

# FIRST INTERIM EVALUATION REPORT OF THE MEDICARE PRIOR AUTHORIZATION MODEL FOR REPETITIVE SCHEDULED NON-EMERGENT AMBULANCE TRANSPORT: APPENDICES

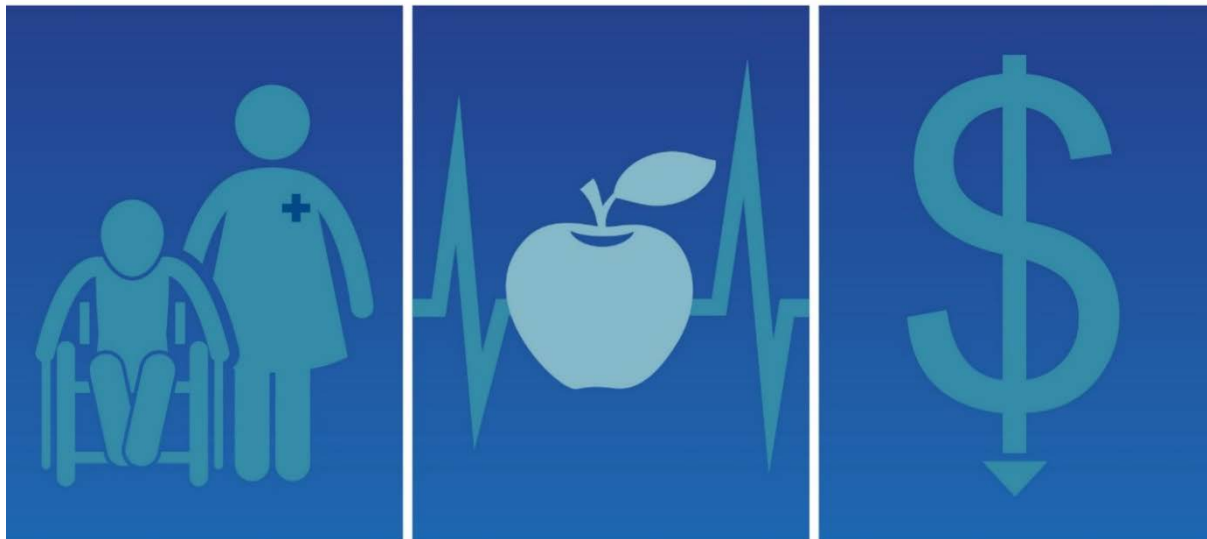
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Better Care, Healthier People, Smarter Spending

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APPENDIX A

DATA USED FOR THE QUANTITATIVE ANALYSIS OF MEDICARE IMPROPER  
PAYMENT RATES FOR AMBULANCE SERVICES

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As part of our analysis of the effects of prior authorization on the costs associated with RSNAT services, we examined the Medicare fee-for-service improper payment rates for ambulance services in the model and comparison states. For this analysis, we used the Comprehensive Error Rate Testing (CERT) data. CERT collects a service-level stratified random sample of claims on an annual basis to estimate the national improper payment rate for the Medicare fee-for-service program. We limited our analysis to claims with the service types “Ambulance” and “Ambulatory Procedures - Other” in the model and comparison states. Yearly sample sizes ranged from 209 to 651 claims. We used the final recalibrated sample weights when generating these estimates, using a survey design analysis procedure to account for the sample design. The methodological issues and findings of this analysis can be found in the discussion of Domain 5 within Chapter IV of the report.

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APPENDIX B

COMPARISON GROUP SELECTION

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The evaluation uses a difference-in-difference design that estimates the effect of the prior authorization model as the difference between the change in outcomes aggregated for the model states versus the change in outcomes aggregated for another set of states. An important part of the design is the choice of the other set of states—generally referred to as the comparison states—that permits the comparison with the model states; the outcomes for the comparison states are termed the counterfactual outcomes. Given that a well-chosen counterfactual reduces the need for the analysis to depend as critically as it otherwise would on the multivariate analyses’ modeling specifications, it is important to choose a set of comparison states as similar as possible to the model states along a range of characteristics assumed to be related to the model and its measured outcomes. Such an approach minimizes the risk that confounding factors will produce misleading results. The purpose of this appendix is to describe the challenge we faced in selecting a counterfactual, our approach to selecting a set of matched-comparison states, and the results of our approach.

### A. Choosing comparison states

To maximize the internal validity of the difference-in-difference analytic approach, we must choose a set of states as similar as possible to the model states in the period before implementation of prior authorization. A simple comparison of the model states to all other non-model states could be misleading, particularly as CMS chose the states with the highest RSNAT service utilization as those for the initial implementation of prior authorization. For example, in the year immediately before the prior authorization implementation, average RSNAT utilization and the proportion of beneficiaries frequently using RSNAT services were roughly six times higher in the Year 1 model states than in the rest of the United States (Table B.1). In contrast, the increase in RSNAT utilization was 47 times larger in the remaining states than in the Year 1 model states, and beneficiaries in the remaining states were about twice as likely to live in rural areas as in the model states. Thus, based on numerous characteristics, the model states differ substantially from the rest of the United States as a whole.

Table B.1. Comparing Year 1 model states with all other states in 2014

Mean characteristic	Year 1 model states (New Jersey, Pennsylvania, South Carolina)	Rest of United States <sup>a</sup>
RSNAT utilization (RSNAT trips per 100,000 Medicare beneficiaries)	3446.80	565.20
Change in RSNAT utilization between 2012 and 2014	+1.90	+90.10
Proportion frequently using RSNAT services (proportion of beneficiaries with more than 40 RSNAT trips)	0.19	0.03
Percent of beneficiaries living in rural areas	16.50	36.70

<sup>a</sup> Excludes Alaska and Hawaii.

To address the challenge associated with differences in the states, we used a statistical technique that is designed to select a group of states as similar as possible to the model states on a range of characteristics (described below). One complicating factor in this approach was the expansion of the prior authorization model to six additional states in Year 2 of the model (2016). To avoid the complication of matching some expansion states to the Year 1 states, which would

then require re-matching in Year 2, we adopted a strategy whereby we matched to both Year 1 and Year 2 model states simultaneously with comparison states, making no distinction between the Year 1 and Year 2 model states when matching. This approach optimized balance for the analysis of the combined Year 1 and Year 2 model status, and avoided the need to re-match.

The above approach of matching at the state level essentially limits the subsequent comparison analysis at the supplier and beneficiary levels to those suppliers located or those beneficiaries residing in the matched-comparison states. An alternative approach would largely ignore any state-level matching and instead simply match suppliers and beneficiaries in the model states to suppliers and beneficiaries in any other state regardless of location. We rejected such an approach for two reasons. First, it is commonly accepted that matched-comparison selection (at least primary unit selection) should be performed at the same level at which the actual selection was made. In this case, individual ambulance suppliers and Medicare beneficiaries did not select themselves into the prior authorization model; rather, the entire state in which they are located or live was selected into the model. Therefore, a similar selection process is warranted when selecting comparison units. Second, state-level matching may control for some unobserved confounding factors if these factors are correlated with the observed characteristics used in the matching.

## B. Matching approach

To select a set of comparison states as similar as possible to the model states, we first needed to identify a set of variables measuring the characteristics we expect to be related to the intervention and the outcomes. In Table B.2, we describe the set of variables we identified as potential matching variables. Unless otherwise noted in the table, all measures were observed in each of the years 2012, 2013, and 2014 for all states.

Table B.2. Measures identified for potential use in matching

Name	Definition
RSNAT service utilization	Number of RSNAT <sup>a</sup> service trips per 100,000 Medicare beneficiaries
Change in RSNAT service utilization since 2012	Percentage change in RSNAT service utilization using 2012 as base measure
Availability of ambulance suppliers	Number of unique ambulance suppliers with RSNAT services per 100,000 beneficiaries
Percent using RSNAT services	Percentage of beneficiaries with at least one RSNAT trip during the year
Proportion frequently using RSNAT services	Proportion of beneficiaries with at least 40 RSNAT trips during the year
Proportion with ESRD	Proportion of beneficiaries with ESRD
Medicare improper payment rate	Bayesian shrinkage estimates of improper payment rates using Comprehensive Error Rate Testing (CERT) data (pooled across years)
Mean age	Average age of beneficiaries
Percent of Medicare beneficiaries living in nursing homes	Percentage of beneficiaries living in nursing homes in 2012 ( <a href="http://www.dartmouthatlas.org/data/table.aspx?ind=337">http://www.dartmouthatlas.org/data/table.aspx?ind=337</a> )
Percent rural	Percentage of beneficiaries living in rural areas, defined as beneficiary ZIP codes outside metropolitan statistical areas (MSA)

<sup>a</sup> RSNAT service trips were defined by identifying claim lines with an Healthcare Common Procedure Coding System (HCPCS) code value of A0426 or A0428 occurring at least six times in a single 10-day period or at least twice per week for at least three weeks.



To select the matched-comparison states, we used the statistical technique called optimal matching as implemented in the R package “optmatch” (Hansen and Klopfer 2006). When forming matches, the technique examines the balance on covariates between individual matches and across the full matched sample, forming, rejecting, and reforming matches until achievement of a minimum distance within and across matched sets. Hence, the algorithm minimizes both local and global imbalance, making it much more flexible than traditional greedy matching techniques that examine balance only on individual matches.

Given the high RSNAT utilization in the model states and the expectation that prior authorization may differentially affect beneficiaries in rural versus urban locales, we prioritized these two measures when selecting the set of comparison states. We tested several matching specifications by using (1) the Mahalanobis distance based on various combinations of measures and (2) calipers on several measures that disallowed matches if the distance on a specific measure exceeded a certain threshold. Even though the estimation of a propensity score is a common method for collapsing multidimensional data into a single distance measure, the small number of observations, particularly among the model states, could result in unstable parameter estimates, making the estimated propensity scores suspect. Our goal was to select up to two comparison states per model state, balancing on as many of the characteristics from Table B.2 as possible but prioritizing balance on RSNAT utilization and the percentage of beneficiaries living in rural areas. We also excluded Alaska, Hawaii, North Dakota, Rhode Island, South Dakota, Vermont, and Wyoming from inclusion in the comparison group because these states had unique geography and features (for example, very small populations) that could call into question the comparability of these states to the model states.

Our final matching specification used the Mahalanobis distance for RSNAT utilization, the change in RSNAT utilization since 2012, the availability of ambulance suppliers, and the percentage of beneficiaries living in rural areas as well as calipers on RSNAT utilization and the growth in RSNAT utilization since 2012. In the matching, we used the 2013 observations of each of these measures to avoid any anticipatory effects among the model states in 2014, with the measures in 2013 highly correlated with those in 2012. In Table B.3, we list the model states and the selected matched-comparison states; in Table B.4, we present the balance on the key measures before and after matching.

Table B.3. Model and matched-comparison states

Year 2 model states	Year 2 matched-comparison states
Delaware	Alabama
Maryland	Florida
New Jersey	Georgia
North Carolina	Indiana
Pennsylvania	Kentucky
South Carolina	Louisiana
Virginia	Massachusetts
West Virginia	Montana
Washington, DC	Nebraska
	Ohio
	Tennessee
	Texas
	Washington
Year 1 model states	Year 1 matched-comparison states
New Jersey	Georgia
Pennsylvania	Indiana
South Carolina	Tennessee

Table B.4. Pre- and post-matching balance on key measures

Measure	Model states	Comparison, prematching, all states other than the model states and those listed below <sup>a</sup>	Comparison post-matching (the final matched-state list provided above) <sup>b</sup>
RSNAT utilization (trips per 100,000 Medicare beneficiaries) <sup>c</sup>	1,716.00	525.00	1,356.50
Change in RSNAT utilization since 2012 (trips per 100,000 Medicare beneficiaries) <sup>c</sup>	150.80	63.30	136.70
Availability of ambulance suppliers (unique ambulance suppliers with RSNAT services per 100,000 beneficiaries) <sup>c</sup>	9.40	4.40	7.60
Proportion using RSNAT services	0.20	0.08	0.17
Proportion frequently using RSNAT services	0.09	0.03	0.08
Percent with ESRD	1.50	1.30	1.50
Mean beneficiary age	71.00	70.90	70.50
Percent living in nursing homes	2.50	2.60	2.80
Percent rural <sup>d</sup>	24.70	35.80	32.10

<sup>a</sup> Excludes Alaska, Hawaii, North Dakota, Rhode Island, South Dakota, Vermont, and Wyoming.

<sup>b</sup> Weighted by using the state-level matching weights

<sup>c</sup> Included in the matching specifications.

<sup>d</sup> Medicare improper payment rates are omitted from Table B.4. The post-matching difference was less than one percentage point.

Balance was increased on all of the key measures included in the matching as well as on several other measures. The initial differences in RSNAT utilization, supplier availability, and percent rural beneficiaries all decreased as a result of the matching. In addition, the differences in the proportion using RSNAT and the proportion frequently using RSNAT both decreased, even though we did not match on these measures, providing more evidence that the selected comparison states have higher-than-average RSNAT utilization. The latter consideration is especially important as high RSNAT utilization was a key factor in the assignment to the prior authorization model, increasing the validity of the selected comparison states as a counterfactual to the model states. Even though differences in mean age and the proportion of a state's residents living in nursing homes increased as a result of the matching, the differences were minor both before and after matching and are therefore not of concern. The weights generated as part of the matching process were incorporated into the analysis weights at the beneficiary and supplier levels. Appendices D and E address design effects due to weighting.

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APPENDIX C

QUANTITATIVE METHODS

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## Selection of chronic conditions

We selected beneficiaries with ESRD as our population of interest through a multipart process. First, we identified all ambulance trips that met the definition of RSNAT for purposes of the model (coded as A0426 or A0428 and occurring with the requisite frequency). Then, for individuals identified as having taken RSNAT ambulance trips, we examined all carrier and outpatient claims that occurred on the same day as a RSNAT trip. We reasoned that services received on the same day as an ambulance trip were likely the services that necessitated the trip. Using the Agency for Healthcare Research and Quality’s Clinical Classifications Software (CCS), we then grouped the primary diagnosis codes and all the procedure codes from the claims, identifying the most common diagnosis and procedure categories in order to select a group of individuals who could be considered “likely users” of RSNAT services based on their health conditions. We consulted with a medical expert to ensure that our selection was reasonable and that we had indeed identified a group of individuals who were at elevated risk of using regular, nonemergency ambulance transportation.

Tables C.1 and C.2 provide the diagnosis and procedure codes we used in constructing our access and quality of care measures.

Table C.1. Procedure codes included in dialysis measures

HCPCS code	Short description
<b>Scheduled dialysis</b>	
90935	Hemodialysis one evaluation
90937	Hemodialysis repeated eval
90999	Dialysis procedure
90945	Dialysis one evaluation
90947	Dialysis repeated eval
90997	Hemoperfusion
<b>Emergency dialysis</b>	
G0257	Unsched dialysis ESRD pt hos

Table C.2. Diagnosis codes indicating ESRD-related ED visit or hospital admission

ICD-9 code	ICD-10 code	Short description
275.2	E83.40, E83.41, E83.42, E83.49	Disorders of magnesium metabolism
275.3	E83.30, E83.31, E83.32, E83.39	Disorders of phosphorus metabolism
275.4		Disorders of calcium metabolism
275.40	E83.50	Unspecified disorder of calcium metabolism
275.42	E83.52	Hypercalcemia
276.1	E87.1	Hyposmolality and/or hyponatremia
276.2	E87.2	Acidosis
276.6	E87.70, E87.79	Fluid overload disorder
276.7	E87.5	Hyperpotassemia
276.9	E87.8	Electrolyte and fluid disorders not elsew here classified

ICD-9 code	ICD-10 code	Short description
428.0	I50.9	Congestive heart failure, unspecified
428.1	I50.1	Left heart failure
428.2		Systolic heart failure
428.20	I50.20	Systolic heart failure, unspecified
428.23	I50.23	Acute on chronic systolic heart failure
428.9	I50.9	Heart failure, unspecified
586	N19	Renal failure, unspecified
782.3	R60.0, R60.1, R60.9	Edema
786.05	R06.02	Shortness of breath
780.97	R41.82	Altered mental status



## APPENDIX D

### BENEFICIARY BALANCING APPROACH AND FINDINGS

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This appendix describes the approach we used to balance the beneficiaries in the model and matched-comparison states and the results from this approach. It is divided into three sections:

- Defining included beneficiaries and examining covariate balance
- Propensity score weighting approach
- Choice of adjustment approach

We discuss each subsection below.

#### A. Defining included beneficiaries and examining covariate balance

To be included in the beneficiary impact analysis, a beneficiary had to reside in one of the intervention states (Delaware, Maryland, North Carolina, New Jersey, Pennsylvania, South Carolina, Virginia, Washington DC, or West Virginia) or in one of the matched-comparison states (Alabama, Florida, Georgia, Indiana, Kentucky, Louisiana, Massachusetts, Montana, Nebraska, Ohio, Tennessee, Texas, or Washington State). In addition, beneficiaries had to be in the Medicare fee-for-service program for at least one month in the year and have ESRD, identified through the use of hierarchical condition category (HCC Version 22) codes HCC134, HCC136, or ESRD equal to 1. Additionally, if the reason for Medicare entitlement indicated a beneficiary with ESRD, we included that person regardless of the HCC indicators.<sup>1</sup> By using these inclusion criteria, we show in Table D.1 the resulting number of beneficiaries included in the intervention and matched-comparison states.

Table D.1. Counts of beneficiaries based on initial inclusion criteria

	Intervention states	Matched-comparison states
2012	122,610	234,147
2013	121,132	234,372
2014	120,073	234,012
2015	119,701	229,534
2016	114,644	114,644

Note: Counts between years do not represent independent observations because many beneficiaries overlap from year to year. The model states included: Delaware, Maryland, New Jersey, North Carolina, Pennsylvania, South Carolina, Virginia, Washington, DC, and West Virginia. The comparison states included: Alabama, Florida, Georgia, Indiana, Kentucky, Louisiana, Massachusetts, Montana, Nebraska, Ohio, Tennessee, Texas, and Washington.

After obtaining the sample of beneficiaries, we examined the initial balance between the model and comparison beneficiaries within each year along a set of key characteristics: age, rural location, sex, and race. For this analysis, we weighted the comparison beneficiaries according to the state-level matching results. In general, we found modest differences in the characteristics of

<sup>1</sup> These beneficiaries comprised between 75 percent and 81 percent of all beneficiaries with one more or RSNAT services in each year. We did not include other beneficiaries in the analysis because those without ESRD were less likely to require RSNAT services on a consistent basis; thus, any observed changes in RSNAT utilization would likely be the result of other causes aside from the model.

beneficiaries in the intervention and comparison states. About 21 percent of beneficiaries in model states lived in rural areas, compared with about 22 percent in comparison states, whereas about 44 percent of beneficiaries in the model states were black, compared with 36 percent in the comparison states. We found very small differences for the percentages for female and white. We present all of these differences, separately by year, in Figures D.1 through D.5.

## B. Propensity score weighting approach

To adjust for the cited differences above, we used an inverse propensity score weighting approach, which involves two steps.<sup>2</sup> First, for each year of data, we estimated a weighted logistic regression, predicting treatment status (living in a model or a comparison state) based on the following set of characteristics: beneficiary age; gender; race (separate indicators for white or black); whether the person lived in a rural area; and indicators for whether the beneficiary had active cancer, ESRD, or skin ulcers.<sup>3</sup> These regressions provided predicted probabilities for each beneficiary, which represent the likelihood of each to live in a state with prior authorization (Rosenbaum and Rubin 1983). The second stage of this process was calculating weights,  $\omega$ , for each beneficiary, defined as

$$\omega(W, \chi) = W + (1 - W) \frac{\hat{e}(x)}{1 - \hat{e}(x)}$$

where  $W = 1$  if a beneficiary lived in a model state and  $W = 0$  if a beneficiary lived in a comparison state,  $x$  represents the set of characteristics included in the propensity score model, and  $\hat{e}(x)$  represents the estimated propensity score (Guo and Fraser 2009). These propensity score weights reduce to 1 for beneficiaries living in model states and  $\frac{\hat{e}(x)}{1 - \hat{e}(x)}$  for beneficiaries living in comparison states. We then combined these weights with the state-level matching weights to form the beneficiary analysis weights.<sup>4</sup> As shown by the following figures, the

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<sup>2</sup> We initially tried a calibration approach that involved calculating the weights by using discrete strata, defined by a set of key characteristics. Although this approach successfully eliminated imbalance on the set of characteristics used in the weighting, the resulting design effects (which increase the variance of the outcomes) were unacceptably large. In addition, statistical matching was infeasible with the large number of beneficiaries observed in each year.

<sup>3</sup> When the study began, we considered examining beneficiaries with active cancer, ESRD, or skin ulcers, as the combination of these beneficiaries were responsible for 97% of all RSNAT use. As a result, we included indicators for each of these three medical conditions in the regression model. However, after further examination of RSNAT usage, we decided to limit to only the ESRD population, who have a much higher likelihood of utilization and are therefore of more interest in estimating the effects of prior authorization. After limiting to just the ESRD beneficiaries, we found comparable balance using the weights originally generated on all three groups of beneficiaries, so we saw no need to re-weight.

<sup>4</sup> To develop the weights, we used beneficiaries' state of residence as of December 31 of each study year. We assessed the sensitivity of the results to this decision by first identifying the number of beneficiaries who did not live in that state or were enrolled in managed care during a given quarter. We found that these beneficiaries constituted between 0.12 percent and 0.27 percent of the total beneficiary study population for a given quarter. After removing these beneficiaries, we compared the weighted balance for a set of key characteristics for each year of the study and found no impact on balance (differences in balance ranged from 1 one-hundred thousandth to 4 thousandth of a standard deviation).

analysis weights were highly effective in reducing imbalance on the key characteristics. In addition, the design effects of these weights were about 1.36 in each year—a negligible increase in variance over the state-level matching weights, which had design effects of 1.32.

In Figures D.1 through D.5, we show for each year (2012 through 2016) the standardized differences between the beneficiaries in the model states and those in the comparison states, weighted by the state-level matching weight (dark blue) and the propensity score adjusted analysis weight (red). The vertical bars demonstrate the size of the differences before and after the calibrations. Each figure also includes a data table with the numeric values for the standardized differences.

Figure D.1. Beneficiary balance before and after propensity score adjustments, 2012

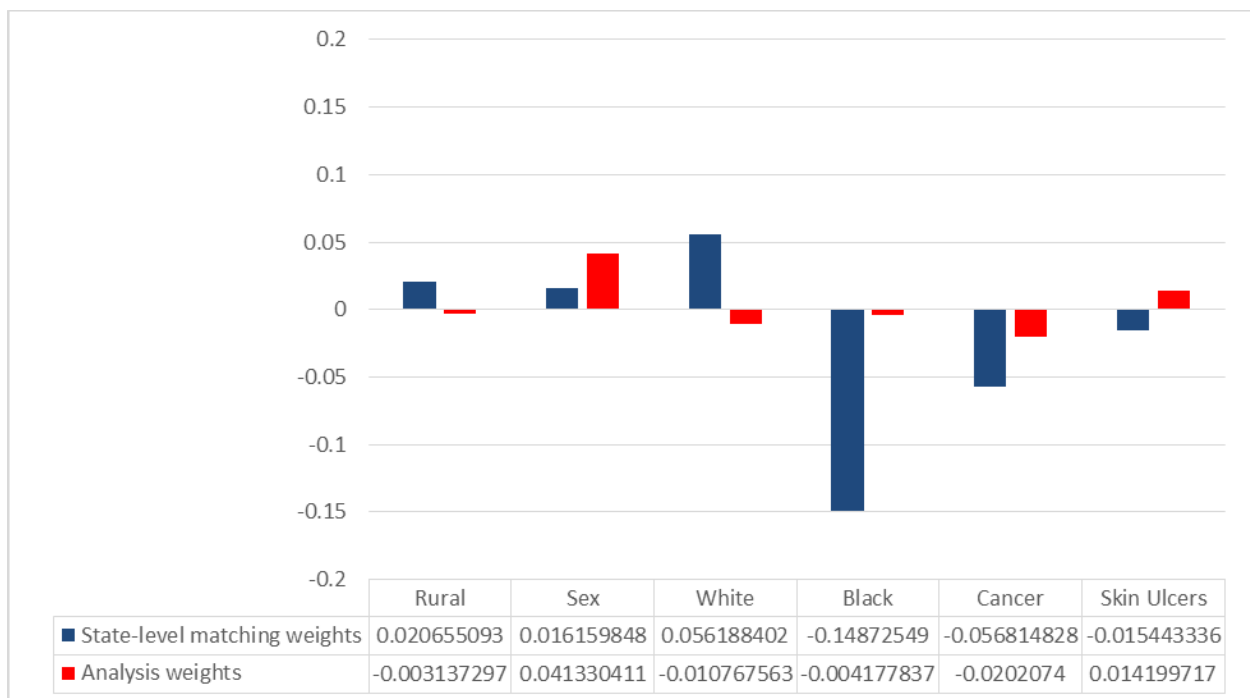


Figure D.2. Beneficiary balance before and after propensity score adjustments, 2013

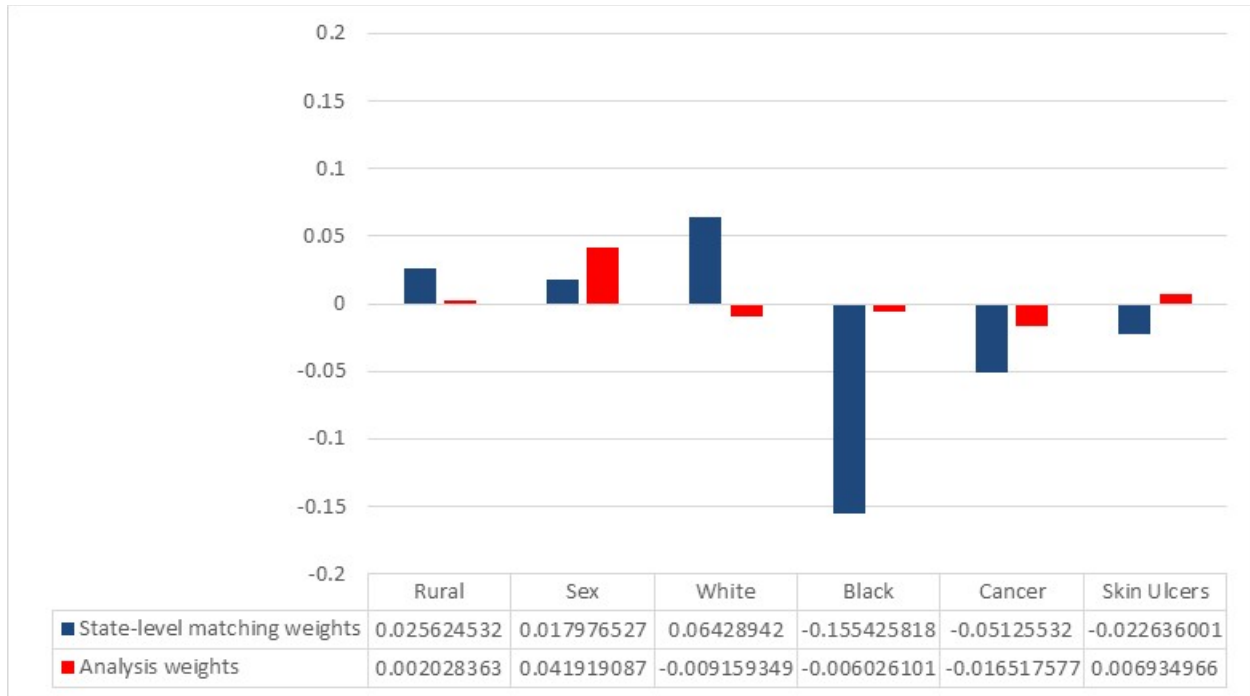


Figure D.3. Beneficiary balance before and after propensity score adjustments, 2014

