,938	$43,403,717
Medi-Cal Fee-For Service	$62,997,343	$102,745,160	$152,977,837
Medi-Cal Managed Care	$209,313,845	$341,379,225	$508,281,412
	$292,703,660	**$472,646,323**	**$704,662,965**

Estimated Additional Cost to State's General Fund for Medi-Cal Fee-For-Service Beneficiaries Only due to Nurse Practitioner Employment			
	#1	**#2**	**#3**
ER Payment Difference	$1,125,508	$1,832,131	$2,724,255
IP Payment Difference	$31,498,671	$51,372,580	$76,488,919

[25] Includes only patients with employer group coverage.
[26] A Dual Eligible patient is someone who is eligible for both Medicare and Medicaid coverage. Medicare covered services also covered by Medicaid are paid by Medicare first, because Medicaid is typically the payer of last resort.
[27] Other coverage includes any other coverage not yet included, and likely includes patients with non-employer sponsored commercial insurance plans.

Appendix A

Physician Assistant Tables:

Estimated Number of Patients at Clinics Expected to Close due to Physician Assistant Employment								
Scenario	**CalPERS**	**Medi-Cal Fee-For-Service**	**Medi-Cal Managed Care**	**Commercial Insurance[28]**	**Medicare**	**Dual Eligible[29]**	**Other [30]**	**Total**
#1	28	266	883	436	2,233	1,351	671	5,869
#2	40	426	1,417	611	3,093	2,050	793	8,430
#3	61	649	2,155	942	4,566	2,851	1,151	12,374

Estimated Additional Total Cost Related to CalPERS and Medi-Cal Beneficiaries Treated in Hospitals if Dialysis Clinics Close due to Physician Assistant Employment			
	#1	**#2**	**#3**
ER Payment Difference			
CalPERS	$717,023	$1,005,716	$1,549,686
Medi-Cal Fee-For Service	$2,233,352	$3,581,436	$5,448,510
Medi-Cal Managed Care	$7,420,494	$11,899,612	$18,103,121
	$10,370,869	**$16,486,764**	**$25,101,317**
IP Payment Difference			
CalPERS	$19,996,051	$28,105,289	$43,403,717
Medi-Cal Fee-For Service	$62,499,004	$100,409,216	$152,977,837
Medi-Cal Managed Care	$207,658,072	$333,617,861	$508,281,412
	$290,153,127	**$462,132,366**	**$704,662,965**

Estimated Additional Cost to State's General Fund for Medi-Cal Fee-For-Service Beneficiaries Only due to Physician Assistant Employment			
	#1	**#2**	**#3**
ER Payment Difference	$1,116,676	$1,790,718	$2,724,255
IP Payment Difference	$31,249,502	$50,204,608	$76,488,919

[28] Includes only patients with employer group coverage.
[29] A Dual Eligible patient is someone who is eligible for both Medicare and Medicaid coverage. Medicare covered services also covered by Medicaid are paid by Medicare first, because Medicaid is typically the payer of last resort.
[30] Other coverage includes any other coverage not yet included, and likely includes patients with non-employer sponsored commercial insurance plans.