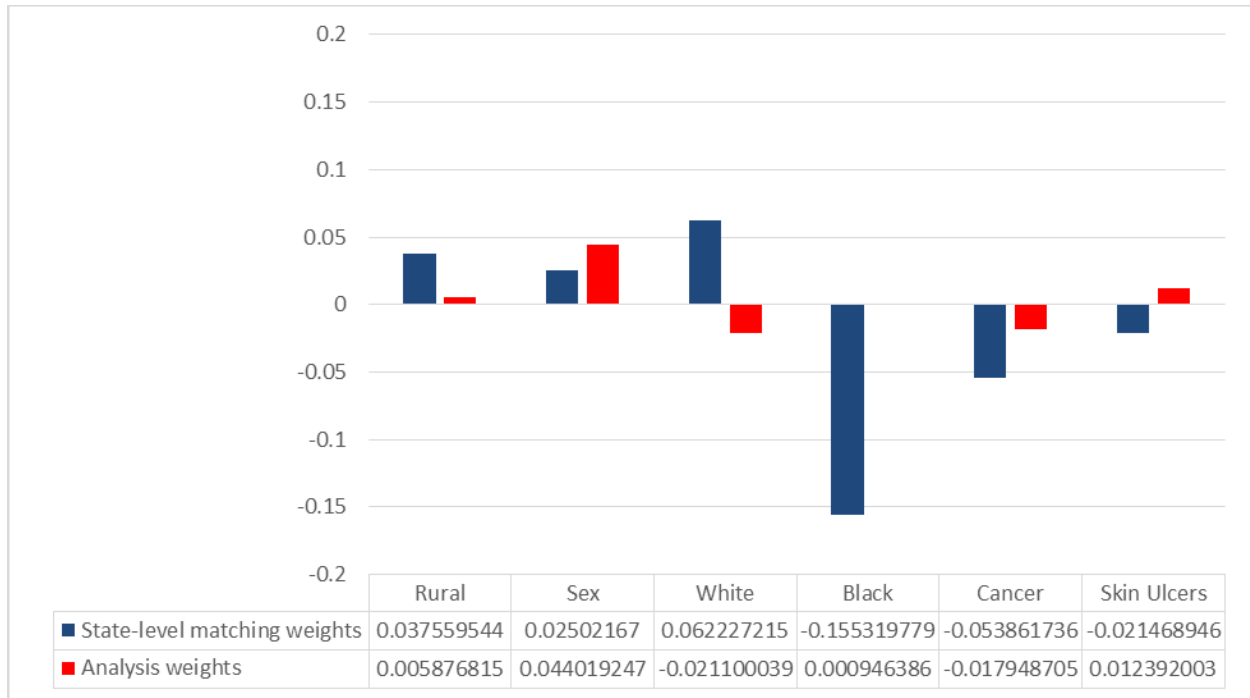


Figure D.4. Beneficiary balance before and after propensity score adjustments, 2015

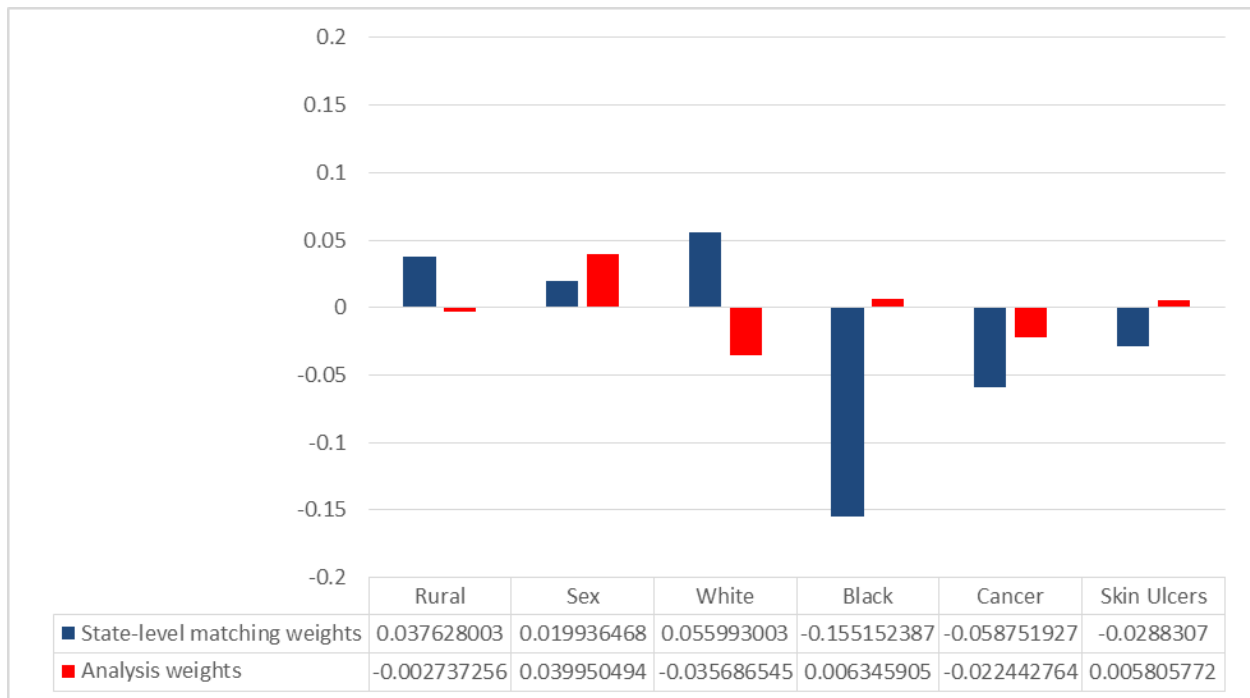


Figure D.5. Beneficiary balance before and after propensity score adjustments, 2016

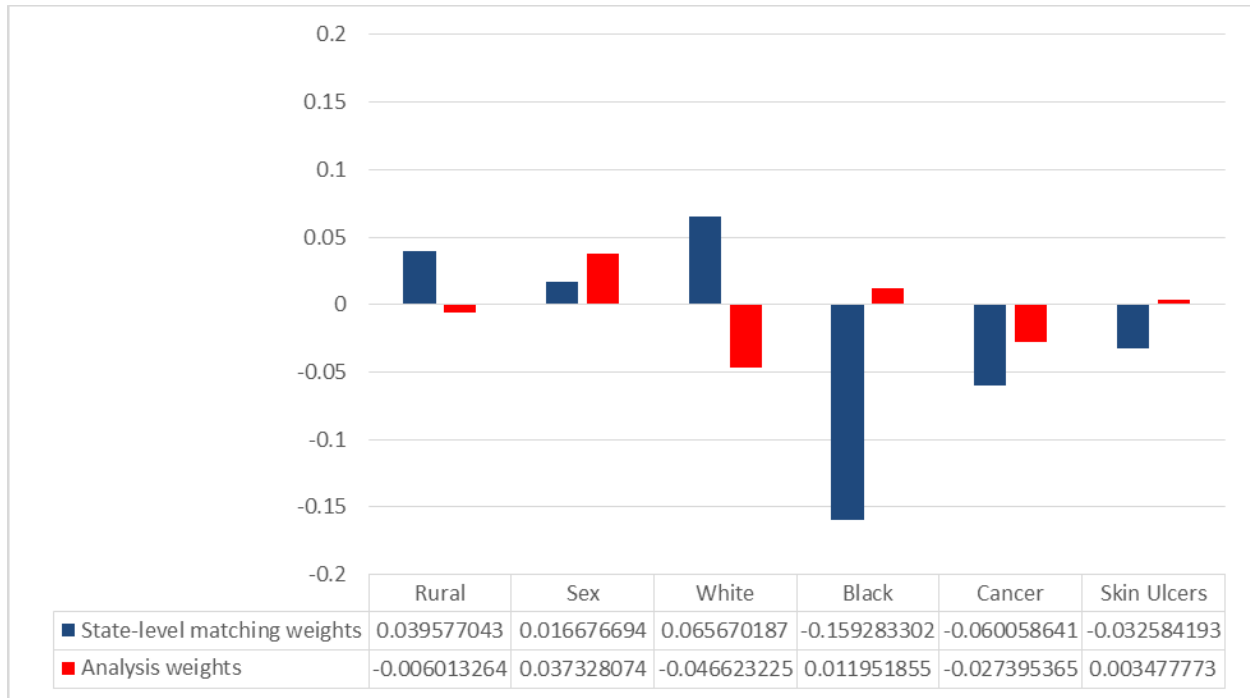




Table D.2. Beneficiary characteristics before and after propensity score weighting

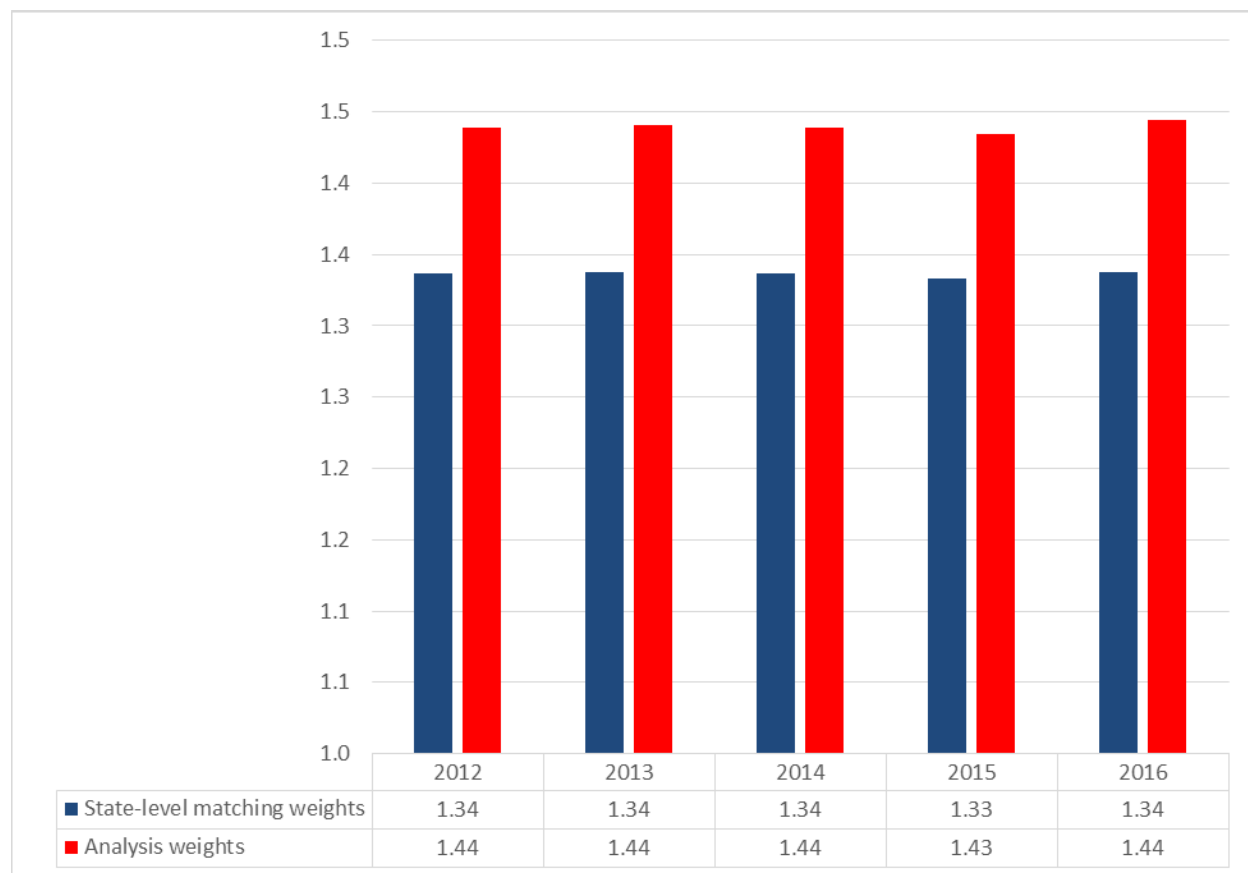
Characteristic	2012			2013			2014			2015			2016		
	Model	Comparison		Model	Comparison		Model	Comparison		Model	Comparison		Model	Comparison	
		Before	After		Before	After		Before	After		Before	After		Before	After
Rural	21.2	22.0	21.0	20.7	21.7	20.7	20.1	21.6	20.3	20.1	21.6	20.0	20.3	21.9	20.1
Female	45.4	46.2	47.5	44.9	45.8	47.0	44.2	45.4	46.4	43.9	44.9	45.9	43.9	44.7	45.8
Race															
White	51.0	53.8	50.4	50.0	53.2	49.5	49.3	52.4	48.2	48.8	51.6	47.0	48.1	51.4	45.8
Black	43.4	36.1	43.2	44.0	36.3	43.7	44.3	36.6	44.4	44.5	36.8	44.8	44.8	36.8	45.4
With active cancer	11.4	9.6	10.8	11.3	9.6	10.7	11.3	9.6	10.7	11.5	9.6	10.7	11.9	9.9	11.0
With skin ulcers	8.2	7.7	8.6	8.4	7.7	8.6	8.5	7.9	8.9	8.8	8.0	9.0	9.2	8.3	9.3

Note: The model states included: Delaware, Maryland, New Jersey, North Carolina, Pennsylvania, South Carolina, Virginia, Washington, DC, and West Virginia. The comparison states included: Alabama, Florida, Georgia, Indiana, Kentucky, Louisiana, Massachusetts, Montana, Nebraska, Ohio, Tennessee, Texas, and Washington.

### C. Choice of adjustment approach

A common approach to reduce or eliminate imbalance between an intervention and comparison sample calls for selecting a subset of the possible comparison units and then matching them to treated units, often through using a propensity score. We initially considered such an approach but rejected it in favor of the propensity score weighting approach. The main reason we decided against the use of a matching approach relates to computational efficiency. Regardless of the exact details of a matching task, it is essential to construct a distance matrix, which contains the calculated distance between each treated and untreated unit. A computer algorithm then searches the matrix to select the matches based on the chosen matching criteria. With so many beneficiaries observed in the model and comparison states in each year, reliance on such a matrix would be unwieldy. Initial tests with basic distance measures suggest that this approach would require time-consuming implementation. The propensity score weighting approach, on the other hand, took considerably less time to design and implement, and presented no computational difficulties, as it did not rely on a distance matrix between individual beneficiaries. However, we had to examine the design effect caused by differential weights to ensure that the weights did not substantially increase the standard errors of our estimates. We show the design effects due to weighting before and after propensity score adjustment in Figure D.6.

Figure D.6. Design effects, by weight and year



The design effect due to weighting is a measure of the increase in the variance of an outcome measure induced by weights. It is scaled to a simple random sample (SRS), which has no differential weights and therefore no design effect. Therefore, a design effect of 1.0 indicates no increase in variance due to weighting, whereas a design effect of 1.5 indicates a 50 percent increase in variance attributable to weighting. The state-level matching weights had design effects of about 1.34 across all years, making the variance of the outcomes about 30 percent higher than an SRS using just the state-level matching weights. The propensity score adjusted weights increased the design effects to about 1.44. Even though such an increase represents an increase in the variance of the outcomes, it is marginal and increases the confidence intervals of estimates by only fractions of a percent. Therefore, we find that the propensity score adjustment approach does not significantly reduce the statistical power of our analyses.

We believe that the choice of propensity score weighting will provide impact estimates on RSNAT utilization and access as equally unbiased as those potentially resulting from a matching approach (Wang et al. 2014; Posner and Ash n.d.). The goal of matching is to eliminate imbalance on important measured characteristics; the figures above clearly show that the propensity score weighting approach successfully eliminated those imbalances. In this project, the weights slightly increased the variance of the state-level matching weights. However, an increase in the variance of the weights would almost certainly result from a matching approach. The propensity score weighting approach also included all comparison beneficiaries, resulting in a larger sample size than would be expected with the use of a matching approach, which also improves statistical precision.

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## APPENDIX E

### SUPPLIER MATCHING APPROACH AND FINDINGS

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## A. Supplier characteristics and balance

For the purposes of this analysis, we defined suppliers using a combination of NPI/provider ID number, state, and zip code. This approach addresses the complication of single suppliers operating in multiple states. Using this definition, there were, on average, about 60 percent more providers in the matched-comparison states than the model states in each year (Table E.1).

Table E.1. Counts of RSNAT service suppliers, by year

	2012	2013	2014	2015	2016
Model states	2,451	2,451	2,376	2,263	2,111
Matched-comparison states	4,005	3,869	3,801	3,779	3,670

Note: Counts are unweighted. The model states included: Delaware, Maryland, New Jersey, North Carolina, Pennsylvania, South Carolina, Virginia, Washington, DC, and West Virginia. The comparison states included: Alabama, Florida, Georgia, Indiana, Kentucky, Louisiana, Massachusetts, Montana, Nebraska, Ohio, Tennessee, Texas, and Washington.

To assess the similarity of the suppliers in the matched-comparison states with those in the model states, we used the aggregated characteristics of the potential service users living within the catchment areas of each supplier. We chose this approach for two reasons. First, very limited data were available at the supplier level—primarily whether the supplier was located in a rural or urban area and the ownership type for the supplier. Ownership type was not very informative because it was available only for the institutional ambulance providers, and we considered rural/urban location as potentially suspect because this designation was based solely on the zip code of the supplier's location, not the area(s) where services are provided. A supplier may choose to locate its garage in a rural area due to lower property taxes, rent, or other reasons, yet the majority of the beneficiaries served would receive services in an urban location. If prior authorization has a differential impact on the services available to rural versus urban beneficiaries, using the supplier zip codes could suppress the discovery of such an effect.

Potential service users were defined as beneficiaries diagnosed with ESRD, active cancer, or skin ulcers and who lived within a supplier catchment area, the latter defined as the set of zip codes of previous RSNAT-covered claims for the supplier (see the methods section for more information). The data available for the beneficiaries within the supplier catchment areas included age, race, urban/rural locality, and chronic conditions. We aggregated these characteristics to the supplier level, weighted by the state-level matching weight in the case of the suppliers in matched-comparison states. Table E.2 shows the average of these characteristics for each year.

As Table E.2 shows, the suppliers were matched on the average age, percentage female, and percentage with ESRD, active cancer, or skin ulcers. There are differences for the average percentages rural and black, but they are mostly moderate differences, on the order of about 2 to 4 percentage points or less.

Table E.2. Summary statistics for aggregated potential service user characteristics in catchment areas, by year

	2012		2013		2014		2015		2016	
	Model	Comparison	Model	Comparison	Model	Comparison	Model	Comparison	Model	Comparison
Average age	71.1	70.8	71.1	70.8	71.1	70.8	71.2	70.8	71.2	70.9
Percentage female	55.7%	54.9%	55.6%	54.8%	55.5%	54.7%	55.3%	54.7%	55.1%	54.6%
Percentage rural	23.7%	26.4%	23.6%	27.3%	23.5%	27.2%	24.1%	27.0%	26.4%	28.5%
Percentage white	80.7%	80.5%	79.4%	81.4%	79.0%	81.3%	80.0%	81.0%	80.8%	80.6%
Percentage black	15.1%	13.2%	15.9%	12.3%	15.8%	12.1%	14.7%	12.2%	13.9%	12.3%
Percentage with ESRD	1.5%	1.7%	1.5%	1.6%	1.5%	1.6%	1.4%	1.5%	1.3%	1.4%
Percentage with active cancer	7.3%	6.6%	7.2%	6.4%	7.1%	6.2%	7.0%	6.1%	7.0%	6.0%
Percentage with skin ulcers	1.9%	1.6%	1.8%	1.5%	1.8%	1.5%	1.4%	1.2%	1.7%	1.4%

Note: All rows labeled as percentages of a category represent averages of within-catchment area beneficiary characteristics, aggregated to the provider level. The model states included: Delaware, Maryland, New Jersey, North Carolina, Pennsylvania, South Carolina, Virginia, Washington, DC, and West Virginia. The comparison states included: Alabama, Florida, Georgia, Indiana, Kentucky, Louisiana, Massachusetts, Montana, Nebraska, Ohio, Tennessee, Texas, and Washington.



## B. Accounting for rural imbalance

The imbalance on the percentage of within-catchment area beneficiaries living within rural versus urban areas between suppliers in the model and matched-comparison states is moderate, yet larger than a difference of 0.10 standard deviations (SD), a common threshold in our evaluation work with CMMI. Thus, we used the statistical technique of optimal matching to select a sample of suppliers from the matched-comparison states similar to the suppliers in the model states.<sup>5</sup>

The priority for matching was to reduce the imbalance on the percentage of rural potential service users to the extent possible; we considered this imbalance the largest threat to the validity of the impact estimates. Our secondary goals were to minimize the differences on the percentage with ESRD and keep the design effect due to weighting in the 1.7–1.8 range, disallowing any above 2.0.<sup>6</sup> After achieving a minimal difference on the percentage of rural service users (< 0.10 SD), we used these two goals to strike a balance between reducing differences on other characteristics and minimizing the effect of the weights on the variance of the outcomes. Separately for each year, we tested a series of matching specifications, including calipers on the percentage of rural beneficiaries and the percentage with ESRD, the propensity-score based distance for the combination of all variables, and the minimum and maximum matching ratio within the matched sets. We chose final matching specifications based on the reduction in the differences on percentage of rural potential service users, the percentage of potential service users with ESRD, the resulting design effect of the matching weights, and changes in the weights for suppliers across years.

Figures E.1 through E.5 present the standardized differences on the key characteristics used in matching before and after that matching. In general, the matching improved balance on all characteristics, with the post-match balance on percentage of rural beneficiaries meeting the target of less than 0.10 SD in all years. Although the matching did not consistently achieve that level of balance on other characteristics, these mean differences were nevertheless quite small in raw terms. The weighted post-match means are presented in Table E.3. After the matching procedure, the difference in the average percentage of potential service users living in rural areas dropped to about 1 to 2 percentage points in any year. Differences for all other characteristics marginally improved compared to their prior-to-matching balance.

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<sup>5</sup> We initially used a propensity-score weighting approach to balance the provider characteristics, similar to the approach deployed for the beneficiary matching analysis. However, we found that complex modeling was required to achieve balance similar to what could be achieved using the matching. In addition, the propensity score-adjusted weights had design effects that were much higher than the matching-based weights. As a result, we decided to use the matching analysis instead.

<sup>6</sup> Higher design effects would have an adverse impact on the precision of impact estimates.

Figure E.1. Supplier balance before and after matching, 2012

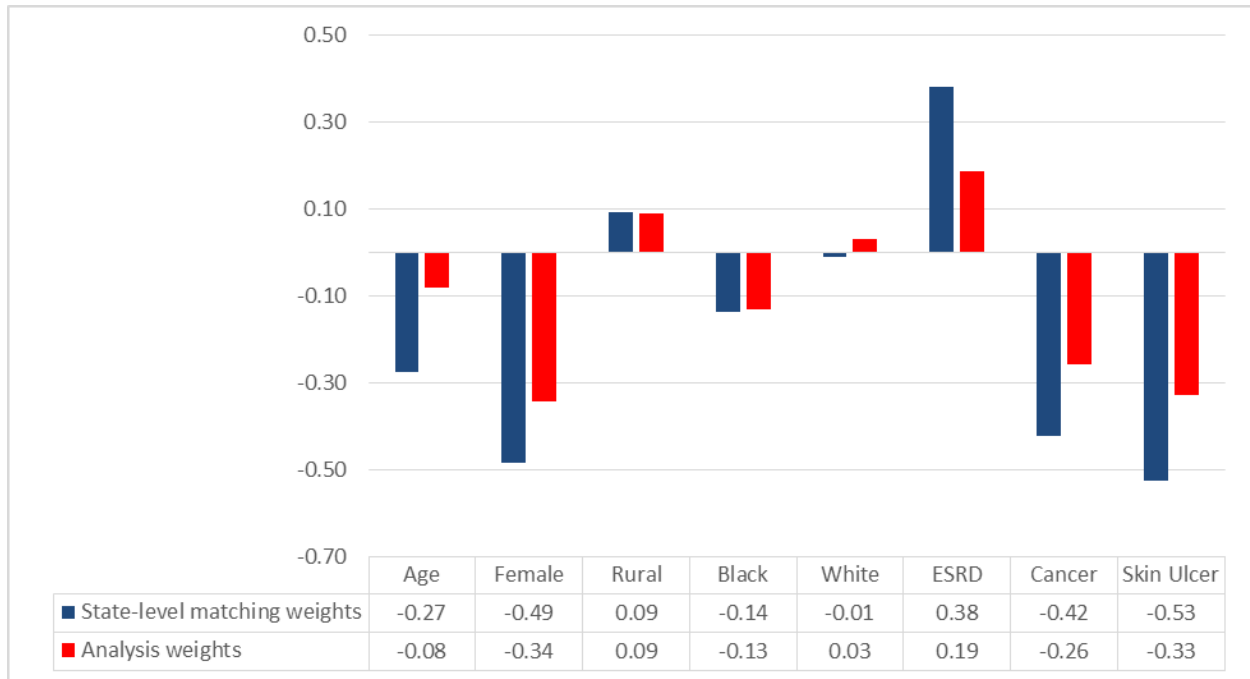


Figure E.2. Supplier balance before and after matching, 2013

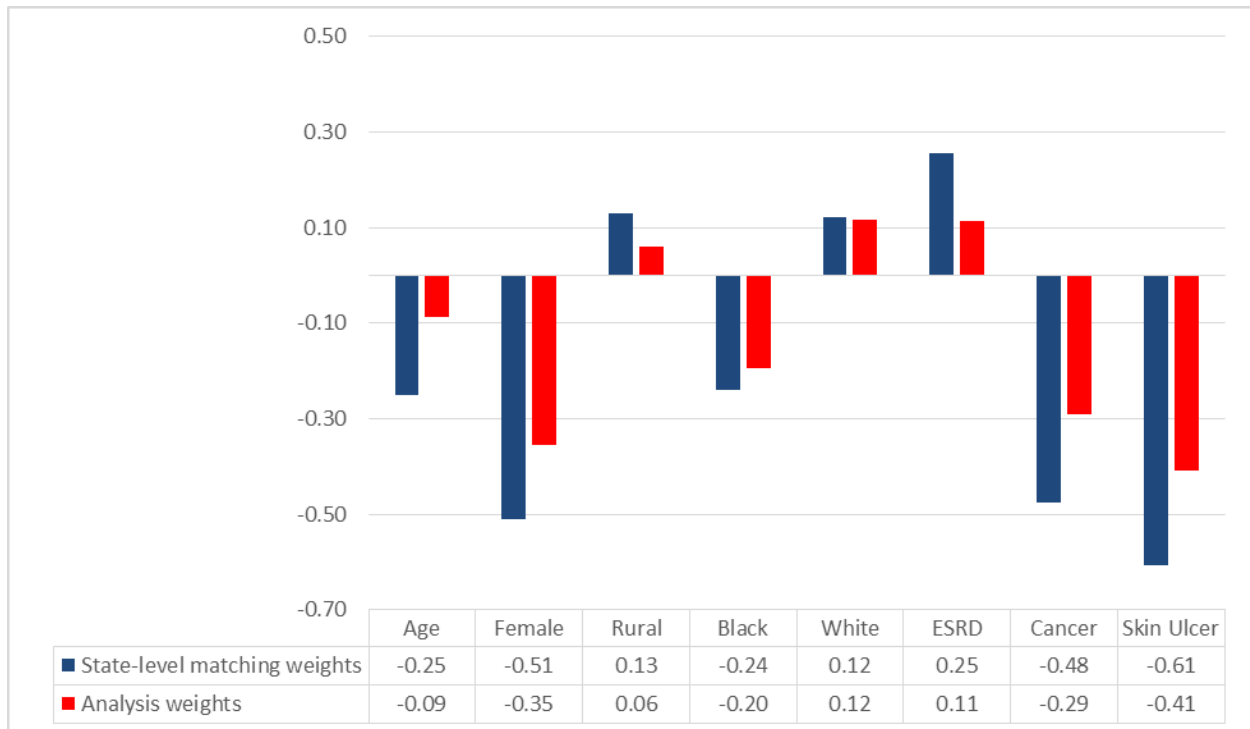


Figure E.3. Supplier balance before and after matching, 2014

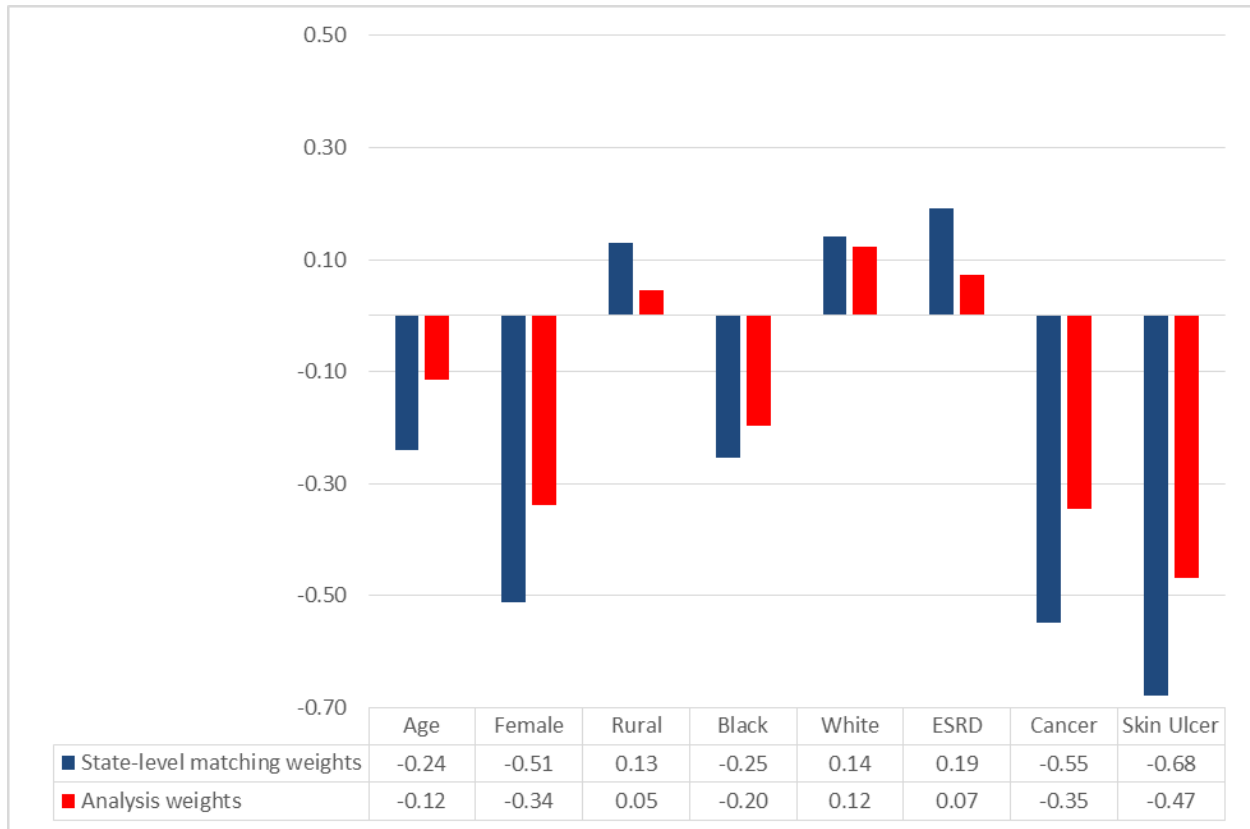


Figure E.4. Supplier balance before and after matching, 2015

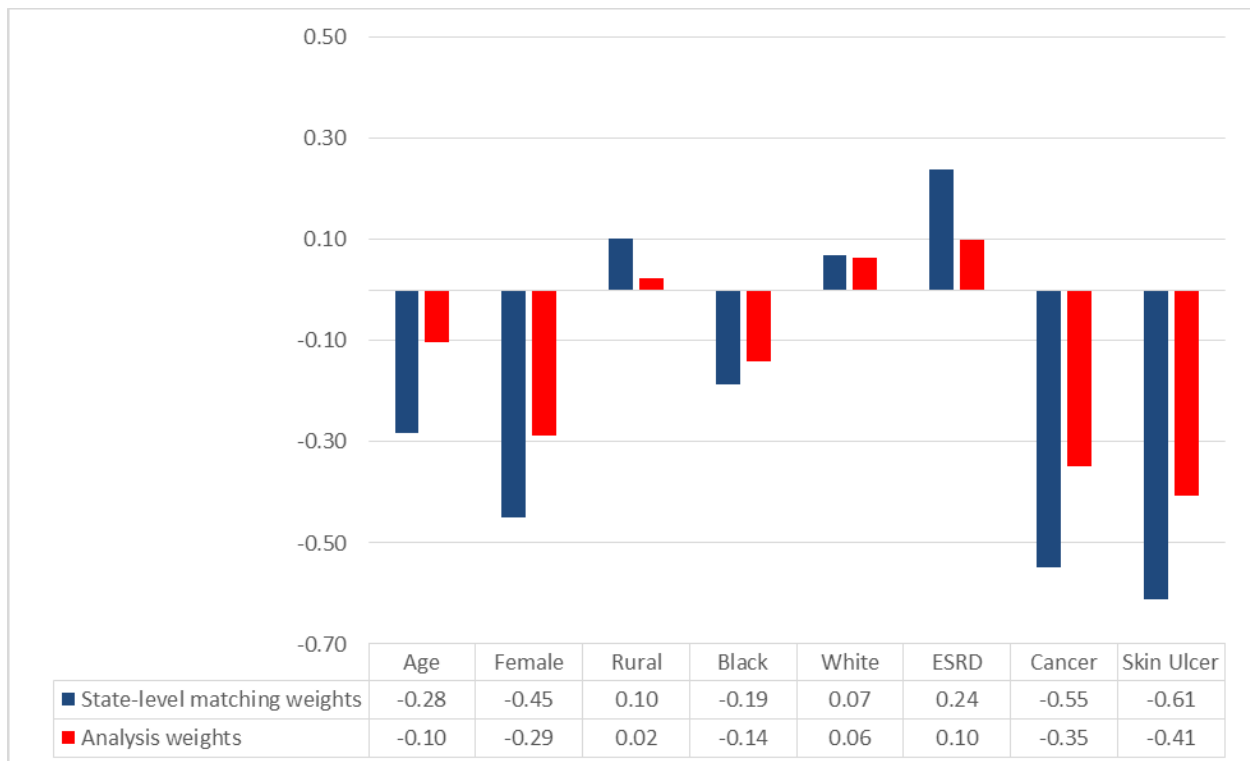


Figure E.5. Supplier balance before and after matching, 2016



Table E.3. Summary statistics for aggregated beneficiary characteristics in catchment areas, by year, post-matching

	2012		2013		2014		2015		2016	
	Model	Comparison	Model	Comparison	Model	Comparison	Model	Comparison	Model	Comparison
Average age	71.1	71.0	71.1	71.0	71.1	70.9	71.2	71.0	71.2	71.1
Percentage female	55.7%	55.2%	55.6%	55.0%	55.5%	55.0%	55.3%	54.9%	55.1%	54.8%
Percentage rural	23.7%	26.4%	23.6%	25.4%	23.5%	24.8%	24.1%	24.8%	26.4%	27.0%
Percentage white	80.7%	81.2%	79.4%	81.3%	79.0%	81.0%	80.0%	80.9%	80.8%	80.4%
Percentage black	15.1%	13.3%	15.9%	13.0%	15.8%	12.9%	14.7%	12.8%	13.9%	13.2%
Percentage with ESRD	1.5%	1.6%	1.5%	1.5%	1.5%	1.5%	1.4%	1.4%	1.3%	1.4%
Percentage with active cancer	7.3%	6.9%	7.2%	6.7%	7.1%	6.6%	7.0%	6.4%	7.0%	6.4%
Percentage with skin ulcers	1.9%	1.7%	1.8%	1.6%	1.8%	1.6%	1.4%	1.2%	1.7%	1.5%

Note: The model states included: Delaware, Maryland, New Jersey, North Carolina, Pennsylvania, South Carolina, Virginia, Washington, DC, and West Virginia. The comparison states included: Alabama, Florida, Georgia, Indiana, Kentucky, Louisiana, Massachusetts, Montana, Nebraska, Ohio, Tennessee, Texas, and Washington.

With only a few exceptions, all suppliers in the matched-comparison states in each year were selected as comparison suppliers, effectively making the matching procedure a re-weighting procedure.<sup>7</sup> The final matching specifications, particularly the maximum of three model suppliers matched to a single comparison supplier (or vice versa), was informed by the year-to-year change in weights for each supplier, as well as the imbalance on the percentage of rural service users. Initial matches allowed for more flexible ratios of treatment to comparison suppliers, as high as 10-to-one and vice versa, to reduce the imbalances; however, this approach resulted in large changes in the weights for individual suppliers across years, creating an artificial seasonal cycle in the outcome measures. As a result, we restricted the matching ratios in the final matching specifications to minimize changes in weights across years, which also reduced the design effect of the weights. See Appendices J and K for a discussion of the statistical power of the supplier level analyses.

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<sup>7</sup> In 2014, four suppliers were not matched, and in 2016 one supplier was not matched because their overall distances based on the estimated propensity scores were too large to balance the samples optimally. All suppliers were matched in 2012, 2013, and 2015.

APPENDIX F

PROVIDER/SUPPLIER FOCUS GROUP RECRUITING  
SCRIPTS AND DISCUSSION GUIDES

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## RECRUITING PROTOCOL FOR AMBULANCE TRANSPORT SUPPLIER

1. **Hello. My name is (YOUR NAME) from Mathematica Policy Research in Princeton, NJ. We've been hired by the Centers for Medicare and Medicaid Services to conduct an evaluation of Medicare's prior authorization payment program for ambulance transport. Is there someone I can speak with who is familiar with submitting prior authorization requests?**

**IF NEEDED: "This would probably be the person who schedules non-emergency ambulance services."**

- YES ..... 1  
YES, BUT PLEASE CALL BACK..... 2 GO TO END 1  
DO NOT SERVE MEDICARE PATIENTS ..... 3 GO TO END 4  
DO NOT PROVIDE NON-EMERGENCY TRANSPORT ..... 4 GO TO END 2  
NO/REFUSE ..... 5 GO TO END 6

2. **IF NEW PERSON ON LINE: Hello. My name is (YOUR NAME) from Mathematica Policy Research in Princeton, NJ. We've been hired by the Centers for Medicare and Medicaid Services to conduct an evaluation of Medicare's prior authorization payment program for ambulance transport. This program requires ambulance suppliers or beneficiaries to request prior authorization for non-emergency ambulance services before they transportation is provided.**

**First, can I confirm that your organization provides NON-emergency ambulance transport services?**

- YES ..... 1  
NO ..... 0 GO TO END 2

3. **Since prior authorization was extended to [State] in January of 2016, has your organization submitted prior authorization requests for non-emergency ambulance services for Medicare patients?**

- YES ..... 1  
NO ..... 0 GO TO END 5

4. **Does your organization currently provide non-emergency ambulance services in Delaware, Washington, DC, Maryland, North Carolina, Virginia, and/or West Virginia?**

- YES ..... 1  
NO ..... 0 GO TO END 3

**5. In which of those states does your organization provide non-emergency ambulance transport services?**

- DELAWARE..... 1
- WASHINGTON, DC..... 2
- MARYLAND..... 3
- NORTH CAROLINA..... 4
- VIRGINIA ..... 5
- WEST VIRGINIA..... 6

**6. As part of our study, we want to learn more about how prior authorization is affecting ambulance suppliers and beneficiaries. We are conducting a series of online focus groups with ambulance suppliers and would very much like to include you. To thank you for your participation in the study, we will mail you a \$30 check upon completion of the focus group. The focus group discussion boards will be open for a full week, and participants can log in and out of the discussion at their own convenience during that time. The discussion will include questions about your experiences with prior authorization, what has been working well so far, and what you would change. The identity of focus group participants is strictly confidential and will only be known to the researchers conducting the study. The focus group we would like you to participate in will take place from [Insert Date] to [Insert Date].**

**Are you able to participate in this online discussion?**

- YES ..... 1
- NO ..... 0 GO TO END 6

**7. Is there someone else from your organization who might be able to participate?**

- YES ..... 1
- NO ..... 0 GO TO END 6

**8. Thank you. In order to send you more information about the study and share the link to the online focus group, we will need an email address where we can reach you. Your email will only be used for this research study and will never be shared with anyone outside of the research team.**

**What email address should we use?**

RECORD AND CONFIRM EMAIL \_\_\_\_\_

**9. Is there an alternate email address we should keep on file as a backup?**

- YES ..... 1
- RECORD ALT EMAIL \_\_\_\_\_
- NO ..... 0

10. **As we mentioned, you will receive a \$30 check for your participation in the focus group. Can you please provide me with the name and address we should use for the check?**

**Thank you for agreeing to participate in this important study. You will receive an email from Mathematica Policy Research in the next few days with more details about the evaluation and the focus group discussion. We look forward to hearing about your experiences with the program. If you find that you cannot participate, please be sure to let us know. Our toll-free phone number is [Insert Toll-Free Number].**

**Thank you for your time and we look forward to having you in the discussion group!**

**END 1. When is a time that works for you at your earliest convenience?**

[RECORD DATE AND TIME.]

Thank you. I look forward to talking to you then.

**END 2 Thank you. At this time we only need to speak with organizations providing non-emergency ambulance transport services. Have a good day/evening.**

**END 3. Thank you. At this time we only need to speak with organizations providing non-emergency ambulance transport services in Delaware, Washington, D.C., Maryland, North Carolina, Virginia, and/or West Virginia. Have a good day/evening.**

**END 4. Thank you. At this time we only need to speak with organizations that accept Medicare patients. Have a good day/evening.**

**END 5. Thank you. Those are all the questions we have for you today. We may contact you in the future if we have any further questions. Have a good day/evening.**

**END 6. Thank you for your time. Have a good day/evening.**

[CALL PERSON MAXIMUM OF 2 TIMES.]

VOICEMAIL MESSAGE [LEAVE ONLY AFTER FIRST MISSED CALL]:

**Hello. My name is (YOUR NAME) from Mathematica Policy Research in Princeton, NJ. We've been hired by the Centers for Medicare and Medicaid Services to conduct an evaluation of Medicare's prior authorization payment program for ambulance transport, including the program is affecting ambulance suppliers and beneficiaries. Your input would be extremely helpful to this study. Our number is [Insert Toll-Free Number] in case you have any questions. Otherwise, we will try to reach you at another time. Thank you!**

**FOR DIALYSIS TREATMENT PROVIDER**

1. **Hello. My name is (YOUR NAME) from Mathematica Policy Research in Princeton, NJ. We've been hired by the Centers for Medicare and Medicaid Services to conduct an evaluation of their prior authorization payment process for ambulance transportation, including how it is affecting dialysis patients and providers. May I speak with the person who arranges dialysis patient transportation?**
- YES ..... 1
- YES, BUT PLEASE CALL BACK..... 2 GO TO END 1
- DO NOT SERVE MEDICARE PATIENTS ..... 3 GO TO END 4
- NO ..... 4 GO TO END 6
2. **IF NEW PERSON ON LINE: Hello. My name is (YOUR NAME) from Mathematica Policy Research in Princeton, NJ. We've been hired by the Centers for Medicare and Medicaid Services to conduct an evaluation of Medicare's prior authorization payment program for ambulance transport, including how it may be affecting dialysis patients who rely on ambulances to get to and from their treatment.**
- First, can I confirm that your facility provides dialysis treatment services?**
- YES ..... 1
- NO ..... 2 GO TO END 2
3. **Does your facility currently provide those services in Delaware, Washington, D.C., Maryland, North Carolina, Virginia, and/or West Virginia?**
- YES ..... 1
- NO ..... 2 GO TO END 3
4. **In which of those states does your facility provide dialysis treatment services?**
- DELAWARE..... 1
- WASHINGTON, D.C..... 2
- MARYLAND..... 3
- NORTH CAROLINA..... 4
- VIRGINIA ..... 5
- WEST VIRGINIA ..... 6
5. **Since Medicare's prior authorization program began, have any of your dialysis patients had difficulty getting to and from dialysis because they cannot get approval for ambulance transportation? [IF NECESSARY: In this program, ambulance transportation to and from dialysis must be determined to be "medically necessary" in order to qualify for payment.]**
- YES ..... 1 GO TO Q7
- NO/DK..... 2 GO TO Q6

6. **Has the prior authorization program for ambulance services had any other effect, positive or negative, on your facility's ability to provide dialysis services to Medicare patients?**  
YES ..... 1 GO TO Q7  
NO ..... 2 GO TO END 5
7. **As part of our study, we want to learn more about how prior authorization is affecting dialysis patients and providers. We are conducting a series of online focus groups with dialysis facilities and would very much like to include your organization. To thank you for your participation in the study, we will mail you a \$30 check upon completion of the focus group. The focus group discussion boards will be open for a full week, and participants can log in and out of the discussion at their own convenience during that time. The discussion will include questions about your experiences with prior authorization, what has been working well so far, and what you would change. The identity of focus group participants is strictly confidential and will only be known to the researchers conducting the study. The focus group we would like you to participate in will take place from [Insert Date] to [Insert Date].**  
**Would you be able to participate in this online discussion?**  
YES ..... 1  
NO ..... 2 GO TO Q8
8. **Is there someone else from your organization who might be able to participate?**  
YES ..... 1  
NO ..... 2 GO TO END 6
9. **Thank you. In order to send you more information about the study and share the link to the online focus group, we will need an email address where we can reach you. Your email will only be used for this research study and will never be shared with anyone outside of the research team.**  
**What email address should we use?**  
RECORD AND CONFIRM EMAIL \_\_\_\_\_
10. **Is there an alternate email address we should keep on file as a backup?**  
YES ..... 1  
RECORD ALT EMAIL \_\_\_\_\_  
NO ..... 2

11. **As we mentioned, you will receive a \$30 check for your participation in the focus group. Can you please provide me with the name and address we should use for the check?**

**Thank you for agreeing to participate in this important study. You will receive an email from Mathematica Policy Research in the next few days with more details about the evaluation and the focus group discussion. We look forward to hearing about your experiences with the program. If you find that you cannot participate, please be sure to let us know. Our toll-free phone number is [Insert Toll-Free Number].**

**Thank you for your time and we look forward to having you a part of the discussion group!**

**END 1. When is a time that works for you at your earliest convenience?**

[RECORD DATE AND TIME.]

**Thank you. I look forward to talking to you then.**

**END 2. Thank you. At this time we only need to speak with facilities providing dialysis treatment services. Have a good day/evening.**

**END 3. Thank you. At this time we only need to speak with facilities providing dialysis treatment services in Delaware, Washington, D.C., Maryland, North Carolina, Virginia, and/or West Virginia. Have a good day/evening.**

**END 4. Thank you. At this time we only need to speak with facilities that accept Medicare patients. Have a good day/evening.**

**END 5. Thank you. Those are all the questions we have for you today. We may contact you in the future if we have any further questions. Have a good day/evening.**

**END 6. Thank you for your time. Have a good day/evening.**

[CALL PERSON MAXIMUM OF 2 TIMES.]

VOICEMAIL MESSAGE [LEAVE ONLY AFTER FIRST MISSED CALL]:

**Hello. My name is (YOUR NAME) from Mathematica Policy Research in Princeton, NJ. We've been hired by the Centers for Medicare and Medicaid Services to conduct an evaluation of their prior authorization payment process for ambulance transportation, including how it is affecting dialysis patients and providers. Your input would be extremely helpful to this study. Our number is [Insert Toll-Free Number] in case you have any questions. Otherwise, we will try to reach you at another time. Thank you!**

**FOR ATTENDING PHYSICIANS**

1. **Hello. My name is (YOUR NAME) from Mathematica Policy Research in Princeton, NJ. May I speak with [PHYSICIAN NAME FROM SAMPLE]?**
- YES, SPEAKING ..... 1
- NOT AVAILABLE..... 2 GO TO END 1
- WRONG NUMBER ..... 3 GO TO END 5
2. **Mathematica Policy Research has been hired by the Centers for Medicare and Medicaid Services to conduct an evaluation of the prior authorization requirement for repetitive scheduled non-emergent ambulance services, including how the program may be affecting patients who rely on ambulances to get to and from medical treatment.**
- Our review of Medicare records indicates you are currently an attending physician at a [dialysis center/skilled nursing facility] in [STATE]? Is this correct?**
- YES ..... 1
- YES, BUT PLEASE CALL BACK..... 2 GO TO END 2
- NO, NOT A PHYSICIAN..... 3 GO TO END 3
- NO, NOT A PHYSICIAN AT THIS LOCATION ..... 4 GO TO END 3
- NO, NOT A PHYSICIAN IN THAT STATE ..... 5 GO TO END 3
3. **Are you familiar with Medicare’s new prior authorization requirement, in which beneficiaries must receive pre-approval for using repetitive scheduled non-emergent ambulance services?**
- YES ..... 1
- NO/DK..... 2
4. **In this program, repetitive scheduled ambulance transportation to and from medical treatment must be determined to be “medically necessary” in order to qualify for payment. Since Medicare’s prior authorization program began, have you had to provide any documentation related to a prior authorization request to show medical necessity for a patient?**
- YES ..... 1 GO TO Q6
- NO/DK..... 2 GO TO Q5
5. **How much, if at all, has the prior authorization program for ambulance transport services affected your everyday work as an attending physician? (READ 1-4)**
- A LOT.....1
- SOME.....2
- VERY LITTLE .....3
- NOT AT ALL.....4 GO TO END 4

6. **As part of our study, we want to learn more about how prior authorization is affecting attending physicians and the patients they serve. We are conducting a series of online focus groups with attending physicians and would love to include you. The focus group discussion boards will be open for a full week, and participants can log in and out of the discussion at their own convenience during that time. The identity of focus group participants is strictly confidential and will only be known to the researchers conducting the study. The focus group we would like you to participate in will take place from [Insert Date] to [Insert Date].**

**Would you be able to participate in this online discussion?**

YES ..... 1

NO ..... 2 GO TO END 5

7. **Thank you. In order to send you more information about the study and share the link to the online focus group, we will need an email address where we can reach you. Your email will only be used for this research study and will never be shared with anyone outside of the research team.**

**What email address should we use?**

RECORD AND CONFIRM EMAIL \_\_\_\_\_

8. **Is there an alternate email address we should keep on file as a backup?**

YES ..... 1

RECORD ALT EMAIL \_\_\_\_\_

NO ..... 2

9. **Thank you for agreeing to participate in this important study. You will receive an email from Mathematica Policy Research in the next few days with more details about the evaluation and the focus group discussion. We look forward to hearing about your experiences with the program. If you find that you cannot participate, please be sure to let us know. Our toll-free phone number is [Insert Toll-Free Number].**

**Thank you for your time and we look forward to having you a part of the discussion group!**

**END 1. When is a more convenient time to reach [PHYSICIAN'S NAME]?**

[RECORD DATE AND TIME.]

Thank you. I will call back then.

**END 2. When is a time that works for you at your earliest convenience?**

[RECORD DATE AND TIME.]

Thank you. I look forward to talking to you then.

**END 3. Thank you. At this time we only need to speak with attending physicians at dialysis centers or skilled nursing facilities in Delaware, Washington D.C., Maryland, North Carolina, Virginia, and/or West Virginia. Have a good day/evening.**

**END 4. Thank you. Those are all the questions we have for you today. We may contact you in the future if we have any further questions. Have a good day/evening.**



**END 5. Thank you for your time. Have a good day/evening.**

VOICEMAIL MESSAGE [LEAVE ONLY AFTER FIRST MISSED CALL]:

**Hello. My name is (YOUR NAME) from Mathematica Policy Research in Princeton, NJ. Mathematica Policy Research has been hired by the Centers for Medicare and Medicaid Services to conduct an evaluation of the prior authorization requirement for repetitive scheduled non-emergent ambulance services, including how the program may be affecting attending physicians and the patients they serve. Your input would be extremely helpful to this study. Please call us back at your earliest convenience, our number is [Insert Toll-Free Number]. Otherwise, we will try to reach you at another time. Thank you!**

**FOR SKILLED NURSING FACILITIES**

1. **Hello. My name is (YOUR NAME) from Mathematica Policy Research in Princeton, NJ. We've been hired by the Centers for Medicare and Medicaid Services to conduct an evaluation of their prior authorization payment process for repetitive scheduled non-emergent ambulance transportation, including how it is affecting skilled nursing facility patients and providers. May I speak with the person who arranges transportation for Medicare patients?**

- YES ..... 1
- YES, BUT PLEASE CALL BACK..... 2 GO TO END 1
- WE ARE NOT A SKILLED NURSING FACILITY ..... 3 GO TO END 2
- DO NOT SERVE MEDICARE PATIENTS ..... 4 GO TO END 4
- NO ..... 5 GO TO END 6

2. **IF NEW PERSON ON LINE: Hello. My name is (YOUR NAME) from Mathematica Policy Research in Princeton, NJ. We've been hired by the Centers for Medicare and Medicaid Services to conduct an evaluation of Medicare's prior authorization payment program for repetitive scheduled non-emergent ambulance transport, including how it is affecting skilled nursing facility patients who rely on ambulances to get to and from their medical services.**

**First, can I confirm that this is a skilled nursing facility?**

- YES ..... 1
- NO ..... 2 GO TO END 2

3. **Is your facility located in Delaware, Washington, D.C., Maryland, North Carolina, Virginia, and/or West Virginia?**

- YES ..... 1
- NO ..... 2 → GO TO END 3

4. **In which of those states is your facility located?**

- DELAWARE..... 1
- WASHINGTON, D.C..... 2
- MARYLAND..... 3
- NORTH CAROLINA..... 4
- VIRGINIA ..... 5
- WEST VIRGINIA..... 6

5. **Since Medicare’s prior authorization program began, have any of your patients had difficulty getting to and from medical services because they cannot get approval for repetitive scheduled non-emergent ambulance transportation? [IF NECESSARY: In this program, ambulance transportation to and from medical services must be determined to be “medically necessary” in order to qualify for payment.]**
- YES ..... 1 GO TO Q7
- NO/DK..... 2 GO TO Q6
6. **Has the prior authorization program for repetitive scheduled non-emergent ambulance services had any other effect, positive or negative, on your Medicare patients?**
- YES ..... 1 GO TO Q7
- NO/DK..... 2 GO TO END 5
7. **As part of our study, we want to learn more about how prior authorization is affecting skilled nursing facilities and their patients. We are conducting a series of online focus groups with skilled nursing facilities and would very much like to include your organization. To thank you for your participation in the study, we will mail you a \$30 check upon completion of the focus group. The focus group discussion boards will be open for a full week, and participants can log in and out of the discussion at their own convenience during that time. The discussion will include questions about your experiences with prior authorization, what has been working well so far, and what you would change. The identity of focus group participants is strictly confidential and will only be known to the researchers conducting the study. The focus group we would like you to participate in will take place from Thursday, July 21st to Wednesday, July 27th.**
- Would you be able to participate in this online discussion?**
- YES ..... 1
- NO ..... 2 GO TO Q8
8. **Is there someone else from your organization who might be able to participate?**
- YES ..... 1 GO TO END 8
- NO ..... 2 GO TO END 6
9. **Thank you. In order to send you more information about the study and share the link to the online focus group, we will need an email address where we can reach you. Your email will only be used for this research study and will never be shared with anyone outside of the research team.**
- What email address should we use?**
- RECORD AND CONFIRM EMAIL \_\_\_\_\_
10. **Is there an alternate email address we should keep on file as a backup?**
- YES ..... 1
- RECORD ALT EMAIL \_\_\_\_\_
- NO ..... 2

11. **As we mentioned, you will receive a \$30 check for your participation in the focus group. Can you please provide me with the name and address we should use for the check?**

Thank you for agreeing to participate in this important study. You will receive an email from Mathematica Policy Research in the next few days with more details about the evaluation and the focus group discussion. We look forward to hearing about your experiences with the program. If you find that you cannot participate, please be sure to let us know. Our toll-free phone number is [Insert Toll-Free Number].

Thank you for your time and we look forward to having you a part of the discussion group!

- END 1. **When is a time that works for you at your earliest convenience?**

[RECORD DATE AND TIME.]

Thank you. I look forward to talking to you then.

- END 2. **Thank you. At this time we only need to speak with skilled nursing facilities. Have a good day/evening.**

- END 3. **Thank you. At this time we only need to speak with facilities providing dialysis treatment services in Delaware, Washington, D.C., Maryland, North Carolina, Virginia, and/or West Virginia. Have a good day/evening.**

- END 4. **Thank you. At this time we only need to speak with facilities that serve Medicare patients. Have a good day/evening.**

- END 5. **Thank you. Those are all the questions we have for you today. We may contact you in the future if we have any further questions. Have a good day/evening.**

- END 6. **Thank you for your time. Have a good day/evening.**

- END 7. **Sure. Please give us a call back at [Insert Toll-Free Number] at your earliest convenience with that contact information. Your organization's participation would be extremely helpful to our study. We look forward to hearing from you.**

- END 8. **OK. [COLLECT PERSON'S NAME AND PHONE/EMAIL INFORMATION]. Thank you. We will try to reach [PERSON'S NAME]. Have a good day/evening.**

[CALL PERSON MAXIMUM OF 2 TIMES.]

VOICEMAIL MESSAGE [LEAVE ONLY AFTER FIRST MISSED CALL]:

Hello. My name is (YOUR NAME) from Mathematica Policy Research in Princeton, NJ. We've been hired by the Centers for Medicare and Medicaid Services to conduct an evaluation of their prior authorization payment process for repetitive scheduled non-emergent ambulance transportation, including how it is affecting skilled nursing facilities and their patients. Your input would be extremely helpful to this study. Please call us back at your earliest convenience, our number is [Insert Toll-Free Number]. Otherwise, we will try to reach you at another time. Thank you!

## **QUALBOARD WELCOME PAGE/PROFILE SET UP**

**Welcome! Thank you for participating in this virtual focus group as part of the Evaluation of Medicare Prior Authorization Models for Repetitive Scheduled Non-Emergent Ambulance Transport. The information provided by participants will be kept strictly confidential.**

## **PROFILE INSTRUCTIONS**

## **VIDEO TUTORIAL**

## **PROFILE QUESTIONS AND MODEL EXPERIENCE QUESTIONS**

**Welcome!**

**Thank you for participating in this virtual focus group as part of an evaluation of Medicare's prior authorization model for Repetitive Scheduled Non-Emergency Ambulance Transport (RSNAT).**

**For model states:**

**In December 2014, CMS implemented the prior authorization (PA) model for medically necessary, repetitive, scheduled, non-emergency ambulance transport (RSNAT) services in New Jersey, Pennsylvania, and South Carolina. We are interested in your experiences with the prior authorization model.**

**For expansion states:**

**In January 2016, CMS expanded the prior authorization model for medically necessary repetitive scheduled non-emergency ambulance transport services to Delaware, the District of Columbia, Maryland, North Carolina, Virginia, and West Virginia. We are interested in your experiences with the prior authorization model.**

**The information provided by virtual focus group participants will be kept strictly confidential. We do not include your photo or full name to maintain anonymity. In this profile section, your responses are visible only to the moderator. In the subsequent three discussion sections, your responses are visible to the moderator and all other participants. As you move through each section, click "Reply" to respond to each item.**

**Please do not hesitate to contact us if you have questions.**

**[Insert Focus Group Moderators Name] (Focus Group Moderators)**

**CMS\_MPAM@mathematica-mpr.com**

**FOR PROVIDERS ONLY:**

**P1. In which of the following states do you or your organization currently provide [non-emergency medical transport/dialysis treatment] services to Medicare beneficiaries? If "Other", please specify in the "Additional Comments" box. [Multiple responses allowed]**

For model states:

- New Jersey ..... 1
- Pennsylvania..... 2
- South Carolina..... 3
- Other..... 4

For expansion states:

- Delaware..... 1
- District of Columbia..... 2
- Maryland..... 3
- North Carolina..... 4
- Virginia..... 5
- West Virginia..... 6
- Other..... 7

**P2. In a typical month, approximately what percentage of your patients are covered by Medicare Part B (including dual eligibles)?**

**P3. For how long has your [organization/facility] been providing services to Medicare patients?**

- Less than 1 year ..... 1
- 1-3 years ..... 2
- 4-9 years ..... 3
- 10 or more years ..... 4

**P4. Which of the following best describes your role in your organization? If other, please specify in the “Additional Comments” box.**

- Medical director ..... 1
- Facility manager ..... 2
- Billing manager ..... 3
- Service provider ..... 4
- Social worker ..... 5
- Other ..... 6

**P5. Overall, how much experience do you, personally, have with the prior authorization process? Please tell us the nature of that experience – the setting(s), the payer(s) involved, and your role in the process, if any.**

**P6. Since CMS implemented prior authorization for medically necessary, non-emergent ambulance transport services (RSNAT), has your [organization/patients’ ambulance transport provider(s)] submitted prior authorization requests for these services? If your [organization/patients’ ambulance transport provider(s)] has not submitted prior authorization requests for RSNAT services, please explain why.**

**We understand that you may not be involved in the claims submission process and may only be helping patients through this process when they need assistance.**

**PLEASE MOVE TO THE NEXT SECTION.**



## DISCUSSION QUESTIONS – SECTION 1

This section includes questions about how the prior authorization model may be affecting beneficiaries. Your answers in this section are visible to the moderator and to all other participants. You may respond to or comment on other participants' responses. If you come to a question you cannot answer, please move to the next one.

**S1Q1.** We are interested in learning more about how the prior authorization model may affect the provision of dialysis services. In your experience, has the prior authorization process for ambulance transport affected how and when your patients receive dialysis treatment? For example, has it delayed services or caused patients to miss treatments?

**S1Q2.** In your experience, are patient prior authorization requests for ambulance transport generally processed in a timely manner? We understand that you may not be involved in the claims submission process and may only be helping patients through this process when they need assistance.

**S1Q3.** Do dialysis treatments for your patients ever need to be cancelled or rescheduled while waiting for a prior authorization request for ambulance transport to be processed? If so, how often does this happen?

**S1Q4.** Are there particular groups of Medicare beneficiaries who are more likely to experience these kinds of delays due to the prior authorization model? If so, which beneficiaries are disproportionately affected and why?

**S1Q5.** Since prior authorization for ambulance transport was expanded to your state in January 2016, do you find that some patients rely on other forms of transportation to get to and from treatment? If yes, how are they getting to and from treatment? Has this change affected their care in any way?

**S1Q6. Other than issues getting to and from dialysis treatment, has implementation of the prior authorization model for ambulance transport had any other impacts on your patients or caregivers? For instance, has it resulted in any emotional or financial effects?**

**S1Q7. Are there specific ways you would like to see Medicare adjust the prior authorization model to improve patient access to dialysis treatment?**

**PLEASE MOVE TO THE NEXT SECTION.**

## DISCUSSION QUESTIONS – SECTION 2

This section includes questions about how the prior authorization model is working. Your answers in this section are visible to the moderator and to all other participants. You may respond to or comment on other participants' responses. If you come to a question you cannot answer, please move to the next one.

**S2Q1.** In your experience, how often are patient prior authorization requests for ambulance transport to and from dialysis treatment denied? What are the most common reasons for denial? Are the reasons for denial generally clear? We understand that you may not be involved in the claims submission process and may only be helping patients through this process when they need assistance.

**S2Q2.** When patient prior authorization requests are denied, is it typically easy or difficult to determine what needs to be changed or addressed for a follow-up request to be approved?

**S2Q3.** Overall, do you feel you have a clear understanding of the prior authorization guidelines for non-emergent ambulance transport? Which, if any, guidelines or requirements are unclear?

**S2Q4.** How have prior authorization processes and requirements been communicated to dialysis providers in your state? Do you feel efforts to educate dialysis providers about prior authorization and the potential impact on dialysis patients have been adequate and effective? Are there any things you would change about education efforts?

**S2Q5.** If you have questions about prior authorization for ambulance transport for patients, are resources available to get clarification? Where do you typically go if you have questions?

**S2Q6. Are you aware of cases in which ambulance suppliers solicited business from patients who did not need or qualify for non-emergent ambulance transport services? Please share examples.**

**S2Q7. In your experience, has the prior authorization model been effective in reducing the use of unnecessary non-emergent ambulance transport services? If so, in what specific ways has it been effective in reducing the use of unnecessary non-emergent ambulance transport services? Please share examples.**

**S2Q8. Are there ways you think Medicare can adjust the prior authorization model to make it more effective in reducing the use of unnecessary non-emergent ambulance services, while also maintaining beneficiary access to treatment such as dialysis?**

**PLEASE MOVE TO THE NEXT SECTION.**

## DISCUSSION QUESTIONS – SECTION 3

This last section includes questions about how the prior authorization model may affect dialysis treatment facilities and the providers who work there. Your answers in this section are visible to the moderator and to all other participants. You may respond to or comment on other participants' responses. If you come to a question you cannot answer, please move to the next one.

**S3Q1.** Thinking just about the dialysis facility or facilities where you are currently employed, has the overall case volume changed since prior authorization was expanded to your state for non-emergent ambulance transport in January 2016? Has the dialysis patient population changed in any way? For instance, does the facility continue to serve Medicare patients, and are those patients similar to the Medicare patients serviced before the implementation of prior authorization for ambulance transport?

**S3Q2.** Has your facility hired, trained, or reassigned staff or managers to manage the prior authorization request process or respond to changing case volume resulting from implementation of the prior authorization model? Has your organization made any other management changes because of prior authorization, such as changes in admissions, scheduling, or billing?

**S3Q3.** Has the implementation of prior authorization had any effect on your facility's financial solvency or profitability, reflected in increasing or decreasing case volume or opening or closing of facility locations? Are there specific ways you would like to see Medicare adjust the prior authorization model to limit potential financial impacts on dialysis facilities?

**S3Q4.** In response to the implementation of prior authorization for non-emergent ambulance transport, has your facility done any of the following:

- Expanded, limited, or eliminated service to Medicare beneficiaries?
- Moved resources in to or out of states participating in the RSNAT prior authorization model?
- Increased or decreased billing rates for services not subject to prior authorization?
- Opened additional facilities or closed existing facilities?
- Made any other significant operational changes?

**S3Q5.** Based on your experience, do you think a nationwide implementation of the RSNAT prior authorization model (using the processes and procedures currently in place) would be successful in reducing unnecessary use of services while also maintaining beneficiary access to services such as dialysis? Why or why not?

**S3Q6. Are there specific changes or adjustments you think would make a national implementation more successful? What elements of the program currently work well and should not be changed?**

**S3Q7. What information, guidance or advice would you share with other dialysis providers in states where prior authorization may be implemented?**

**S3Q8. Below, please describe any other aspects of prior authorization, its effect on your facility, or its effect on the provision of services to beneficiaries that should be considered as part of the evaluation.**

**SUPPLIERS ONLY:**

**P1. In which of the following states do you or your organization currently provide [non-emergency medical transport/dialysis treatment] services to Medicare beneficiaries? If “Other”, please specify in the “Additional Comments” box. [Multiple responses allowed]**

For model states:

- New Jersey ..... 1
- Pennsylvania..... 2
- South Carolina..... 3
- Other..... 4

For expansion states:

- Delaware..... 1
- District of Columbia..... 2
- Maryland..... 3
- North Carolina..... 4
- Virginia..... 5
- West Virginia..... 6
- Other..... 7

**P2. In a typical month, approximately what percentage of your patients are covered by Medicare Part B (including dual eligibles)?**

**P3. For how long has your [organization/facility] been providing services to Medicare patients?**

- Less than 1 year ..... 1
- 1-3 years ..... 2
- 4-9 years ..... 3
- 10 or more years ..... 4

**P4. How many medical transport vehicles (including ambulances and vans) does your organization currently have garaged in New Jersey, Pennsylvania or South Carolina for the model (or Delaware, the District of Columbia, Maryland, North Carolina, Virginia, or West Virginia for the expansion)? If you operate in more than one of these states, please report the number of vehicles garaged in each state.**

**P5. Which of the following best describes your role in your organization? If “Other”, please specify in the “Additional Comments” box.**

- President or owner ..... 1
- Compliance officer..... 2
- Operations director or manager..... 3
- Billing director or manager..... 4
- Other..... 5

**P6. Overall, how much experience do you, personally, have with the prior authorization process? Please tell us the nature of that experience – the setting(s), the payer(s) involved, and your role in the process, if any.**

**P7. Since CMS implemented prior authorization for medically necessary, non-emergent ambulance transport services (RSNAT), has your [organization/patients’ ambulance transport provider(s)] submitted prior authorization requests for these services? If your [organization/patients’ ambulance transport provider(s)] has not submitted prior authorization requests for RSNAT services, please explain why.**

**P8. Since the expansion of the prior authorization program in January 2016, has your organization been subject to prepayment review for claims related to RSNAT services? If so, please describe your experience with the prepayment review process and how it has affected your organization’s ability to provide services to beneficiaries.**

**P9. When patient claims are subject to prepayment review, are the reasons for that determination communicated clearly? Are they generally claims that had been approved, denied, did not have a prior authorization request, or some combination of these?**

## DISCUSSION QUESTIONS – SECTION 1

This section includes questions about how the prior authorization model is working. Your answers in this section are visible to the moderator and to all other participants. You may respond to or comment on other participants’ responses. If you come to a question you cannot answer, please move to the next one.



**S1Q1. We are interested in hearing about the quality of your experience with several aspects of the ambulance transport prior authorization process. First, are prior authorization requests generally processed by Medicare Administrative Contractors (MACs) within the specified timeframe – 10 days for initial requests, 20 days for subsequent requests, and 2 days for expedited requests? Are prior authorization requests for non-emergent ambulance services typically affirmed or approved after the first request, affirmed after two or more requests, or not affirmed?**

**S1Q2. When do patients typically receive transport services, relative to the prior authorization requests for ambulance transport? Are transport services typically provided after authorization is received, after the request is submitted but before receiving authorization, or before the prior authorization request is submitted? Are transport services sometimes provided after a prior authorization request has been denied? If so, please give examples.**

**S1Q3. Are prior authorization determinations typically received before patients are scheduled for treatment? If not, how often do treatments need to be rescheduled because a prior authorization determination has not been received?**

**S1Q4. In your experience, what are the most common reasons for RSNAT prior authorization requests to be denied? Are the reasons for denial generally clear or is it sometimes hard to determine why a request has been denied? Is it generally clear what needs to be changed or addressed for a follow up request to be approved?**

**S1Q5. How have prior authorization processes and guidelines been communicated to medical service providers and ambulance suppliers in your state? Have efforts to educate providers and suppliers about the RSNAT prior authorization model been adequate and effective? What would you change about education efforts?**

**S1Q6. Do you feel you and other staff have a clear understanding of RSNAT prior authorization guidelines – including the definition of “medically necessary” services? Which, if any, guidelines are unclear?**

**S1Q7. When you or your colleagues have questions about RSNAT prior authorization processes, are resources available to get clarification, for instance through CMS or your Medicare Administrative Contractor (MAC)? Which resources have been most helpful and why?**

**PLEASE MOVE TO THE NEXT SECTION.**

## DISCUSSION QUESTIONS – SECTION 2

This section includes questions about potential effects the prior authorization model is having on your organization and on Medicare beneficiaries. Your answers in this section are visible to the moderator and to all other participants. You may respond to or comment on other participants' responses. If you come to a question you cannot answer, please move to the next one.

**S2Q1.** In your experience, has the RSNAT prior authorization model affected the timeliness and/or quality of care provided to beneficiaries who use these services? Does prior authorization ever result in delayed access to care or lower quality healthcare for beneficiaries? Please share examples.

**S2Q2.** Are there particular groups of Medicare beneficiaries who are more likely to experience delays in care or lower quality care due to the prior authorization model? If so, which beneficiaries are disproportionately affected and why?

**S2Q3.** Are there specific ways you would like to see Medicare adjust the RSNAT prior authorization model to prevent delays in care or lower quality care for beneficiaries?

**S2Q4.** In your experience, has the RSNAT prior authorization model been effective in reducing the use of unnecessary non-emergency ambulance transport services and discouraging fraud? If so, in what specific ways has the prior authorization model reduced the use of unnecessary services? Please share examples.

**S2Q5.** Are there ways you see RSNAT prior authorization increasing the use of Medicare-covered services other than ambulance transport, such as emergency care or hospitalization? Please share examples.

**S2Q6.** Are there specific ways you would like to see Medicare adjust the prior authorization model to make it more effective in reducing the use of unnecessary ambulance transport services and discouraging fraud?

**S2Q7. We are interested in learning more about different ways prior authorization is affecting ambulance suppliers. Overall, has the RSNAT prior authorization model had a mostly positive or mostly negative financial effect on your organization? Please explain.**

**S2Q8. Has your organization hired, trained or reassigned staff or managers to manage the prior authorization request process or respond to changing case volume resulting from implementation of the prior authorization model? Has your organization made any other management changes because of prior authorization, such as changes in scheduling or billing?**

**S2Q9. In response to the effects of prior authorization has your organization done any of the following:**

- Expanded, limited, or eliminated service to Medicare beneficiaries?
- Moved resources in to or out of states participating in the RSNAT prior authorization model?
- Increased or decreased billing rates for services not subject to prior authorization?
- Opened additional facilities or closed existing facilities?
- Made any other significant operational changes?

**S2Q10. Are there specific ways you would like to see Medicare adjust the prior authorization model to limit potential financial impacts on suppliers and providers?**

**PLEASE MOVE TO THE NEXT SECTION.**

## DISCUSSION QUESTIONS – SECTION 3

This last section includes questions about expanding the prior authorization model to other states. Your answers in this section are visible to the moderator and to all other participants. You may respond to or comment on other participants' responses. If you come to a question you cannot answer, please move to the next one.

**S3Q1. Based on your experience, do you think a nationwide implementation of the RSNAT prior authorization model (using the processes and procedures currently in place) would be successful? Why or why not?**

**S3Q2. Are there specific changes or adjustments you think would make a national implementation more successful? What elements of the program currently work well and should not be changed?**

**S3Q3. What information, guidance or advice would you share with other service providers or suppliers in states where prior authorization may be implemented?**

**S3Q4. Below, please describe any other aspects of prior authorization, its effect on your organization, or its effect on the provision of services to beneficiaries that should be considered as part of the evaluation.**

Thank you for participating in this discussion group.

Your insights on how the prior authorization program is affecting stakeholders is critical to ensuring that Medicare beneficiaries continue to receive needed services and that service providers and suppliers are supported in this effort.

## **QUALBOARD WELCOME PAGE/PROFILE SET UP**

**Welcome! Thank you for participating in this virtual focus group as part of the evaluation of Medicare's prior authorization model for Repetitive Scheduled Non-Emergent Ambulance Transport. The information you provide will be kept strictly confidential.**

## **PROFILE INSTRUCTIONS**

## **VIDEO TUTORIAL**

## **PROFILE AND MODEL EXPERIENCE QUESTIONS**

**Welcome!**

**Thank you for participating in this virtual focus group as part of an evaluation of Medicare's prior authorization model for Repetitive Scheduled Non-Emergency Ambulance Transport (RSNAT).**

**In January 2016, CMS expanded the prior authorization model for medically necessary repetitive scheduled non-emergency ambulance transport services to Delaware, the District of Columbia, Maryland, North Carolina Virginia, and West Virginia. We are interested in your experiences with the prior authorization model.**

**The information provided by virtual focus group participants will be kept strictly confidential. We do not include your photo or full name to maintain anonymity. In this profile section, your responses are visible only to the moderator. In the subsequent three discussion sections, your responses are visible to the moderator and all other participants. As you move through each section, click "Reply" to respond to each item.**

**Please do not hesitate to contact us if you have questions.**

**[Insert Focus Group Moderator Name]**

**[CMS\\_MPAM@mathematica-mpr.com](mailto:CMS_MPAM@mathematica-mpr.com)**

**P1. In which of the following states do you currently practice? If you select "Other", please specify the other states in the "Additional Comments" box. [Multiple responses allowed]**

- Delaware..... 1
- District of Columbia ..... 2
- Maryland..... 3
- North Carolina..... 4
- Virginia ..... 5
- West Virginia..... 6
- Other (please specify)..... 7

**P2. At what type of facility or facilities do you currently work as a physician? If you select "Other", please specify the other facilities in the "Additional Comments" box. [Multiple responses allowed]**

- Skilled Nursing Facility (SNF)..... 1
- Nursing Home or Long-term Care Facility ..... 2
- Dialysis Facility..... 3
- Private Practice ..... 4
- Other (please specify)..... 5

**P3. In a typical week, approximately how many hours do you work as a physician?**

**P4. In a typical week, approximately what percentage of your time is spent on administrative tasks and paperwork?**

PERCENT (OUT OF 100%)



**P5. In a typical week, approximately what percentage of your time is spent with patients?**

PERCENT (OUT OF 100%)

**P6. Which of the following best describe your medical specialty? If you have multiple specialties, please specify only the specialties that are impacted by Medicare's prior authorization model for Repetitive Scheduled Non-Emergent Ambulance Transport. If you select "Other Specialty", please specify that specialty in the "Additional Comments" box. [Multiple responses allowed]**

Primary Care ..... 1

Nephrology..... 2

Other Specialty (please specify) ..... 3

**P8. In a typical month, approximately what percentage of your patients are covered by Medicare Part B (including dual eligibles)?**

**PLEASE MOVE TO THE NEXT SECTION**

## DISCUSSION QUESTIONS – SECTION 1

This section includes questions about the process of establishing medical necessity for ambulance transport. Your answers in this section are visible to the moderator and to all other participants. You may respond to or comment on other participants' responses. If you come to a question you cannot answer, please move to the next one.

**S1Q1.** How have prior authorization processes and requirements been communicated to physicians in your state? In your opinion, are efforts to educate physicians about prior authorization and the potential effects on patients adequate? What would you change about these education efforts?

**S1Q2.** Since CMS implemented prior authorization for repetitive, scheduled, non-emergent ambulance transport services in your state, have you been asked to provide documentation for a patient's prior authorization request? This documentation is generally required to establish *medical necessity* for these services. If so, how often are you asked to do this?

**S1Q3.** As a physician, what information are you typically asked to provide to document a patient's medical need for ambulance services? A common requirement is a signed Physician Certification Statement (PCS). Are you usually asked to sign a PCS? Are you required to provide anything in addition to the signed PCS?

**S1Q4.** On average, how long does it take to complete required documentation for a single patient? Do you gather this documentation, or do other staff at your office do this? In your experience, is this documentation typically easy or difficult to complete? Why or why not? Please provide examples.

**S1Q5.** How do you interpret CMS's definition of *medical necessity* for repetitive scheduled non-emergent ambulance transport services? Do the criteria for medical necessity used by CMS adequately reflect a patient's condition and mobility? Please provide examples. Are there additional criteria that CMS should consider? If so, what are these criteria?

**S1Q6.** Have you encountered situations where it is difficult to determine medical necessity? How do you address questions or uncertainty in these situations?

**S1Q7. Please describe any suggestions you have for improving how medical necessity is established for your patients.**

**S1Q8. What resources are available for assistance when you have questions about the prior authorization request process or the criteria for establishing and documenting medical necessity for ambulance transport? Which resources do you typically use when you have questions? Why?**

**S1Q9. To what extent has the prior authorization process changed or affected your workload? To what extent has it changed the workloads of other staff at the facility(ies) where you work? Please describe how workloads have changed.**

**PLEASE MOVE TO THE NEXT SECTION**

## DISCUSSION QUESTIONS – SECTION 2

This section includes questions about how the prior authorization model may be affecting patients. Your answers in this section are visible to the moderator and to all other participants. You may respond to or comment on other participants' responses. If you come to a question you cannot answer, please move to the next one.

**S2Q1.** We are interested in learning more about how the prior authorization model may affect the provision of medical treatment to patients. In your experience, has the prior authorization requirement for ambulance transport services affected how and when patients receive necessary medical treatment? For example, has it delayed services or caused patients to miss treatments? Please provide examples.

**S2Q2.** Are there particular *groups of patients* whose access to treatment is more likely to be affected by the prior authorization requirement? If so, which patients are most affected and why?

**S2Q3.** Since prior authorization for ambulance transport was implemented in January 2016, are any of your patients using alternative means of transportation to get to and from treatments, such as dialysis? If yes, how are they getting to and from treatment? Has this change affected their care in any way?

**S2Q4.** Other than affecting a patient's ability to get to and from medical treatments, how has the prior authorization model affected your patients or their caregivers? For instance, have patients or their caregivers experienced any emotional or financial effects?

**PLEASE MOVE TO THE NEXT SECTION**

## DISCUSSION QUESTIONS – SECTION 3

This section includes questions on the overall effectiveness of prior authorization. Your answers in this section are visible to the moderator and to all other participants. You may respond to or comment on other participants' responses. If you come to a question you cannot answer, please move to the next one.

**S3Q1.** In your experience, has the prior authorization model helped to reduce the use of unnecessary non-emergent ambulance transport services? If so, in what ways has it been effective? Please share examples.

**S3Q2.** Do you think a nationwide implementation of the prior authorization model for ambulance transport (using the processes and procedures currently in place) would reduce use of unnecessary services while maintaining access to care? What elements of the program currently work well? Are there specific changes or adjustments you think would make a national implementation more successful?

**S3Q3.** What other adjustments can Medicare make to the prior authorization model to reduce the use of unnecessary ambulance services while maintaining patient access to treatment?

**S3Q4.** What information, guidance, or advice would you share with other physicians in states where prior authorization for ambulance transport may be implemented?

**S3Q5.** Please describe any other aspects of prior authorization that should be considered as part of this evaluation.

Thank you for participating in this discussion group.

Your insights on the intended and unintended effects the prior authorization program is having on stakeholders is critical to ensuring that Medicare beneficiaries continue to receive needed services and that service providers and suppliers are supported in this effort.

## **QUALBOARD WELCOME PAGE/PROFILE SET UP**

**Welcome! Thank you for participating in this virtual focus group as part of an evaluation of Medicare's Prior Authorization Model for Repetitive Scheduled Non-Emergent Ambulance Transport. The information you provide will be kept strictly confidential.**

## **PROFILE INSTRUCTIONS**

## **VIDEO TUTORIAL**

## PROFILE QUESTIONS AND MODEL EXPERIENCE QUESTIONS

Welcome!

Thank you for participating in this virtual focus group as part of an evaluation of Medicare’s Prior Authorization Model for Repetitive Scheduled Non-Emergent Ambulance Transport (RSNAT).

In January 2016, CMS expanded the prior authorization (PA) model for medically necessary repetitive scheduled non-emergent ambulance transport (RSNAT) services to Delaware, the District of Columbia, Maryland, North Carolina, Virginia, and West Virginia. We are interested in your experiences with the prior authorization model.

The information provided by virtual focus group participants will be kept strictly confidential. We do not include your photo or full name to maintain anonymity. In this profile section, your responses are visible only to the moderator. In the subsequent three discussion sections, your responses are visible to the moderator and all other participants. As you move through each section, click "Reply" to respond to each item.

Please do not hesitate to contact us if you have questions.

[Insert Focus Group Moderator Name] (Focus Group Moderators)

[CMS\\_MPAM@mathematica-mpr.com](mailto:CMS_MPAM@mathematica-mpr.com)

P1. In which of the following states is your skilled nursing facility located? If you select “Other”, please specify the other states in the "Additional Comments" box. [Multiple responses allowed]

- Delaware..... 1
- District of Columbia..... 2
- Maryland..... 3
- North Carolina..... 4
- Virginia..... 5
- West Virginia..... 6
- Other (please specify)..... 7

P2. In a typical month, approximately what percentage of the patients at your facility are covered by Medicare Part B (including dual eligibles)? If there is more than one facility site, please report for the facility site where you work the most.

**P3. For how long has your facility been providing services to Medicare patients? If there is more than one facility site, please report for the facility site where you work the most.**

- Less than 1 year ..... 1
- 1-3 years ..... 2
- 4-9 years ..... 3
- 10 or more years ..... 4

**P4. Which of the following best describes your primary role in your organization? If you select "Other", please specify the other role in the "Additional Comments" box.**

- Social worker..... 1
- Medical director ..... 2
- Facility manager ..... 3
- Billing manager ..... 4
- Other (please specify)..... 5

**P5. Since CMS implemented prior authorization for medically necessary repetitive scheduled non-emergent ambulance transport services in your state, has your facility provided documentation or other assistance for ambulance transport prior authorization requests? Please describe the type(s) of documentation or other assistance your facility provides.**

**PLEASE MOVE TO THE NEXT SECTION.**



## DISCUSSION QUESTIONS – SECTION 1

This section includes questions about how the prior authorization model for medically necessary repetitive scheduled non-emergent ambulance transport may be affecting your patients. Your answers in this section are visible to the moderator and to all other participants. You may respond to or comment on other participants' responses. If you come to a question you cannot answer, please move to the next one.

**S1Q1.** We are interested in learning more about how the prior authorization model may affect the provision of medical services. Has the prior authorization process for ambulance transport affected how and when your patients receive necessary medical services? For example, has it delayed services or caused patients to miss treatments? Please provide examples.

**S1Q2.** In your experience, are patients' prior authorization requests for ambulance transport generally processed by Medicare in a timely manner?

**S1Q3.** Do services for your patients ever need to be cancelled or rescheduled while waiting for a prior authorization request for ambulance transport to be processed? If so, how often does this happen?

**S1Q4.** Are there particular groups of patients whose access to timely medical treatment is more likely to be affected by the prior authorization requirement? If so, which patients are most affected and why? For example, are dual eligible patients more or less affected than those who only have Medicare coverage?

**S1Q5.** Since the implementation of prior authorization for ambulance services, how often have you had to arrange alternative transportation for patients to get to and from medical services like dialysis, chemotherapy, and wound care? What other forms of transportation have you utilized? Has this affected patients' care in any way? Please describe.

**S1Q6. Other than any issues getting to and from medical treatments, how has implementation of the prior authorization model affected your patients or their caregivers? For instance, have patients or caregivers experienced any emotional or financial effects?**

## DISCUSSION QUESTIONS – SECTION 2

**This section includes questions about how the prior authorization model for medically necessary repetitive scheduled non-emergent ambulance transport is working. Your answers in this section are visible to the moderator and to all other participants. You may respond to or comment on other participants' responses. If you come to a question you cannot answer, please move to the next one.**

**S2Q1. In your experience, how often are prior authorization requests for ambulance transport denied? What are the most common reasons for denial? Are the reasons for denial generally clear? Why or why not?**

**S2Q2. Overall, do you feel you have a clear understanding of the prior authorization guidelines, including the criteria for “medical necessity” for ambulance transport? Which, if any, guidelines or requirements are unclear?**

**S2Q3. How have prior authorization processes and requirements been communicated to skilled nursing facilities in your state? In your opinion, are efforts to educate skilled nursing facilities about prior authorization and its potential effects on you and your patients adequate and effective? What would you change about education efforts?**

**S2Q4. What resources are available for assistance when you have questions about prior authorization? Which resources do you typically use when you have questions?**

### DISCUSSION QUESTIONS – SECTION 3

The last section includes questions about how the prior authorization model may affect skilled nursing facilities and the providers who work there, as well as whether the model should be expanded nationwide. Your answers in this section are visible to the moderator and to all other participants. You may respond to or comment on other participants' responses. If you come to a question you cannot answer, please move to the next one.

**S3Q1.** Has your facility hired, trained, or reassigned staff or managers to help manage the prior authorization request process, such as ambulance supplier requests for supporting documentation?

**S3Q2.** In response to the prior authorization program, has your organization made any changes or adjustments in how you manage patient transportation? For example, have you changed which ambulance transport suppliers you are using or have any of the suppliers in your area gone out of business? If so, do you know why these suppliers went out of business? Has your facility experienced any changes in the availability of ambulance transport services for your Medicare patients? Please describe any changes, and how you have handled this situation.

**S3Q3.** How often do ambulance transport companies report your facility as the secondary payor on claims documentation? Are you held liable for transportation costs if Medicare denies a prior authorization request after ambulance services have been provided for one of your patients? If so, how does your facility handle this? Has this had any impact on your facility's financial status?

**S3Q4.** In your experience, has the prior authorization model helped reduce the use of unnecessary non-emergent ambulance transport services? If so, in what ways has it been effective? Please share examples.

**S3Q5.** Do you think a *nationwide implementation* of the prior authorization model (using the processes and procedures currently in place) would help reduce use of unnecessary services while maintaining skilled nursing facility patient access to necessary medical services? Why or why not?

**S3Q6. What other adjustments can Medicare make to the prior authorization model to reduce the use of unnecessary ambulance services while maintaining patient access to treatment?**

**S3Q7. What information, guidance, or advice would you share with other skilled nursing facilities in states where prior authorization may be implemented?**

**S3Q8. Please describe any other aspects of prior authorization, its effect on your facility, or its effect on the provision of services to patients that should be considered as part of the evaluation.**

**Thank you for participating in this discussion group.**

**Your insights on how the prior authorization program is affecting stakeholders is critical to ensuring that Medicare beneficiaries continue to receive needed services and that service providers and suppliers are supported in this effort.**

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APPENDIX G

BENEFICIARY INTERVIEW SITE VISIT PROTOCOL

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**Evaluation of Medicare Prior Authorization (PA) Models for  
Repetitive Scheduled Non-Emergent Ambulance Transport  
(RSNAT) and Non-Emergent Hyperbaric Oxygen (HBO)  
Therapy**

## **First Round Beneficiary Interview Site Visit Guide – RSNAT Evaluation**

**June 24, 2016**



## SITE VISIT SELECTION

Provider Resources, Inc. (PRI) staff analyzed recent Medicare RSNAT claims data from 12/1/2014 – 3/31/2016 to identify dialysis facilities documented as destination locations in the three model states (New Jersey, Pennsylvania, and South Carolina). A majority of facilities were part of larger corporations. PRI reached out to corporate offices multiple times over the course of four weeks to request permission to interview beneficiaries on site at some of the corporations' local dialysis centers. A large dialysis corporation (corporation) responded to PRI's outreach and subsequently participated in a number of phone discussions and webinars, during which PRI provided an overview of the design plan for beneficiary interviews. Corporation leadership is committed to facilitating their patients' opportunity to participate in the evaluation of the RSNAT PA model.

In order to limit staff burden and intrusiveness to patient care, PRI staff will interview patients after their treatment session is concluded, in the waiting room, while they wait to be transported back to their home location. Depending on the number of patients treated at each dialysis center, the patients' schedules, and the preference of those patients, PRI staff may conduct the interviews in a group setting. This may reduce the amount of time the team will be on site and may encourage reserved patients to share their own experiences. Patients will also be offered the option to speak with a PRI interviewer separately. PRI will offer the option of conducting interviews in Spanish, as the corporation explained that some patients are only able to or prefer to speak Spanish.

Six skilled nursing facilities (SNFs), identified through RSNAT claims data analysis, have been selected for coinciding on-site visits for the first round of beneficiary interviews. These SNFs were selected based on their proximity to the local corporation's dialysis centers and the number of qualified beneficiaries who receive dialysis and reside there. **Table 2. SNFs for First Round of Beneficiary Site Visits**

PRI staff will follow a similar site visit plan for SNFs as they will for dialysis facilities, in accordance with the specific requests of each SNF.

## SITE VISIT IMPLEMENTATION

One to two weeks prior to the scheduled site visit, PRI will ship a site visit toolkit to the local coordinator at each facility. The toolkit will include:

1. Advance notice materials for patients that promote the date, purpose, and process of the site visit interviews
  - a. 11x17 poster for display
  - b. 5x7 postcards as handouts
2. Frequently asked questions (FAQs)
  - a. For professionals and dialysis center staff
  - b. For patients, written at a third to fifth grade reading level

3. Two color-coded response cards that state one interview question each in plain language and large print

PRI will request that site visit toolkit materials be made available to patients at the facility prior to the site visit to allow them time to consider if they are eligible to give an interview, notify facility staff of their interest in participating in an interview, consider their responses to the interview questions, and work with staff to determine if they will be at the dialysis facility on the day of the site visit.

PRI has developed two color-coded response cards to prepare patients and facilitate brief, yet informative, discussions with patients and staff in an easy-to-understand, direct, and unintrusive manner. Each color indicates a different patient situation related to the model.

- Green response cards – for those beneficiaries who continue to be transported by ambulance; and
- Yellow response cards – for those beneficiaries who used to be transported by ambulance prior to the model, but now use alternative transportation.

The interview question on the front of the green and yellow cards will be in bold, black, large print.

- Green: *If you ride to dialysis in an ambulance, what was it like to get Medicare to pay for it?*
- Yellow: *If you don't go to dialysis in an ambulance anymore, what is it like for you to get to dialysis now?*

The back of the cards will offer additional options for sharing experiences with PRI, such as:

- Written or staff-transcribed responses on the card directly, instead of participation in an interview
- Consent/request for a follow-up discussion with PRI via phone

## **INTERVIEW ACTIVITIES**

When the interview team arrives on site, they will meet briefly with the facility coordinator to learn the schedule and location of interviews. The interviewers will use the interview guide in the next section of this design plan to collect qualitative information from patients and/or their families. Staff will be given the same opportunity to provide responses to the same interview questions on behalf of a specific patient or the family, including those who were affected by the model, but whose dialysis treatment has been recently discontinued (e.g., transferred to inpatient care, deceased, or moved out of the area and transferred to another dialysis facility). Staff members can use the response cards to describe experiences or participate in a recorded interview.

---

## Interview Guide

The interviewers will engage patients who are members of the targeted group of beneficiaries, as identified by the facility point of contact (POC), while they are waiting to be picked up after their treatment.

### Introduction

Good morning/afternoon.

My name is \_\_\_\_\_.

What is your name?

Good to meet you, \_\_\_\_\_.

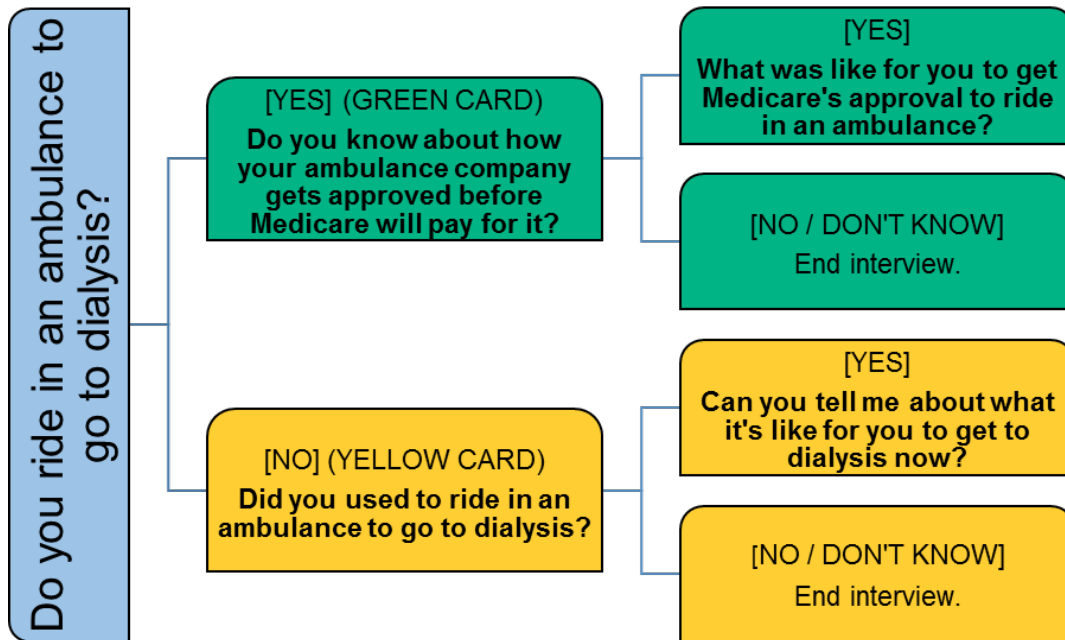
I'm helping Medicare learn more about how a new ambulance payment program is affecting people who need help getting to dialysis treatments. Do you have Medicare?

- [If NO]: Okay, thank you anyways. Have a nice day/afternoon/evening. [END INTERVIEW]
- [If YES]: Good, then I would like to hear more about your situation. Would that be okay for a few minutes?
  - [If NO]: Okay, thank you anyways. [END INTERVIEW]
  - [If YES]: Great! Thank you. Would it be okay if I record this to help me remember it later? Your identity will not be shared with anyone or with Medicare.
    - [If NO or they seem to feel uncomfortable]: That's okay. I can ask my colleague to take some notes as we talk. [Staff person will listen and take notes of the beneficiary's response]
    - [If YES]: Okay, thank you very much.

### Interview Questions

The interviewer will begin with the first question in the interview flow chart, shown in Figure 1 below. Depending on the patient's response(s), the interviewer will reference a green or yellow response card before continuing through the questions in the flow chart.





**Figure 1. Interview Flow Chart**

### Interview Wrap-Up

After the interviewer confirms that the patient has discussed all of the experiences he or she wants to share, or if the patient needs to leave the facility before they are finished, the interviewer will offer the following options:

1. Write additional information on a response card (including family member or caregiver responses as appropriate) and submit them to the facility coordinator, who will return additional response cards to PRI via prepaid FedEx for inclusion in the collection of interview data.
2. Arrange a follow-up phone interview with the patient, family member, or caregiver, to take place within one week of the conclusion of all site visits.
3. Suggest that the patient reach out to facility staff to contact the interviewer if necessary.

## **SITE VISIT CONCLUSION**

After all interviews are completed, the interview team will meet briefly with the facility's coordinator to discuss the final activities of the site visit.

PRI will collect any response cards that have been given to, or written by, facility staff prior to or during the site visit.

1. They will also discuss how PRI can capture the relevant experiences of additional current or past patients who could not participate in an interview.
  - a. Patients/families can submit a written response to the coordinator, who will then send it to PRI.

- b. Dialysis staff can transcribe a patient/family response onto a response card and send it to PRI.
- c. Dialysis staff can complete response cards or otherwise share with PRI a patient's experience on behalf of the patient to be included in the analysis.
- d. Coordinator can provide patient/family member contact information to PRI so they can participate in a confidential phone interview.

All post-site visit interview data should be received by PRI within two weeks of the conclusion of the last site visit. Recordings and written interview responses, including interviewer notes, will be sent to Mathematica Policy Research (MPR) for transcription and entry into the data collection system.



APPENDIX H

MAC INTERVIEW PROTOCOL

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**Evaluation of Medicare Prior Authorization (PA) Models for  
Repetitive Scheduled Non-Emergent Ambulance Transport  
(RSNAT) and Non-Emergent Hyperbaric Oxygen (HBO) Therapy  
Contract HHSM-500-T00  
Subcontract 50144S04633**

# **Medicare Administrative Contractor (MAC) Interview Guide – RSNAT Evaluation**

**Submitted to:  
Mathematica Policy Research, Inc.**

**February 11, 2016  
Revised March 1, 2016**

PROVIDER RESOURCES . . .instilling *integrity* in healthcare



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## INTERVIEWER INTRODUCTION AND QUESTIONS

### Welcome

Welcome! I'm (state name), the team interview lead, and with me today is (state name), who will assist me during the process. (*Add, as needed:* We also have (state name) from our partner, Mathematica, listening in on the call).

Thank you for participating in this phone interview. We'll be talking about your experiences with the Medicare payment model project where ambulance transport suppliers in New Jersey, Pennsylvania, and South Carolina request prior authorization of payment for repetitive scheduled non-emergent ambulance transport (RSNAT) for beneficiaries with a qualifying medical necessity. Your feedback will be part of an evaluation that is being conducted for the Centers for Medicare & Medicaid Services (CMS) by Mathematica Policy Research (MPR) and Provider Resources, Inc. (PRI). We know your time is valuable and we appreciate your contribution to our evaluation.

I need to let you know that our interview is being recorded for transcription purposes only, and information provided by participants will be kept strictly confidential. The information you share with us is for MPR and PRI researchers only. We'll use information gathered from these interviews to prepare summary reports for CMS, but will not identify individuals who participate in this or any other phone interview. We may use direct quotes from our discussions, but will never attribute anything to individual participants. Is this okay with you? The evaluation is exempt from the Paperwork Reduction Act, meaning that Office of Management and Budget (OMB) clearance is not required.

In this phase of the evaluation, we're conducting interviews with Medicare Administrative Contractor (MAC) reviewers and managers about their impressions of and experiences with the model, which began in December 2014. In approximately seven to nine months, we'd like to interview the same people again to learn about how their opinions or experiences may have changed. Following this call, we will send you an email to confirm your contact information so that we may reach you for a follow-up conversation.

During the next 45 minutes or so, I will ask a series of questions concerning the implementation of the prior authorization model. I'm interested in your opinion on these topics. Please answer to the best of your knowledge, and let me know if you'd like to skip any questions. Do you have any questions before we begin?

Thank you. Let's get started.

## Interview Questions

### ***Profile Questions (to be used for analysis)***

Question	Manager/ Supervisor	Reviewer
1. Please describe your role at the MAC.	X	X
2. Were you hired specifically for activities related to this prior authorization model (PAM)?	X	X
3. How much experience do you have with prior authorization processes?	X	X
4. For which states does your MAC receive prior authorization requests (PARs) from RSNAT suppliers? a. New Jersey b. Pennsylvania c. South Carolina d. None of these	X	X

### ***The next several questions are about program operations related to the model.***

Question	Manager/ Supervisor	Reviewer
5. Did you receive specific training in preparation for processing RSNAT PARs? If so, please describe the training you received.	X	X
6. How many Full Time Equivalent (FTE) staff in your MAC are assigned to PAR determination reviews as a result of the PAM model? How many are assigned to pre-payment reviews as a result of the PAM model?	X	
7. Did your MAC make any changes to prepare for the model? Such as: a. Management processes or activities b. Infrastructure changes, including data systems or technologies c. Tools such as criteria worksheets, online testing, annotated reviewer guidelines, form letters, etc.	X	
8. In your opinion, is there anything that you or your review team has developed as a best practice to address the review of these PARs? What makes it a best practice? What did it improve and how (programmatic or procedural)?	X	X
9. Have your reviewers ever communicated directly with suppliers via phone, email, or other means about a PAR before a determination was made? a. If so, what clarifications were they looking for, and what impact did the clarification have on the determination? b. Did they ever receive additional information, and how long did it take the supplier to provide it?	X	

Question	Manager/ Supervisor	Reviewer
<p>10. Have you ever communicated directly with suppliers via phone, email, or other means about a PAR before a determination was made?</p> <p>a. If so, what clarifications were you looking for, and what impact did the clarification have on the determination?</p> <p>b. Did you ever receive additional information, and how long did it take the supplier to provide it?</p>		<b>X</b>
<p>11. Do reviewers typically choose to make a non-affirmative determination rather than requesting clarification or additional documentation from the supplier first?</p>	<b>X</b>	<b>X</b>
<p>12. Can suppliers who receive a non-affirmative determination speak with or email the reviewer who made the determination?</p> <p>a. If so, how common is it for the reviewer to change the determination based on contact with the supplier?</p> <p>b. If so, how common is it for the reviewer to provide more detail about what the supplier should change in a subsequent PAR?</p> <p>c. If not, why is that the case? Is this an effective approach?</p>	<b>X</b>	<b>X</b>
<p>13. Regarding the PAR review timeframes (10 days for an initial PAR, 20 days for a subsequent PAR, and 2 days for an expedited PAR):</p> <p>a. How often does your MAC meet these timeframes?</p> <p>b. Does it take longer to process non-affirmative determinations? If so, why?</p> <p>c. In your opinion, should any of the PAR review timeframes be adjusted?</p>	<b>X</b>	<b>X</b>
<p>14. For those non-affirmative PAR determinations:</p> <p>a. Is there usually more than one non-compliant element in the PAR?</p> <p>b. Are reviewers required to identify <i>all</i> non-compliant elements of the PAR?</p> <p>c. What are the most common reasons for a non-affirmative PAR determination?</p> <p>d. Are the reasons usually different for subsequent or expedited PARs? If so, how?</p> <p>e. How are reasons for non-affirmative determinations tracked and reported?</p>	<b>X</b>	<b>X</b>
<p>15. Do you have a process for handling suspicious and potentially fraudulent PARs? If so, please explain.</p>	<b>X</b>	<b>X</b>

*Now I'm going to ask you a few questions about any changes you've noticed in supplier behavior that might impact **qualified beneficiaries' access to quality care** due to the model.*

Question	Manager/ Supervisor	Reviewer
<p>16. What are your thoughts about the guidance CMS released about the PAR process?</p> <p>a. Are the submission guidelines clear to the suppliers? If not, why? What might help?</p> <p>b. Are the guidelines for making PAR determinations clear to the MAC reviewers? To the suppliers? If not, why? What might help?</p>	X	X
<p>17. Has your MAC received feedback from suppliers about the prior authorization model? If yes:</p> <p>a. What was the nature of the feedback and what are your thoughts about it?</p> <p>b. How was it addressed?</p>	X	X
<p>18. In your opinion, is there any additional information about the PAR process that CMS or the MAC could provide to suppliers that would improve PAR submissions, billing practices, or the delivery of quality RSNAT services to eligible beneficiaries?</p>	X	X
<p>19. Have you seen any changes in the quality of medical necessity documentation during the model?</p> <p>a. How does the quality of this documentation compare to documentation submitted before the model began?</p> <p>b. How does the quality of this documentation compare to RSNAT claims that are submitted without a PAR?</p>	X	X
<p>20. Have you seen suppliers in the model states make any changes in their processes? If so, what have you observed about their:</p> <p>a. PAR procedures</p> <p>b. Claims procedures</p> <p>c. Appeals procedures</p> <p>d. Services</p>	X	X
<p>21. In your opinion, does the model impact the timeliness and quality of RSNAT services for beneficiaries with qualifying medical necessity? Please share examples.</p> <p>a. If so, in your opinion, which aspects of the model are primarily responsible for such an impact?</p> <p>b. Do you have any suggested changes to the model PAM that would improve the timeliness and quality of RSNAT services for qualifying beneficiaries? If so, please describe.</p>	X	X

*Are you familiar with your MAC's pre-payment review processes? If so, I'm going to ask you a few questions about pre-payment review for claims associated with the model.*

Question	Manager/ Supervisor	Reviewer
22. In your experience, have the number of claims that go to pre-payment review increased or decreased: a. In the model states since the model began in December 2014? Why? b. In the model states compared to the non-model states? Why?	X	X
23. Since the model began, have you seen any changes in the number of referrals made to the Zone Program Integrity Contractor (ZPIC) during pre-payment review of RSNAT claims? a. Have you noticed any changes in the reasons for referrals made to the ZPIC?	X	X

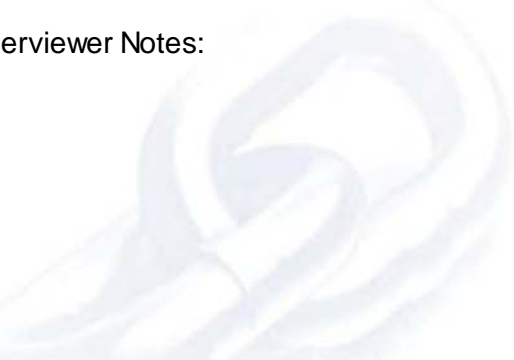
*Finally, I'd like to hear your opinion of the effect of the PAM during this model, and your views on any expansion of the PAM.*

Question	Manager/ Supervisor	Reviewer
24. In your opinion, should CMS consider changing any aspects of the RSNAT model? What aspects are working well as currently designed? <i>(Probing Questions)</i> a. To realize more savings for the Medicare program overall? b. To reduce unnecessary services and fraudulent claims? c. To address any unintended consequences you may have noticed? d. To improve qualified beneficiaries' access to and/or quality of RSNAT services? e. To improve the timeliness or outcomes of the PAR process?	X	X
25. Is there anything else about the PAM model that you would like to share with us?	X	X

Name of Interviewee \_\_\_\_\_  
MAC \_\_\_\_\_

Date \_\_\_\_\_

Interviewer Notes:





## APPENDIX A – INTERVIEW QUESTIONS FOR MAC MANAGERS OR SUPERVISORS

### Welcome

Welcome! I'm (state name), the team interview lead, and with me today is (state name), who will assist me during the process. (*Add, as needed: We also have (state name) from our partner, Mathematica, listening in on the call.*)

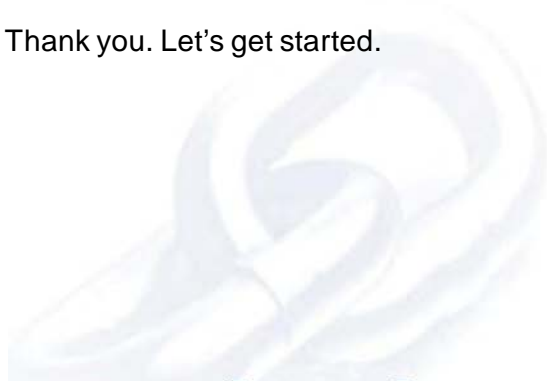
Thank you for participating in this phone interview. We'll be talking about your experiences with the Medicare payment model project where ambulance transport suppliers in New Jersey, Pennsylvania, and South Carolina request prior authorization of payment for repetitive scheduled non-emergent ambulance transport (RSNAT) for beneficiaries with a qualifying medical necessity. Your feedback will be part of an evaluation that is being conducted for the Centers for Medicare & Medicaid Services (CMS) by Mathematica Policy Research (MPR) and Provider Resources, Inc. (PRI). We know your time is valuable and we appreciate your contribution to our evaluation.

I need to let you know that our interview is being recorded for transcription purposes only, and information provided by participants will be kept strictly confidential. The information you share with us is for MPR and PRI researchers only. We'll use information gathered from these interviews to prepare summary reports for CMS, but will not identify individuals who participate in this or any other phone interview. We may use direct quotes from our discussions, but will never attribute anything to individual participants. Is this okay with you? The evaluation is exempt from the Paperwork Reduction Act, meaning that Office of Management and Budget (OMB) clearance is not required.

In this phase of the evaluation, we're conducting interviews with Medicare Administrative Contractor (MAC) reviewers and managers about their impressions of and experiences with the model, which began in December 2014. In approximately seven to nine months, we'd like to interview the same people again to learn about how their opinions or experiences may have changed. Following this call, we will send you an email to confirm your contact information so that we may reach you for a follow-up conversation.

During the next 45 minutes or so, I will ask a series of questions concerning the implementation of the prior authorization model. I'm interested in your opinion on these topics. Please answer to the best of your knowledge, and let me know if you'd like to skip any questions. Do you have any questions before we begin?

Thank you. Let's get started.





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## Interview Questions

### *Profile Questions (to be used for analysis)*

1. Please describe your role at the MAC.
2. Were you hired specifically for activities related to this prior authorization model (PAM)?
3. How much experience do you have with prior authorization processes?
4. For which states does your MAC receive prior authorization requests (PARs) from RSNAT suppliers?
  - a. New Jersey
  - b. Pennsylvania
  - c. South Carolina
  - d. None of these

### *The next several questions are about program operations related to the model.*

Did you receive specific training in preparation for processing RSNAT PARs? If so, please describe the training you received.

5. How many Full Time Equivalent (FTE) staff in your MAC are assigned to PAR determination reviews as a result of the PAM model? How many are assigned to pre-payment reviews as a result of the PAM model?
6. Did your MAC make any changes to prepare for the model? Such as:
  - a. Management processes or activities
  - b. Infrastructure changes, including data systems or technologies
  - c. Tools such as criteria worksheets, online testing, annotated reviewer guidelines, form letters, etc.
7. In your opinion, is there anything that you or your review team has developed as a best practice to address the review of these PARs? What makes it a best practice? What did it improve and how (programmatic or procedural)?
8. Have your reviewers ever communicated directly with suppliers via phone, email, or other means about a PAR before a determination was made?
  - a. If so, what clarifications were they looking for, and what impact did the clarification have on the determination?
  - b. Did they ever receive additional information, and how long did it take the supplier to provide it?
9. Do reviewers typically choose to make a non-affirmative determination rather than requesting clarification or additional documentation from the supplier first?
10. Can suppliers who receive a non-affirmative determination speak with or email the reviewer who made the determination?
  - a. If so, how common is it for the reviewer to change the determination based on contact with the supplier?
  - b. If so, how common is it for the reviewer to provide more detail about what the supplier should change in a subsequent PAR?
  - c. If not, why is that the case? Is this an effective approach?

11. Regarding the PAR review timeframes (10 days for an initial PAR, 20 days for a subsequent PAR, and 2 days for an expedited PAR):
  - a. How often does your MAC meet these timeframes?
  - b. Does it take longer to process non-affirmative determinations? If so, why?
  - c. In your opinion, should any of the PAR review timeframes be adjusted?
12. For those non-affirmative PAR determinations:
  - a. Is there usually more than one non-compliant element in the PAR?
  - b. Are reviewers required to identify *all* non-compliant elements of the PAR?
  - c. What are the most common reasons for a non-affirmative PAR determination?
  - d. Are the reasons usually different for subsequent or expedited PARs? If so, how?
  - e. How are reasons for non-affirmative determinations tracked and reported?
13. Do you have a process for handling suspicious and potentially fraudulent PARs? If so, please explain.

***Now I'm going to ask you a few questions about any changes you've noticed in supplier behavior that might impact qualified beneficiaries' access to quality care due to the model.***

14. What are your thoughts about the guidance CMS released about the PAR process?
  - a. Are the submission guidelines clear to the suppliers? If not, why? What might help?
  - b. Are the guidelines for making PAR determinations clear to the MAC reviewers? To the suppliers? If not, why? What might help?
15. Has your MAC received feedback from suppliers about the prior authorization model? If yes:
  - a. What was the nature of the feedback and what are your thoughts about it?
  - b. How was it addressed?
16. In your opinion, is there any additional information about the PAR process that CMS or the MAC could provide to suppliers that would improve PAR submissions, billing practices, or the delivery of quality RSNAT services to eligible beneficiaries?
17. Have you seen any changes in the quality of medical necessity documentation during the model?
  - a. How does the quality of this documentation compare to documentation submitted before the model began?
  - b. How does the quality of this documentation compare to RSNAT claims that are submitted without a PAR?
18. Have you seen suppliers in the model states make any changes in their processes? If so, what have you observed about their:
  - a. PARs procedures
  - b. Claims procedures
  - c. Appeals procedures
  - d. Services
19. In your opinion, does the model impact the timeliness and quality of RSNAT services for beneficiaries with qualifying medical necessity? Please share examples.
  - a. If so, in your opinion, which aspects of the model are primarily responsible for such an impact?

- b. Do you have any suggested changes to the PAM that would improve the timeliness and quality of RSNAT services for qualifying beneficiaries? If so, please describe.

***Are you familiar with your MAC's pre-payment review processes? If so, I'm going to ask you a few questions about pre-payment review for claims associated with the model.***

20. In your experience, have the number of claims that go to pre-payment review increased or decreased:
- a. In the model states since the model began in December 2014? Why?
  - b. In the model states compared to the non-model states? Why?
21. Since the model began, have you seen any changes in the number of referrals made to the Zone Program Integrity Contractor (ZPIC) during pre-payment review of RSNAT claims?
- a. Have you noticed any changes in the reasons for referrals made to the ZPIC?

***Finally, I'd like to hear your opinion of the effect of the PAM during this model, and your views on any expansion of the PAM.***

22. In your opinion, should CMS consider changing any aspects of the RSNAT model? What aspects are working well as currently designed?
- (Probing Questions)*
- a. To realize more savings for the Medicare program overall?
  - b. To reduce unnecessary services and fraudulent claims?
  - c. To address any unintended consequences you may have noticed?
  - d. To improve qualified beneficiaries' quality of or access to RSNAT services?
  - e. To improve the timeliness or outcomes of the PAR process?
23. Is there anything else about the PAM model that you would like to share with us?



## APPENDIX B – INTERVIEW QUESTIONS FOR MAC REVIEWERS

### Welcome

Welcome! I'm (state name), the team interview lead, and with me today is (state name), who will assist me during the process. (*Add, as needed:* We also have (state name) from our partner, Mathematica, listening in on the call).

Thank you for participating in this phone interview. We'll be talking about your experiences with the Medicare payment model project where ambulance transport suppliers in New Jersey, Pennsylvania, and South Carolina request prior authorization of payment for repetitive scheduled non-emergent ambulance transport (RSNAT) for beneficiaries with a qualifying medical necessity. Your feedback will be part of an evaluation that is being conducted for the Centers for Medicare & Medicaid Services (CMS) by Mathematica Policy Research (MPR) and Provider Resources, Inc. (PRI). We know your time is valuable and we appreciate your contribution to our evaluation.

I need to let you know that our interview is being recorded for transcription purposes only, and information provided by participants will be kept strictly confidential. The information you share with us is for MPR and PRI researchers only. We'll use information gathered from these interviews to prepare summary reports for CMS, but will not identify individuals who participate in this or any other phone interview. We may use direct quotes from our discussions, but will never attribute anything to individual participants. Is this okay with you? The evaluation is exempt from the Paperwork Reduction Act, meaning that Office of Management and Budget (OMB) clearance is not required.

In this phase of the evaluation, we're conducting interviews with Medicare Administrative Contractor (MAC) reviewers and managers about their impressions of and experiences with the model, which began in December 2014. In approximately seven to nine months, we'd like to interview the same people again to learn about how their opinions or experiences may have changed. Following this call, we will send you an email to confirm your contact information so that we may reach you for a follow-up conversation.

During the next 45 minutes or so, I will ask a series of questions concerning the implementation of the prior authorization model. I'm interested in your opinion on these topics. Please answer to the best of your knowledge, and let me know if you'd like to skip any questions. Do you have any questions before we begin?

Thank you. Let's get started.

---

## Interview Questions

### *Profile Questions (to be used for analysis)*

1. Please describe your role at the MAC.
2. Were you hired specifically for activities related to this prior authorization model (PAM)?
3. How much experience do you have with prior authorization processes?
4. For which states does your MAC receive prior authorization requests (PARs) from RSNAT suppliers?
  - a. New Jersey
  - b. Pennsylvania
  - c. South Carolina
  - d. None of these

### *The next several questions are about program operations related to the model.*

5. Did you receive specific training in preparation for processing RSNAT PARs? If so, please describe the training you received.
6. In your opinion, is there anything that you or your review team has developed as a best practice to address the review of these PARs? What makes it a best practice? What did it improve and how (programmatic or procedural)?
7. Have you ever communicated directly with suppliers via phone, email, or other means about a PAR before a determination was made?
  - a. If so, what clarifications were you looking for, and what impact did the clarification have on the determination?
  - b. Did you ever receive additional information, and how long did it take the supplier to provide it?
8. Do reviewers typically prefer to make a non-affirmative determination rather than requesting clarification or additional documentation from the supplier first?
9. Can suppliers who receive a non-affirmative determination speak with or email the reviewer who made the determination?
  - a. If so, how common is it for the reviewer to change the determination based on contact with the supplier?
  - b. If so, how common is it for the reviewer to provide more detail about what the supplier should change in a subsequent PAR?
  - c. If not, why is that the case? Is this an effective approach?
10. Regarding the PAR review timeframes (10 days for an initial PAR, 20 days for a subsequent PAR, and 2 days for an expedited PAR):
  - a. How often does your MAC meet these timeframes?
  - b. Does it take longer to process non-affirmative determinations? If so, why?
  - c. In your opinion, should any of the PAR review timeframes be adjusted?
11. For those non-affirmative PAR determinations:
  - a. Is there usually more than one non-compliant element in the PAR?
  - b. Are reviewers required to identify *all* non-compliant elements of the PAR?
  - c. What are the most common reasons for a non-affirmative PAR determination?

- d. Are the reasons usually different for subsequent or expedited PARs? If so, how?
  - e. How are reasons for non-affirmative determinations tracked and reported?
12. Do you have a process for handling suspicious and potentially fraudulent PARs? If so, please explain.

***Now I'm going to ask you a few questions about any changes you've noticed in supplier behavior that might impact qualified beneficiaries' access to quality care due to the model.***

13. What are your thoughts about the guidance CMS released about the PAR process?
- a. Are the submission guidelines clear to the suppliers? If not, why? What might help?
  - b. Are the guidelines for making PAR determinations clear to the MAC reviewers? To the suppliers? If not, why? What might help?
14. Has your MAC received feedback from suppliers about the prior authorization model? If yes:
- a. What was the nature of the feedback and what are your thoughts about it?
  - b. How was it addressed?
15. In your opinion, is there any additional information about the PAR process that CMS or the MAC could provide to suppliers that would improve PAR submissions, billing practices, or the delivery of quality RSNAT services to eligible beneficiaries?
16. Have you seen any changes in the quality of medical necessity documentation during the model?
- a. How does the quality of this documentation compare to documentation submitted before the model began?
  - b. How does the quality of this documentation compare to RSNAT claims that are submitted without a PAR?
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- a. PARs procedures
  - b. Claims procedures
  - c. Appeals procedures
  - d. Services
18. In your opinion, does the model impact the timeliness and quality of RSNAT services for beneficiaries with qualifying medical necessity? Please share examples.
- a. If so, in your opinion, which aspects of the model are primarily responsible for such an impact?
  - b. Do you have any suggested changes to the PAM that would improve the timeliness and quality of RSNAT services for qualifying beneficiaries? If so, please describe.



***Are you familiar with your MAC's pre-payment review processes? If so, I'm going to ask you a few questions about pre-payment review for claims associated with the model.***

19. In your experience, have the number of claims that go to pre-payment review increased or decreased:
  - a. In the model states since the model began in December 2014? Why?
  - b. In the model states compared to the non-model states? Why?
20. Since the model began, have you seen any changes in the number of referrals made to the Zone Program Integrity Contractor (ZPIC) during pre-payment review of RSNAT claims?
  - a. Have you noticed any changes in the reasons for referrals made to the ZPIC?

***Finally, I'd like to hear your opinion of the effect of the PAM during this model, and your views on any expansion of the PAM.***

21. In your opinion, should CMS consider changing any aspects of the RSNAT model? What aspects are working well as currently designed?  
*(Probing Questions)*
  - a. To realize more savings for the Medicare program overall?
  - b. To reduce unnecessary services and fraudulent claims?
  - c. To address any unintended consequences you may have noticed?
  - d. To improve qualified beneficiaries' quality of or access to RSNAT services?
  - e. To improve the timeliness or outcomes of the PAR process?
22. Is there anything else about the PAM model that you would like to share with us?



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## APPENDIX I

### QUALITATIVE DATA COLLECTION AND CODING

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Each data collection approach is described in detail in Section III of the report. Table I.1 presents research questions and relevant stakeholders by data collection type.

Table I.1. Research questions and relevant stakeholders, by data collection approach

Research questions	In-depth interviews	Online focus groups	Online survey	Site visits and interviews
How does a prior authorization model affect Medicare use and cost? Was the model cost effective for the Medicare program once program administration costs were considered?	M		S, F, P	
How does a prior authorization model affect the quality of care and access to care?		S, F, P		F, B
How does a prior authorization model affect Medicare program operations?	M			
How does a prior authorization model affect provider behavior and satisfaction?		S, F, P	S, F, P	
How feasible is expanded/national prior authorization for RSNAT services?	M	S, F, P	S, F, P	

M = MACs

S = Ambulance suppliers

F = Staff at treatment facilities (dialysis facilities and SNFs)

P = Physicians

B = Medicare beneficiaries

Mathematica developed a codebook for coding qualitative data based on the evaluation’s approved research and analysis questions. The codes are organized into four domains that correspond to the evaluation’s four primary sample groups:

- Domain 1: Medicare beneficiaries
- Domain 2: MACs
- Domain 3: Ambulance suppliers
- Domain 4: Providers (dialysis providers and SNFs)

Several themes were incorporated into each domain of the codebook including the prior authorization model’s effects on the following:

- Medicare utilization/cost savings
- Quality and access to care
- Organizational operations and finances
- Personnel behavior and satisfaction
- Improper payments and claim denials
- Scalability/feasibility of prior authorization for RSNAT

Where appropriate, the codebook incorporated other aspects of the prior authorization model into some domains, including the circulation of informational outreach and resources to educate stakeholders about the prior authorization model, as well as stakeholders' challenges, insights, understanding of medical necessity guidelines, and recommendations. Throughout Year 1 data collection, revisions were made to the codebook to account for themes that arose in interviews and focus groups but were not included in the initial coding scheme.

The original coding team consisted of two primary raters and three backup raters. We used the percent agreement measure to run round-to-round inter-rater reliability checks (McHugh 2012). NVivo qualitative data analysis software provides measures of percent agreement by comparing the ratings made by two raters for the same code. The overall percent agreement measure was then calculated by averaging the separate measures of percent agreement. Overall, the coding completed by two primary raters and one backup rater averaged to 97 percent in agreement. Throughout Year 1, recorded interviews and all transcripts were stored securely on SharePoint within the protected Mathematica network.

**MAC interviews.** Once interviews were complete, the research team organized and clarified notes taken during the interviews and coded interview data into the five topic areas addressed by the protocol (medical necessity, transportation utilization, health care utilization, beneficiary health and care, and overall beneficiary experience and satisfaction).

**Focus groups.** Mathematica developed focus group protocols specific to each key stakeholder group. Research questions that guided protocol development are highlighted in Table I.1. More specifically, questions of interest included:

1. How does the prior authorization model affect the timely provision of, and ultimately access to, needed care and services?
2. How does the prior authorization model affect provider and practitioner behavior and satisfaction?
3. What are the fiscal and resource impacts on providers/suppliers and practitioners participating in the prior authorization models?
4. To what extent do providers/suppliers and practitioners feel they understand the prior authorization model and its processes?
5. What improvements or changes have been/can be made to the program to improve service provision and model performance?
6. What aspects of the prior authorization model work well and are having the intended impacts?
7. What unintended impacts might be resulting from program implementation?
8. How do providers/suppliers and practitioners understand the term "necessary" services and does their view align with that provided by CMS, regional offices, and MACs?

Transcripts were downloaded from the QualBoard server and loaded and saved into NVivo. Within NVivo, transcripts were categorized by stakeholder population and state so that all queries contained this information. Only participants who responded to more than 20 percent of focus group questions were included in the qualitative analysis.

**Site visits and beneficiary interviews.** Two conference calls were held in June 2016 with dialysis corporation executives and local facility clinical managers and social workers to discuss (1) the importance of capturing patient perspectives of the RSNAT prior authorization model, (2) logistical preparations for site visits and interviews, and (3) recruiting materials facilities could share with beneficiaries prior to site visits. The corporation provided input on the suitable reading level and language for the beneficiary outreach materials, the most appropriate time and place to conduct beneficiary interviews (in the waiting room after treatment sessions), and points of contact at local facilities. Color-coded response cards were used to record patient experience and impact information before, during, and after the site visits. The cards included questions covering eight topic areas:

9. Health care utilization
10. Medical necessity
11. Transportation received
12. Beneficiary knowledge and experience
13. Beneficiary health and care
14. Beneficiary cost
15. Family or caregiver
16. Overall satisfaction

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## APPENDIX J

### STATISTICAL POWER TO DETECT MODEL EFFECTS ON RSNAT UTILIZATION

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In this appendix, we provide an analysis of the available statistical power to detect effects of the RNSAT prior authorization requirements on different outcomes related to RSNAT utilization. Statistical power analysis uses the variance of the impact estimates to demonstrate the precision with which the impacts are measured. We present precision estimates for utilization outcomes among beneficiaries and suppliers. Outcomes at the beneficiary level include any ambulance utilization, number of ambulance trips, any ambulance utilization specifically for RSNAT purposes, the number of ambulance trips for those purposes, several measures of adverse outcomes (emergency department visits, unplanned hospital admissions, and death), and two measures of dialysis usage. Utilization outcomes at the supplier level include number of beneficiaries served for RSNAT purposes, total number of trips provided (in general and specifically for RSNAT), and total number of trips per beneficiary.

The primary factor that determines statistical power is the sample size used to generate estimates. All other things equal, larger sample sizes result in more precise estimates and therefore increase statistical power. Other factors that affect statistical power include the observed variance of the outcomes, design effects due to weighting, and design effects due to clustering. Each of these factors has an inverse relationship with statistical power: as they increase, statistical power decreases. The design effect due to weighting is the increase in the estimate due to unequal weighting. For analyses using beneficiaries, we used this weighting to match model states with comparison states and balance beneficiaries in the comparison states with those in model states. For analyses using suppliers, the weights reflect matching at the state and supplier levels within states.

Using a difference-in-differences (DD) analytic approach, statistical power is also affected by the extent to which the baseline observations predict the post-intervention outcomes, as determined by two factors; the overlap in pre- and post-intervention samples and the correlation between the covariates used in the model with the outcome measure. As this correlation increases, the variance in the predicted outcome decreases, thereby increasing statistical power. This effect is amplified the more the pre- and post-intervention samples overlap. Analyses with strong predictor variables and high proportions of overlap in the samples will have greater statistical power than those with less of either or both factors.

Table J.1 presents 95 percent and 80 percent half-confidence intervals for the various beneficiary-level utilization outcomes. These intervals are based on the observed variance of the DD impact estimates, which encapsulates all of the factors described above. The 95 percent confidence interval estimates account for a type I error rate of 5 percent; in other words, if the data were resampled 100 times, 95 of the estimated confidence intervals would cover the true difference in means. Similarly, the 80 percent confidence interval estimates account for a type I error rate of 20 percent; 80 of the 100 re-estimated confidence intervals would cover the true difference in means. The confidence interval for outcome  $j$   $CI_j$  is calculated using the following formula:

$$CI_j = \hat{\beta}_j \pm (Z_{1-\alpha} * S_j)$$

Where  $\hat{\beta}_j$  is the impact estimate for outcome  $j$ ,  $Z_{1-\alpha}$  is the critical value of the normal distribution, with  $\alpha = 0.05$  for the 95 percent confidence intervals and  $\alpha = 0.20$  for the 80 percent confidence intervals, and  $S_j$  is the standard error for the impact estimate. Separate results are provided for beneficiaries living in rural areas, with hospital bed claims, and with dual eligibility for Medicare and Medicaid.

Table J.1. Statistical precision for RSNAT utilization outcomes for beneficiaries with ESRD

Outcome and sample	Beneficiary quarterly observations in model states	Beneficiary quarterly observations in comparison states	95% half-confidence interval	80% half-confidence interval	Observed effect
<b>Any ambulance utilization</b>	1,844,706	3,492,949	0.22	0.14	-2.3274***
Beneficiaries in rural areas	385,144	747,713	0.50	0.33	-0.7629**
Beneficiaries with hospital bed claims	83,864	149,311	1.29	0.85	-6.1027***
Beneficiaries with dual eligibility	617,543	1,370,672	0.42	0.27	-2.7952***
<b>Number of ambulance trips</b>	1,844,706	3,492,949	0.10	0.07	-2.4889***
Beneficiaries in rural areas	385,144	747,713	0.21	0.14	-1.2089***
Beneficiaries with hospital bed claims	83,864	149,311	0.85	0.56	-9.4453***
Beneficiaries with dual eligibility	617,543	1,370,672	0.21	0.14	-3.5470***
<b>Any ambulance utilization (RSNAT)</b>	1,844,706	3,492,949	0.18	0.12	-4.0598***
Beneficiaries in rural areas	385,144	747,713	0.34	0.22	-1.7152***
Beneficiaries with hospital bed claims	83,864	149,311	1.35	0.88	-13.8392***
Beneficiaries with dual eligibility	617,543	1,370,672	0.36	0.23	-5.3801***
<b>Number of ambulance trips (RSNAT)</b>	1,844,706	3,492,949	0.10	0.06	-2.4666***
Beneficiaries in rural areas	385,144	747,713	0.21	0.14	-1.2089***
Beneficiaries with hospital bed claims	83,864	149,311	0.84	0.55	-9.4003***
Beneficiaries with dual eligibility	617,543	1,370,672	0.21	0.14	-3.5192***
<b>Probability of ED utilization</b>	1,844,706	3,492,949	0.24	0.16	-0.2342
Beneficiaries in rural areas	385,144	747,713	0.55	0.36	0.2682
Beneficiaries with hospital bed claims	83,864	149,311	1.18	0.77	0.0302
Beneficiaries with dual eligibility	617,543	1,370,672	0.43	0.28	0.0529
<b>Number of emergency ED</b>	1,844,706	3,492,949	0.01	0.00	-0.0096**
Beneficiaries in rural areas	385,144	747,713	0.02	0.01	-0.0005
Beneficiaries with hospital bed claims	83,864	149,311	0.04	0.03	-0.0279†
Beneficiaries with dual eligibility	617,543	1,370,672	0.02	0.01	0.0021
<b>Probability of emergency ambulance utilization</b>	1,844,706	3,492,949	0.19	0.12	-0.0881
Beneficiaries in rural areas	385,144	747,713	0.45	0.30	-0.0001
Beneficiaries with hospital bed claims	83,864	149,311	1.15	0.75	-0.3105
Beneficiaries with dual eligibility	617,543	1,370,672	0.36	0.24	0.0637
<b>Number of emergency ambulance trips</b>	1,844,706	3,492,949	0.00	0.00	-0.0061*
Beneficiaries in rural areas	385,144	747,713	0.01	0.01	-0.0037
Beneficiaries with hospital bed claims	83,864	149,311	0.03	0.02	-0.0225†
Beneficiaries with dual eligibility	617,543	1,370,672	0.01	0.01	-0.0047

Outcome and sample	Beneficiary quarterly observations in model states	Beneficiary quarterly observations in comparison states	95% half-confidence interval	80% half-confidence interval	Observed effect
<b>Probability of unplanned admission</b>	1,844,706	3,492,949	0.21	0.14	-0.2262*
Beneficiaries in rural areas	385,144	747,713	0.48	0.32	0.1742
Beneficiaries with hospital bed claims	83,864	149,311	1.15	0.75	0.4127
Beneficiaries with dual eligibility	617,543	1,370,672	0.39	0.25	-0.0243
<b>Number of unplanned admissions</b>	1,844,706	3,492,949	0.00	0.00	-0.0062**
Beneficiaries in rural areas	385,144	747,713	0.01	0.01	0.0043
Beneficiaries with hospital bed claims	83,864	149,311	0.02	0.02	-0.0032
Beneficiaries with dual eligibility	617,543	1,370,672	0.01	0.00	-0.0030
<b>Probability of death</b>	1,844,706	3,492,949	0.09	0.06	-0.0966*
Beneficiaries in rural areas	385,144	747,713	0.20	0.13	0.0009
Beneficiaries with hospital bed claims	83,864	149,311	0.61	0.40	-0.6012
Beneficiaries with dual eligibility	617,543	1,370,672	0.15	0.10	-0.1840*
<b>Probability of any dialysis service use</b>	1,844,706	3,492,949	0.28	0.18	-0.3903**
Beneficiaries in rural areas	385,144	747,713	0.62	0.40	-0.2560
Beneficiaries with hospital bed claims	83,864	149,311	1.07	0.70	-0.4655
Beneficiaries with dual eligibility	617,543	1,370,672	0.44	0.29	-0.6588**
<b>Number of days of dialysis service use</b>	1,844,706	3,492,949	0.15	0.10	-0.0960
Beneficiaries in rural areas	385,144	747,713	0.34	0.22	0.0268
Beneficiaries with hospital bed claims	83,864	149,311	0.58	0.38	-0.2161
Beneficiaries with dual eligibility	617,543	1,370,672	0.24	0.15	-0.2315†

Note: The analysis is based on observations in each quarter, so the observed effects and intervals should be interpreted as the average observed change in each quarter of the post-implementation years and the area around that observed difference where the true difference likely is found. For example, the observed impact for “any ambulance utilization” was -2.33, which indicates the average probability of a beneficiary in the model states using an ambulance in 2015 or 2016 was 2.33 percent lower than for beneficiaries in the comparison states. The 95 percent half-confidence interval for this estimate was 0.22, so the true difference in probabilities is likely to be -2.11 to -2.55 percent, using a 5 percent type I error rate. As this interval does not include zero, we reject the null hypothesis of no difference. The model states included: Delaware, Maryland, New Jersey, North Carolina, Pennsylvania, South Carolina, Virginia, Washington, DC, and West Virginia. The comparison states included: Alabama, Florida, Georgia, Indiana, Kentucky, Louisiana, Massachusetts, Montana, Nebraska, Ohio, Tennessee, Texas, and Washington.

<sup>a</sup> Test of a difference different from 0 has less than 80 percent power (1 minus type II error).

† p < .20. \* p < .05. \*\* p < .01. \*\*\* p < .001.

Table J.2 presents 95 percent and 80 percent half-confidence intervals for the various supplier-level utilization outcomes. As with beneficiaries, they are based on the observed variance of the DD impact estimates.

Table J.2. Statistical precision for RSNAT utilization outcomes for suppliers

Outcome	Supplier quarterly observations in model states	Supplier quarterly observations in comparison states	95% half-confidence interval	80% half-confidence interval	Observed effect
Number of beneficiaries served (RSNAT)	42,378	69,130	0.5	0.5	-1.8***
Number of ambulance trips	42,378	69,130	38.8	42.1	-53.1**a
Number of ambulance trips (RSNAT)	42,378	69,130	23.1	25.0	-89.8***a
Number of ambulance trips per beneficiary	42,378	69,130	0.4	0.5	-1.8***

Note: The analysis is based on observations in each quarter, so the observed effects and intervals should be interpreted as the average observed change in each quarter of the post-implementation years and the area around that observed difference where the true difference likely is found. The model states included: Delaware, Maryland, New Jersey, North Carolina, Pennsylvania, South Carolina, Virginia, Washington, DC, and West Virginia. The comparison states included: Alabama, Florida, Georgia, Indiana, Kentucky, Louisiana, Massachusetts, Montana, Nebraska, Ohio, Tennessee, Texas, and Washington.

<sup>a</sup> Test of a difference different from 0 has less than 80 percent power (1 minus type II error).

† p < .20. \* p < .05. \*\* p < .01. \*\*\* p < .001.

In general, our analyses at the beneficiary and supplier levels had high statistical power. We estimated nearly all impacts precisely enough to reject the null hypothesis of no difference. Some of these differences are quite small and perhaps not substantively important. Thus, we recommend reviewing both the statistical significance and the magnitude of the impact estimates, as some of them are very precise yet small in magnitude.

APPENDIX K

STATISTICAL POWER TO DETECT THE EFFECTS OF THE  
MODEL ON COSTS

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In this appendix, we provide an analysis of the statistical precision for detecting effects of the RSNAT prior authorization requirements on different outcomes related to RSNAT service costs, assuming such effects exist. Outcomes related to these costs include expenditures for RSNAT services and all ambulatory services (measured at the beneficiary level) and payments for them (measured at the supplier level). Table K.1 presents precision estimates for the expenditure outcomes. They include separate results for beneficiary-level outcomes for beneficiaries in rural areas, beneficiaries with hospital bed claims, and dual-eligible beneficiaries. See Appendix J for more information on how precision estimates are calculated.

Table K.1. Statistical precision for RSNAT expenditure outcomes

Outcome and sample	Beneficiary or supplier quarterly observations in model states	Beneficiary or supplier quarterly observations in matched-comparison states	95% half-confidence interval	80% half-confidence interval	Observed effect
<b>Beneficiary-level outcomes</b>					
<b>Expenditures, any ambulance</b>	<b>1,844,706</b>	<b>3,492,949</b>	<b>21.7</b>	<b>14.2</b>	<b>-522.7***<sup>a</sup></b>
Beneficiaries in rural areas	385,144	747,713	52.3	34.2	-278.6*** <sup>a</sup>
Beneficiaries with hospital bed claims	83,864	149,311	185.9	121.6	-1,984.1*** <sup>a</sup>
Beneficiaries with dual eligibility	617,543	1,370,672	46.3	30.3	-752.6*** <sup>a</sup>
<b>Expenditures, RSNAT services</b>	<b>1,844,706</b>	<b>3,492,949</b>	<b>16.8</b>	<b>11.0</b>	<b>-432.1***<sup>a</sup></b>
Beneficiaries in rural areas	385,144	747,713	32.8	21.4	-190.3*** <sup>a</sup>
Beneficiaries with hospital bed claims	83,864	149,311	141.5	92.5	-1,617.7*** <sup>a</sup>
Beneficiaries with dual eligibility	617,543	1,370,672	35.6	23.3	-615.6*** <sup>a</sup>
Total expenditures	1,844,706	3,492,949	118.6	77.5	-530.1*** <sup>a</sup>
Beneficiaries in rural areas	385,144	747,713	240.3	157.1	-335.7*** <sup>a</sup>
Beneficiaries with hospital bed claims	83,864	149,311	754.7	493.5	-1,585.2*** <sup>a</sup>
Beneficiaries with dual eligibility	617,543	1,370,672	215.1	140.6	-726.0*** <sup>a</sup>
<b>Supplier-level outcomes</b>					
<b>Total payments, RSNAT services</b>	<b>42,378</b>	<b>69,130</b>	<b>3930.3</b>	<b>2569.9</b>	<b>-15,921.8***</b>
<b>Total payments, all ambulatory services</b>	<b>42,378</b>	<b>69,130</b>	<b>8656.9</b>	<b>5660.5</b>	<b>-5,464.7<sup>a</sup></b>

Note: The model states included: Delaware, Maryland, New Jersey, North Carolina, Pennsylvania, South Carolina, Virginia, Washington, DC, and West Virginia. The comparison states included: Alabama, Florida, Georgia, Indiana, Kentucky, Louisiana, Massachusetts, Montana, Nebraska, Ohio, Tennessee, Texas, and Washington.

<sup>a</sup> Test of a difference different from 0 has less than 80 percent power (1 minus type II error).

<sup>†</sup> p < .20. \* p < .05. \*\* p < .01. \*\*\* p < .001.

As with the utilization estimates, we generally measured the impact estimates for cost outcomes with high precision. At the beneficiary level, we measured only subgroup estimates imprecisely, defined as confidence intervals including zero. Again, we caution that some estimates are very precisely estimated, resulting in statistical significance even when the impact estimates are quite small.



APPENDIX L

QUANTITATIVE RESULTS

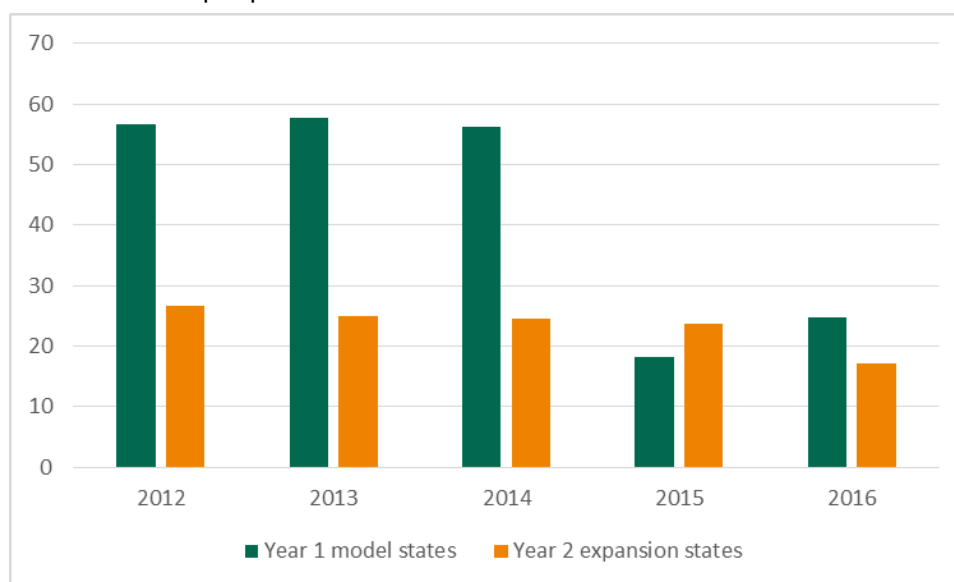
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In this appendix, we present the additional quantitative analysis results we referred to in Section IV of this report—the quantitative analysis results section. We have divided this appendix into subsections on descriptive results, beneficiary summary statistics, utilization and expenditures, quality and access to treatments, and supplier experience.

### Descriptive results

In Section IV, we presented unadjusted beneficiary-level utilization and expenditures as well as overall expenditure figures to provide an estimate of the Medicare savings on RSNAT services attributable to the model. Here we provide results of descriptive analyses of Medicare population-normalized utilization and expenditures. Figure L.1 shows that the number of RSNAT trips per 100,000 Medicare FFS months declined in Year 1 model states following implementation in December 2014, and in Year 2 expansion states following implementation in January 2016.<sup>8</sup> The same pattern holds for expenditures on RSNAT services normalized to Medicare population size, as seen in Figure L.2.

Figure L.1. RSNAT trips per 100,000 Medicare FFS months

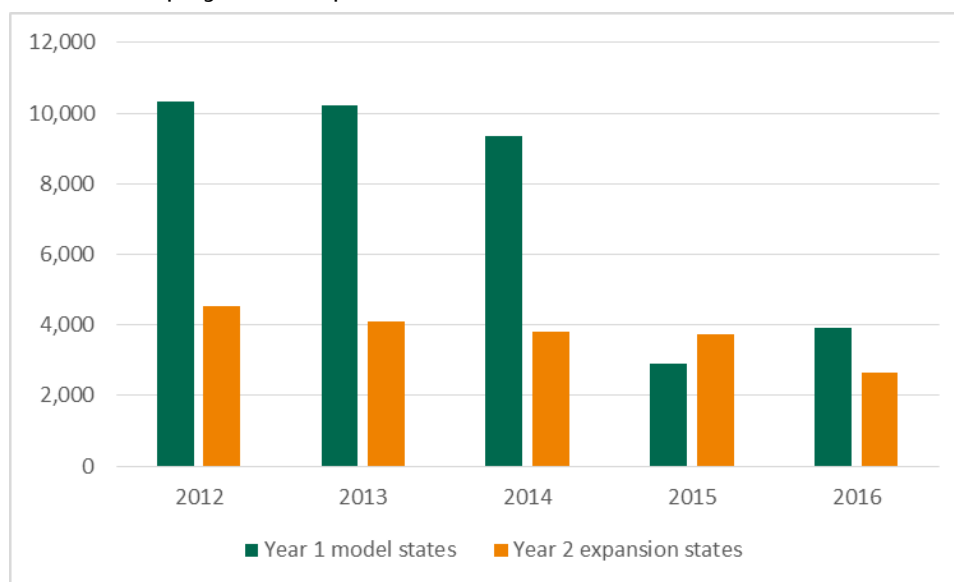


Source: Medicare FFS claims, January 2012 through June 2016.

Note: Year 1 model states included: New Jersey, Pennsylvania, and South Carolina. Year 2 expansion states included: Delaware, Maryland, North Carolina, Virginia, Washington, DC, and West Virginia.

<sup>8</sup> The 2016 figures include only utilization, expenditures, and FFS months from January through June.

Figure L.2. RSNAT payments per 100,000 Medicare FFS months



Source: Medicare FFS claims, January 2012 through June 2016.

Note: Year 1 model states included: New Jersey, Pennsylvania, and South Carolina. Year 2 expansion states included: Delaware, Maryland, North Carolina, Virginia, Washington, DC, and West Virginia.

### Beneficiary summary statistics

After applying the calibration weights, beneficiaries with ESRD in comparison states are similar to those in treatment states on nearly all of the baseline demographic and health characteristics we examined, with group differences of less than 5 percent of the treatment group mean. The exception is a higher proportion of comparison beneficiaries who are other race and who are dually eligible for Medicare and Medicaid. Table L.1 contains weighted summary statistics for FFS beneficiaries with ESRD in treatment and comparison states.

Table L.1. ESRD beneficiary summary statistics at baseline (weighted)

	Treatment mean (SD)	Comparison mean (SD)	Difference	Percentage difference (%)
Age (years)	65.30 (14.78)	64.82 (14.84)	0.48***	0.74
Female (%)	46.63 (49.89)	48.69 (49.98)	-2.06***	-4.42
<b>Race (%)</b>				
White	54.92 (49.76)	54.48 (49.80)	0.45**	0.82
Black	39.92 (48.97)	39.44 (48.87)	0.48**	1.20
Other	5.16 (22.11)	6.08 (23.90)	-0.93***	-18.02
Rural (%)	20.92 (40.67)	21.32 (40.96)	-0.40***	-1.91

	Treatment mean (SD)	Comparison mean (SD)	Difference	Percentage difference (%)
Dual (%)	30.29 (45.95)	36.33 (48.10)	-6.04***	-19.94
HCC score	2.30 (1.77)	2.34 (1.78)	-0.04***	-1.74
<b>Number of beneficiaries</b>	<b>203,190</b>	<b>391,807</b>		

Note: Table presents weighted means (and standard deviations) of beneficiary characteristics for beneficiaries with ESRD. Comparison group individuals are weighted to resemble treatment group individuals on baseline demographic and health characteristics. The model states included: Delaware, Maryland, New Jersey, North Carolina, Pennsylvania, South Carolina, Virginia, Washington, DC, and West Virginia. The comparison states included: Alabama, Florida, Georgia, Indiana, Kentucky, Louisiana, Massachusetts, Montana, Nebraska, Ohio, Tennessee, Texas, and Washington.

\*p < 0.05, \*\*p < 0.01, \*\*\*p < 0.001.

### Utilization and expenditures (Domain 1)

Table L.2 shows the baseline levels of the beneficiary utilization and expenditure outcome measures per beneficiary per quarter for the beneficiary population we examined. Before the model was implemented, beneficiaries with ESRD in treatment states had higher quarterly utilization of and expenditures on ambulance services, with RSNAT utilization and expenditure about 30 percent higher.

Table L.2. Baseline quarterly utilization and costs per ESRD beneficiary

	Treatment mean (SD)	Comparison mean (SD)	Difference	Percent difference (%)
Probability of RSNAT ambulance utilization (%)	5.09 (21.98)	3.62 (18.69)	1.47***	28.88
Number of RSNAT ambulance trips	2.83 (13.65)	1.89 (11.10)	0.94***	33.22
Probability of any Medicare ambulance utilization (%)	19.62 (39.72)	19.13 (39.33)	0.50***	2.55
Total number of Medicare ambulance trips	3.21 (13.95)	2.28 (11.41)	0.94***	29.28
RSNAT expenditures (\$)	482.38 (2340.61)	306.09 (1801.71)	176.29***	36.55
All Medicare ambulance expenditures (\$)	727.41 (3081.08)	524.79 (2503.24)	202.62***	27.85
Total Medicare FFS expenditures (\$)	14426.63 (25060.91)	14117.73 (23217.81)	308.90***	2.14
<b>Number of observations</b>	<b>1,448,895</b>	<b>2,936,089</b>		

Note: Table presents baseline weighted means (and standard deviations) of quarterly beneficiary utilization and payment outcomes for beneficiaries with ESRD. Comparison group individuals are weighted to resemble treatment group individuals on baseline demographic and health characteristics. The model states included: Delaware, Maryland, New Jersey, North Carolina, Pennsylvania, South Carolina, Virginia, Washington, DC, and West Virginia. The comparison states included: Alabama, Florida, Georgia, Indiana, Kentucky, Louisiana, Massachusetts, Montana, Nebraska, Ohio, Tennessee, Texas, and Washington.

\*p < 0.05, \*\*p < 0.01, \*\*\*p < 0.001.

When we stratified our multivariate analysis by rural residence and dual eligibility for Medicare and Medicaid, we found that estimated impacts were larger in both magnitude and percentage terms for urban than for rural residents. Estimated impacts for dual-eligible beneficiaries were larger in magnitude than for non-dual-eligible beneficiaries, but similar in percentage terms (see Table L.3).

Table L.3. Impact of prior authorization on quarterly ESRD beneficiary utilization and cost, by rural residence and dual eligibility

	Probability of RSNAT ambulance service utilization (percentage points) (I)	Number of RSNAT ambulance trips (II)	Probability of any Medicare ambulance utilization (percentage points) (III)	Total number of Medicare ambulance trips (IV)	RSNAT service expenditures (\$) (V)	All Medicare ambulance expenditures (\$) (VI)	Total Medicare FFS expenditures (\$) (VII)
<b>Rural status</b>							
<i>Rural</i>							
Average marginal effect	-1.71***	-1.21***	-0.77**	-1.20***	-190.73***	-279.27***	-336.97**
(standard error)	(0.17)	(0.11)	(0.26)	(0.11)	(16.71)	(26.64)	(122.54)
Baseline mean	4.7	2.58	21.08	3.03	408.81	788.53	13716.77
Change from baseline (%)	-36.46	-46.96	-3.66	-39.63	-46.65	-35.42	-2.46
R <sup>2</sup>	0.22	0.08	0.12	0.09	0.08	0.09	0.09
<i>Not rural</i>							
Average marginal effect	-5.86***	-3.25***	-3.39***	-3.29***	-574.20***	-678.47***	-681.28***
(standard error)	(0.12)	(0.06)	(0.12)	(0.06)	(10.02)	(12.25)	(67.27)
Baseline mean	5.2	2.90	19.22	3.26	502.93	710.34	14624.93
Change from baseline (%)	-112.73	-112.22	-17.65	-100.97	-114.17	-95.51	-4.66
R <sup>2</sup>	0.24	0.08	0.13	0.09	0.08	0.09	0.10
<b>Dual eligibility</b>							
<i>Dual eligible</i>							
Average marginal effect	-5.3738***	-3.5207***	-2.8017***	-3.5487***	-615.8124***	-753.0287***	-726.1433***
(standard error)	(0.1815)	(0.1069)	(0.2138)	(0.1082)	(18.1759)	(23.6155)	(109.7039)
Baseline mean	7.35	4.2822	27.06	4.8650	724.2725	1102.3259	17618.8511
Change from baseline (%)	-73.0928	-82.2185	-10.3544	-72.9427	-85.0250	-68.3127	-4.1214
R <sup>2</sup>	0.2205	0.0873	0.1179	0.0975	0.0879	0.0974	0.0898

	Probability of RSNAT service utilization (percentage points) (I)	Number of RSNAT trips (II)	Probability of any Medicare ambulance utilization (percentage points) (III)	Total number of Medicare ambulance trips (IV)	RSNAT service expenditures (\$) (V)	All Medicare ambulance expenditure s (\$) (VI)	Total Medicare FFS expenditure s (\$) (VII)
<i>Not dual eligible</i>							
Average marginal effect	-3.40***	-1.93***	-2.12***	-1.95***	-340.04***	-405.81***	-442.66***
(standard error)	(0.11)	(0.05)	(0.13)	(0.05)	(8.98)	(11.52)	(71.66)
Baseline mean	3.93	2.09	15.83	2.37	359.17	536.44	12800.61
Change from baseline (%)	-86.54	-92.3225	-13.38	-82.14	-94.67	-75.65	-3.46
R <sup>2</sup>	0.23	0.0693	0.11	0.08	0.07	0.08	0.09

Note: Table presents average marginal effects (and standard errors) from weighted logistic (I and III) and ordinary least squares (II, IV, V, VI, VII) regression analyses using 1,132,851 beneficiary quarters (rural); 4,204,798 beneficiary quarters (not rural); 1,975,285 beneficiary quarters (dual eligible); and 3,349,440 beneficiary quarters (not dual eligible) from dates of service January 2012 through June 2016. Control variables included age, age squared, sex, race, rural residence, dual eligibility for Medicare and Medicaid, hospital bed, an indicator for residing in a county with a moratorium on new Medicare suppliers, log of HCC score, and length of time since the county moratorium went into effect. Errors are clustered at the individual level. Coefficients from logistic regressions have been transformed into average marginal effects. The model states included: Delaware, Maryland, New Jersey, North Carolina, Pennsylvania, South Carolina, Virginia, Washington, DC, and West Virginia. The comparison states included: Alabama, Florida, Georgia, Indiana, Kentucky, Louisiana, Massachusetts, Montana, Nebraska, Ohio, Tennessee, Texas, and Washington.

†p < 0.20, \*p < 0.05, \*\*p < 0.01, \*\*\*p < 0.001.

We also examined utilization outcomes for the subgroup of beneficiaries who had a claim for a hospital bed. This subgroup saw sizeable decreases in utilization and expenditures on RSNAT and total ambulance services, but statistically insignificant decreases in total expenditures. Table L.4 contains these results.

Table L.4. Impact of prior authorization on quarterly utilization and cost for ESRD beneficiaries with a hospital bed claim

	Probability of RSNAT ambulance service utilization (percentage points) (I)	Number of RSNAT ambulance trips (II)	Probability of any Medicare ambulance utilization (percentage points) (III)	Total number of Medicare ambulance trips (IV)	RSNAT service expenditures (\$) (V)	All Medicare ambulance expenditures (\$) (VI)	Total Medicare FFS expenditures (\$) (VII)
Average marginal effect	-13.82***	-9.39***	-6.10***	-9.44***	-1616.82***	-1982.74***	-1578.67***
(standard error)	(0.69)	(0.43)	(0.66)	(0.43)	(72.21)	(94.84)	(385.12)
Baseline mean	23.99	13.70	52.58	15.00	2286.09	3319.99	30055.81
Change from baseline (percent)	-57.61	-68.54	-11.60	-62.94	-70.72	-59.72	-5.25
R <sup>2</sup>	0.13	0.13	0.05	0.13	0.13	0.13	0.04

Note: Table presents average marginal effects (and standard errors) from weighted logistic (I and III) and ordinary least squares (II, IV, V, VI, VII) regression analyses using 233,175 beneficiary quarters from dates of service from January 2012 through June 2016 for beneficiaries with ESRD who have a claim for a hospital bed. Control variables included age, age squared, sex, race, rural residence, dual eligibility for Medicare and Medicaid, an indicator for residing in a county with a moratorium on new Medicare suppliers, log of HCC score, and length of time since the county moratorium took effect. Errors are clustered at the individual level. Coefficients from logistic regressions have been transformed into average marginal effects. The model states included: Delaware, Maryland, New Jersey, North Carolina, Pennsylvania, South Carolina, Virginia, Washington, DC, and West Virginia. The comparison states included: Alabama, Florida, Georgia, Indiana, Kentucky, Louisiana, Massachusetts, Montana, Nebraska, Ohio, Tennessee, Texas, and Washington.

†p < 0.20, \*p < 0.05, \*\*p < 0.01, \*\*\*p < 0.001.



Quality of care and access to treatment (Domain 2)

Table L.5 shows the baseline levels of the beneficiary outcome measures for quality of care and access to treatment. Beneficiaries with ESRD in treatment and comparison states had similar levels of utilization at baseline.

Table L.5. Baseline measures of quality of care and access to treatment per ESRD beneficiary per quarter

	Treatment mean (SD)	Comparison mean (SD)	Difference	Percentage difference (%)
Probability of emergency department utilization (%)	32.62 (46.88)	32.73 (46.92)	-0.11	-0.34
Number of emergency department visits	0.60 (1.34)	0.60 (1.31)	-0.00	0.00
Probability of emergency ambulance utilization (%)	14.92 (35.62)	15.78 (36.45)	-0.86***	-5.76
Number of emergency ambulance trips	0.24 (0.83)	0.26 (0.85)	-0.02***	-8.33
Probability of unplanned admission (%)	22.44 (41.72)	22.45 (41.73)	-0.01	-0.04
Number of unplanned hospital admissions	0.32 (0.78)	0.32 (0.78)	0.00	0.00
Probability of any dialysis use (%)	55.04 (49.75)	57.78 (49.39)	-2.74***	-4.98
Number of days of dialysis use	21.81 (22.85)	22.72 (22.82)	-0.91***	-4.17
<b>Number of observations</b>	<b>1,448,895</b>	<b>2,936,089</b>		

Note: Table presents baseline weighted means (and standard deviations) of quarterly beneficiary quality of care and access to treatment outcomes for beneficiaries with ESRD. Comparison group individuals are weighted to resemble treatment group individuals on baseline demographic and health characteristics. The model states included: Delaware, Maryland, New Jersey, North Carolina, Pennsylvania, South Carolina, Virginia, Washington, DC, and West Virginia. The comparison states included: Alabama, Florida, Georgia, Indiana, Kentucky, Louisiana, Massachusetts, Montana, Nebraska, Ohio, Tennessee, Texas, and Washington.

\*p < 0.05, \*\*p < 0.01, \*\*\*p < 0.001.

Table L.6 presents additional adverse impact outcomes for beneficiaries with ESRD. Emergency dialysis treatments were rarer among treatment group than comparison group beneficiaries, although baseline utilization was low for both groups. On other measures, the two groups were similar.

Table L.6. Baseline quarterly destination service use among beneficiaries with ESRD, by chronic condition

	Treatment mean (SD)	Comparison mean (SD)	Difference	Percentage difference (%)
Probability of emergency dialysis (%)	2.40 (15.32)	3.39 (18.10)	-0.99***	-41.25
Number of emergency dialysis treatments	0.04 (0.48)	0.05 (0.43)	-0.01***	-25.00
Probability of hospitalization for ESRD-related conditions (%)	1.86 (13.51)	1.79 (13.24)	0.07***	3.76
Number of hospitalizations for ESRD-related conditions	0.02 (0.17)	0.02 (0.17)	0.00***	0.00
<b>Number of observations</b>	<b>1,448,895</b>	<b>2,936,089</b>		

Note: Table presents baseline weighted means (and standard deviations) of quarterly beneficiary quality of care and access to treatment outcomes for beneficiaries with ESRD. Comparison group individuals are weighted to resemble treatment group individuals on baseline demographic and health characteristics. The model states included: Delaware, Maryland, New Jersey, North Carolina, Pennsylvania, South Carolina, Virginia, Washington, DC, and West Virginia. The comparison states included: Alabama, Florida, Georgia, Indiana, Kentucky, Louisiana, Massachusetts, Montana, Nebraska, Ohio, Tennessee, Texas, and Washington.

\*p < 0.05, \*\*p < 0.01, \*\*\*p < 0.001.

Table L.7 contains results of the multivariate analyses of quality of care and access to treatment outcomes stratified by rural residence and dual eligibility for Medicare and Medicaid. Across these subgroups, we do not observe sizeable adverse impacts attributable to the prior authorization model.

Table L.7. Impact of prior authorization on quarterly ESRD beneficiary care quality and access, by rural residence and dual eligibility

	Probability of emergency department utilization (percentage points) (I)	Number of emergency department visits (II)	Probability of emergency ambulance utilization (percentage points) (III)	Number of emergency ambulance trips (IV)	Probability of unplanned admission (percentage points) (V)	Number of unplanned admissions (VI)	Probability of death (percentage points) (VII)	Probability of dialysis use (percentage points) (VIII)	Number of days of dialysis use (IX)
<b>Rural status</b>									
<i>Rural</i>									
Average marginal effect	0.26	-0.001	-0.005	-0.004	0.17	0.004	0.001	-0.27	0.02
(standard error)	(0.28)	(0.01)	(0.23)	(0.01)	(0.25)	(0.004)	(0.10)	(0.31)	(0.17)
Baseline mean	34.42	0.650	16.87	0.29	22.68	0.33	3.83	61.4	24.25
Change from baseline (%)	0.76	-0.10	-0.028	-1.32	0.76	1.31	0.04	-0.43	0.08
R <sup>2</sup>	0.07	0.08	0.10	0.06	0.07	0.06	0.09	0.12	0.10
<i>Not rural</i>									
Average marginal effect	-0.59***	-0.02***	-0.32**	-0.01***	-0.41***	-0.01***	-0.13**	-0.54***	-0.17*
(standard error)	(0.13)	(0.004)	(0.10)	(0.003)	(0.12)	(0.002)	(0.05)	(0.16)	(0.08)
Baseline mean	32.11	0.58	14.37	0.23	22.38	0.32	3.52	60.85	23.23
Change from baseline (%)	-1.82	-2.94	-2.24	-4.623	-1.85	-3.28	-3.66	-0.88	-0.73
R <sup>2</sup>	0.07	0.08	0.10	0.06	0.08	0.07	0.10	0.13	0.12
<b>Dual eligible</b>									
<i>Dual eligible</i>									
Average marginal effect	0.05	0.002	0.06	-0.005	-0.03	-0.003	-0.18*	-0.67**	-0.24*
(standard error)	(0.22)	(0.01)	(0.19)	(0.01)	(0.20)	(0.004)	(0.08)	(0.23)	(0.12)
Baseline mean	41.13	0.84	20.76	0.37	26.99	0.41	3.61	73.07	28.83
Change from baseline (%)	0.12	0.22	0.28	-1.31	-0.10	-0.75	-5.10	-0.91	-0.82

	Probability of emergency department utilization (percentage points) (I)	Number of emergency department visits (II)	Probability of emergency ambulance utilization (percentage points) (III)	Number of emergency ambulance trips (IV)	Probability of unplanned admission (percentage points) (V)	Number of unplanned admissions (VI)	Probability of death (percentage points) (VII)	Probability of dialysis use (percentage points) (VIII)	Number of days of dialysis use (IX)
R <sup>2</sup>	0.06	0.07	0.09	0.06	0.07	0.07	0.09	0.10	0.07
<i>Not dual eligible</i>									
Average marginal effect	-0.39**	-0.01***	-0.18	-0.006**	-0.37**	-0.01***	-0.05	-0.23	-0.04
(standard error)	(0.15)	(0.003)	(0.11)	(0.002)	(0.13)	(0.002)	(0.06)	(0.18)	(0.10)
Baseline mean	28.27	0.47	11.94	0.18	20.12	0.28	3.58	54.79	20.71
Change from baseline (%)	-1.39	-2.71	-1.53	-3.23	-1.86	-3.01	-1.41	-0.42	-0.20
R <sup>2</sup>	0.06	0.06	0.09	0.05	0.07	0.06	0.10	0.11	0.10

Note: Table presents average marginal effects (and standard errors) from weighted logistic (I, III, V, VII, and VIII) and ordinary least squares (II, IV, VI, and IX) regression analyses using 1,132,857 beneficiary quarters (rural); 4,204,798 beneficiary quarters (not rural); 1,988,215 beneficiary quarters (dual eligible); and 3,349,440 beneficiary quarters (not dual eligible) from dates of service January 2012 through June 2016. Control variables included age, age squared, sex, race, rural residence, dual eligibility for Medicare and Medicaid, hospital bed, an indicator for residing in a county with a moratorium on new Medicare suppliers, log of HCC score, and length of time since the county moratorium went into effect. Errors are clustered at the individual level. Coefficients from logistic regressions have been transformed into average marginal effects. The model states included: Delaware, Maryland, New Jersey, North Carolina, Pennsylvania, South Carolina, Virginia, Washington, DC, and West Virginia. The comparison states included: Alabama, Florida, Georgia, Indiana, Kentucky, Louisiana, Massachusetts, Montana, Nebraska, Ohio, Tennessee, Texas, and Washington.

†p < 0.20, \*p < 0.05, \*\*p < 0.01, \*\*\*p < 0.001.

Table L.8 presents care quality and access results for the subgroup of beneficiaries with a hospital bed claim. We do not find that the model had an impact on quality of care or access to treatments for this subgroup of ESRD beneficiaries.

Table L.8. Impact of prior authorization on quarterly care quality and access for ESRD beneficiaries with a hospital bed claim

	Probability of emergency department utilization (percentage points) (I)	Number of emergency department visits (II)	Probability of emergency ambulance utilization (percentage points) (III)	Number of emergency ambulance trips (IV)	Probability of unplanned admission (percentage points) (V)	Number of unplanned admissions (VI)	Probability of death (percentage points) (VII)	Probability of dialysis use (percentage points) (VIII)	Number of days of dialysis use (IX)
Average marginal effect	-0.004	-0.03	-0.33	-0.02	0.39	-0.004	-0.60	-0.46	-0.23
(standard error)	(0.60)	(0.02)	(0.59)	(0.02)	(0.59)	(0.01)	(0.31)	(0.54)	(0.30)
Baseline mean	55.66	1.18	36.97	0.70	43.28	0.70	10.39	81.4	31.07
Change from baseline (%)	-0.01	-2.51	-0.89	-3.33	0.91	-0.53	-5.81	-0.56	-0.74
R <sup>2</sup>	0.02	0.04	0.03	0.04	0.02	0.03	0.03	0.08	0.07

Note: Table presents average marginal effects (and standard errors) from weighted logistic (I, III, V, VII, and VIII) and ordinary least squares (II, IV, VI, and IX) regression analyses using 233,175 beneficiary quarters from dates of service from January 2012 through June 2016 for beneficiaries with ESRD who have a claim for a hospital bed. Control variables included age, age squared, sex, race, rural residence, dual eligibility for Medicare and Medicaid, an indicator for residing in a county with a moratorium on new Medicare suppliers, log of HCC score, and length of time since the county moratorium took effect. Errors are clustered at the individual level. Coefficients from logistic regressions have been transformed into average marginal effects. The model states included: Delaware, Maryland, New Jersey, North Carolina, Pennsylvania, South Carolina, Virginia, Washington, DC, and West Virginia. The comparison states included: Alabama, Florida, Georgia, Indiana, Kentucky, Louisiana, Massachusetts, Montana, Nebraska, Ohio, Tennessee, Texas, and Washington.

†p < 0.20, \*p < 0.05, \*\*p < 0.01, \*\*\*p < 0.001.

## Suppliers and providers (Domain 3)

### Supplier summary statistics

Table L.9 contains weighted summary statistics for the suppliers in treatment and comparison states. Although most of the differences are significantly different from zero statistically, the differences are proportionally very small in magnitude (less than 9 percent of the treatment group mean) for all characteristics except the percentage of the population that is rural and the proportion of black or “other” race beneficiaries.

Table L.9. Supplier summary statistics (weighted)

	Treatment mean (SD)	Comparison mean (SD)	Difference	Percentage difference (%)
Age of attributed beneficiaries (years)	71.07 (1.33)	70.93 (1.38)	0.14***	0.20
Sex of attributed beneficiaries (% female)	55.72 (1.74)	55.12 (1.73)	0.59***	1.06
<b>Race of attributed beneficiaries (%)</b>				
White	78.78 (17.54)	79.69 (17.96)	-0.91	-1.16
Black	16.55 (16.13)	14.53 (17.28)	2.01***	12.15
Other	3.97 (4.19)	5.14 (5.83)	-1.17***	-29.47
Rural attributed beneficiaries (%)	23.02 (29.42)	27.01 (32.37)	-3.99***	-17.33
Dual eligible attributed beneficiaries (%)	17.25 (5.72)	18.74 (7.24)	-1.48***	-8.58
Average HCC score of attributed beneficiaries	1.08 (0.08)	1.07 (0.08)	0.02***	1.85
Number of suppliers	2914	4716		

Note: Table presents weighted means (and standard deviations) of supplier characteristics. Comparison group suppliers are weighted to resemble treatment group suppliers in the baseline demographic and health characteristics of their customer base. The model states included: Delaware, Maryland, New Jersey, North Carolina, Pennsylvania, South Carolina, Virginia, Washington, DC, and West Virginia. The comparison states included: Alabama, Florida, Georgia, Indiana, Kentucky, Louisiana, Massachusetts, Montana, Nebraska, Ohio, Tennessee, Texas, and Washington.

\*p < 0.05, \*\*p < 0.01, \*\*\*p < 0.001.

Table L.10 shows the baseline levels of the supplier outcome measures regarding utilization and payments. On average, suppliers in treatment states served fewer beneficiaries but made more trips per beneficiary served, as well as more trips meeting the RSNAT definition. They received more in RSNAT payments but less in payments for all ambulance services and total payments.

Table L.10. Baseline supplier quarterly utilization and payments

	Treatment mean (SD)	Comparison mean (SD)	Difference	Percent difference (%)
Number of beneficiaries served (any Medicare ambulance)	186.59 (477.39)	214.17 (620.73)	-27.58***	-14.7811
Number of RSNAT trips	139.46 (470.76)	97.96 (536.15)	41.50***	29.76
Number of Medicare ambulance trips	388.69 (901.63)	387.41 (1187.79)	1.28	0.33
Number of Medicare ambulance trips per beneficiary	4.87 (11.64)	3.18 (8.43)	1.68***	34.50
RSNAT payments (\$)	23,859.99 (81,392.17)	15,890.84 (85,884.54)	7,969.15***	33.40
Total Medicare ambulance payments (\$)	89,403.49 (203,499.44)	94,541.80 (275,640.18)	-5138.31*	-5.75
Total Medicare FFS payments (\$)	113,481.11 (248,268.87)	120,333.08 (337,969.97)	-6851.97**	-6.04
Number of observations	32,668	59,232		

Note: Table presents weighted means (and standard deviations) of quarterly supplier utilization and payment outcomes. Comparison group suppliers are weighted to resemble treatment group suppliers in the baseline demographic and health characteristics of their customer base. The model states included: Delaware, Maryland, New Jersey, North Carolina, Pennsylvania, South Carolina, Virginia, Washington, DC, and West Virginia. The comparison states included: Alabama, Florida, Georgia, Indiana, Kentucky, Louisiana, Massachusetts, Montana, Nebraska, Ohio, Tennessee, Texas, and Washington.

\*p < 0.05, \*\*p < 0.01, \*\*\*p < 0.001.

Table L.11 presents the multivariate impact estimates. The estimated impacts in the supplier analysis were driven almost entirely by suppliers who serve mostly non-rural beneficiaries. Although the direction of estimated change was the same for suppliers who serve mostly rural beneficiaries, the magnitudes of estimated changes were much smaller and, for the most part, statistically insignificant.

Table L.11. Impact of prior authorization on supplier quarterly utilization and payments, by rural residence

	Number of beneficiaries served (any Medicare ambulance) (I)	Number of RSNAT trips (II)	Number of Medicare ambulance trips (III)	Number of Medicare ambulance trips per beneficiary (IV)	RSNAT payments (\$) (VI)	Total Medicare ambulance payments (\$) (V)	Total Medicare FFS payments (\$) (VII)
<b>Rural</b>							
Average marginal effect	4.22	-19.92 <sup>†</sup>	-13.51	-0.46*	-3,092.18	-1,247.14	-3,106.85
(standard error)	(4.32)	(10.35)	(12.84)	(0.20)	(1,639.21)	(2,417.64)	(3,373.64)
Change from baseline (%)	3.52	-28.60	-5.68	-21.11	-28.02	-2.26	-3.93
R <sup>2</sup>	0.14	0.04	0.09	0.11	0.04	0.11	0.11
Number of observations	40,998	40,998	40,998	38,542	40,998	40,998	40,998
<b>Not rural</b>							
Average marginal effect	42.47**	-119.13***	-61.50*	-2.49***	-21,290.34***	-5,022.59	-6,376.16
(standard error)	(15.03)	(16.66)	(30.50)	(0.30)	(2,842.85)	(6,972.27)	(8,334.45)
Change from baseline (%)	19.02	-66.98	-13.04	-38.98	-68.86	-4.64	-4.81
R <sup>2</sup>	0.07	0.07	0.06	0.35	0.07	0.06	0.06
Number of observations	70,486	70,486	70,486	64,956	70,486	70,486	70,486

Note: Table presents coefficients (and standard errors) from weighted ordinary least squares regression analyses using claims from dates of service January 2012 through June 2016. Control variables included the following beneficiary characteristics, calculated at the supplier level: average beneficiary age, percent female, percent race categories, percent rural, percent dual eligible for Medicare and Medicaid, average HCC score, percent with three chronic conditions, an indicator for residing in a county with a moratorium on new Medicare suppliers, and length of time since the county moratorium went into effect. Errors are clustered at the supplier level. The model states included: Delaware, Maryland, New Jersey, North Carolina, Pennsylvania, South Carolina, Virginia, Washington, DC, and West Virginia. The comparison states included: Alabama, Florida, Georgia, Indiana, Kentucky, Louisiana, Massachusetts, Montana, Nebraska, Ohio, Tennessee, Texas, and Washington.

<sup>†</sup>p < 0.20, \*p < 0.05, \*\*p < 0.01, \*\*\*p < 0.001.



In addition, we compared the characteristics of those who left the program in the model states to those who stayed, and those who stayed and left in comparison states. We considered the subset of suppliers active in the year before the model went into effect and divided them into “stayers,” who were also active after the model went into effect, and “leavers,” who were not active after implementation. Our results are presented in Table L.12. In treatment states, leavers served customer bases that were less white and less rural than stayers.

Table L.12. Pre-implementation supplier characteristics, by post-implementation operation status

	Treatment				Comparison			
	Stayers - weighted mean (SD)	Leavers - weighted mean (SD)	Difference	Percentage difference (%)	Stayers - weighted mean (SD)	Leavers - weighted mean (SD)	Difference	Percentage difference (%)
<b>Supplier characteristics</b>								
Age of attributed beneficiaries (years)	71.14 (1.08)	70.77 (1.45)	0.37***	0.52	71.05 (1.78)	70.70 (1.44)	0.35***	0.50
Sex of attributed beneficiaries (% female)	55.37 (1.38)	56.45 (1.88)	-1.09***	-1.93	54.97 (2.17)	53.98 (2.33)	0.99***	1.83
<b>Race of attributed beneficiaries (%)</b>								
White	80.60 (13.83)	61.94 (24.96)	-15.44***	-51.86	81.31 (13.69)	80.09 (18.03)	-0.90	-6.72
Black	14.33 (12.27)	29.77 (23.93)	18.65***	30.11	12.5 -13.33	13.4 -17.39	1.22	1.52
Other	3.91 (4.04)	7.10 (6.41)	-3.19***	-44.93	4.89 (4.91)	5.50 (6.89)	-0.61*	-11.09
Rural attributed beneficiaries (%)	23.78 (27.55)	13.78 (29.67)	10.00***	72.57	24.33 (28.12)	39.50 (39.67)	-15.18***	-38.43
Dual eligible attributed beneficiaries (%)	16.28 (4.38)	21.54 (9.00)	-5.26***	-24.42	17.71 (5.84)	19.41 (9.47)	-1.70***	-8.76
Average HCC score of attributed beneficiaries	1.09 (0.06)	1.14 (0.09)	-0.05***	-4.39	1.08 (0.07)	1.07 (0.09)	0.01**	0.93
Number of suppliers	2,157	219			3,562	215		

Note: Table presents weighted means (and standard deviations) of supplier characteristics from the year prior to model implementation. “Stayers” are suppliers who were active both before and after implementation; “leavers” are suppliers active before but not after implementation. Comparison group suppliers are weighted to resemble treatment group suppliers in the demographic and health characteristics of their customer base. The model states included: Delaware, Maryland, New Jersey, North Carolina, Pennsylvania, South Carolina, Virginia, Washington, DC, and West Virginia. The comparison states included: Alabama, Florida, Georgia, Indiana, Kentucky, Louisiana, Massachusetts, Montana, Nebraska, Ohio, Tennessee, Texas, and Washington.

†p < 0.20, \*p < 0.05, \*\*p < 0.01, \*\*\*p < 0.001.

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APPENDIX M

YEAR 1 AND YEAR 2 SURVEY TOPLINE RESULTS

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# Medicare Prior Authorization Model for Repetitive Scheduled Non-Emergent Ambulance Transport Evaluation

Centers for Medicare & Medicaid Services

*RSNAT Stakeholder Survey  
Final Topline Results  
March 2017*

Field period Year 1 survey: August 3, 2016 to September 28, 2016

Field period Year 2 survey: December 13, 2016 to February 24, 2017

Year 1 model states total n=326 RSNAT stakeholders in New Jersey, Pennsylvania, and South Carolina

- 92 ambulance suppliers
- 81 dialysis facility staff
- 94 skilled nursing facility (SNF) staff
- 59 physicians from dialysis and SNFs

Year 2 expansion states total n=203 stakeholders in Delaware, District of Columbia, Maryland, North Carolina, Virginia, and West Virginia.

- 39 ambulance suppliers
- 65 dialysis facility staff
- 62 skilled nursing facility (SNF) staff
- 37 physicians from dialysis and SNFs

Tables show percentages of respondents selecting each response category. All percentages are rounded to the nearest whole number. Tables may not always add to 100 percent due to rounding. For multiple response questions, table totals may exceed 100 percent. Some questions are not asked of all respondents. The base for each question is noted above each table.

Results are based on nonprobability samples of stakeholders in the RSNAT prior authorization model states. Results are not generalizable to the stakeholder populations as a whole in those states nor to any particular subgroup. Inferential statistical analysis, including margins of error and tests of significance, are not appropriate for this type of sample. No weighting has been applied. The results presented below are descriptive in nature.

**Subgroup population definitions:**

**Ambulance suppliers:** Ambulance suppliers in the model states who submitted RSNAT prior authorization claims during the implementation period (Year 1 states December 2014 through February 2016; Year 2 states January 2016 through June 2016) according to Office of Financial Management (OFM) reports.

**Dialysis facility staff:** Staff members from dialysis facilities in the model states that appeared as the origin or destination on RSNAT prior authorization claims (matched beneficiary and carrier claims).

**Skilled nursing facility (SNF) staff:** Staff members from SNFs in the model states that appeared as the origin or destination on RSNAT prior authorization claims (matched beneficiary and carrier claims).

**Physicians:** Physicians in model states whose National Provider Identifier (NPI) appeared on RSNAT prior authorization claims originating or ending at a SNF or dialysis facility.

**Survey Results**

A01. Are you employed by, do you have financial relationships with, or do you provide services on behalf of any of the following? [Select one only]

	Total		Ambulance suppliers		Dialysis staff		SNF staff		Physicians	
	Yr 1* n=326	Yr 2** n=203	Yr 1 n=92	Yr 2 n=39	Yr 1 n=81	Yr 2 n=65	Yr 1 n=94	Yr 2 n=62	Yr 1 n=59	Yr 2 n=37
Ambulance transportation company	28	19	100	100	0	0	0	0	0	0
Dialysis facility	36	40	0	0	100	100	0	0	59	46
Nursing home or long-term care facility	36	40	0	0	0	0	100	100	41	54

\*Yr 1=Year 1 model states

\*\*Yr 2=Year 2 expansion states

A01a. Which of the following best describes your role at this organization? [Select one only]

*Based on respondents from ambulance transportation companies*

	Ambulance suppliers	
	Yr 1 n=92	Yr 2 n=39
President or owner	34	31
Compliance officer	4	13
Operations director or manager	24	23
Billing director or manager	27	21
Other (specify)	11	13

A01b. Which of the following best describes your role at this organization? If you work for multiple organizations or at multiple facilities, please think about your primary place of employment. [Select one only]

*Based on respondents from dialysis facilities, nursing homes, or long term care facilities*

	Total		Dialysis staff		SNF staff		Physicians	
	Yr 1 n=234	Yr 2 n=164	Yr 1 n=81	Yr 2 n=65	Yr 1 n=94	Yr 2 N=62	Yr 1 n=59	Yr 2 n=37
Medical director	21	37	35	48	23	47	0	0
Facility manager	21	24	21	26	35	35	0	0
Billing manager	5	2	1	0	11	5	0	0
Social worker	12	7	33	18	0	0	0	0
Attending physician	25	23	0	0	0	0	100	100
Other (specify)	16	8	10	8	31	13	0	0

A02. How long have you worked in your current role? [Select one only]

*Question A02 was asked in Year 1 model states only*

	Total n=326	Ambulance suppliers n=92	Dialysis staff n=81	SNF staff n=94	Physicians n=59
< 6 months	3	0	6	6	0
6 months to less than 1 year	5	1	9	7	2
1 year to less than 3 years	16	24	15	18	2
3 years or more	75	74	70	68	97
No response	0	1	0	0	0

A03. Does the organization you work for currently provide services to Medicare Part B or dual eligible beneficiaries? [Select one only]

	Total		Ambulance suppliers		Dialysis staff		SNF staff		Physicians	
	Yr 1 n=326	Yr 2 N=203	Yr 1 n=92	Yr 2 N=39	Yr 1 n=81	Yr 2 N=65	Yr 1 n=94	Yr 2 N=62	Yr 1 n=59	Yr 2 N=37
Yes	100	100	99	100	100	100	100	100	100	100
No	0	0	1	0	0	0	0	0	0	0



A03a. When did the organization you work for stop providing services to Medicare Part B or dual eligible beneficiaries? [Select one only]

*Based on respondents who DO NOT currently provide services to Medicare Part B or dual-eligible beneficiaries, n=1*

*Question A03a was asked in Year 1 model states only*

	Ambulance suppliers n=1
Within the past month	0
1 month to 6 months ago	0
6 months to 12 months ago	0
12 months to 18 months ago	100
More than 18 months ago	0
Organization has never provided services to Medicare beneficiaries	0

A04. Does the organization you work for currently provide services to Medicare Part B or dual eligible beneficiaries in the following states? [Select all that apply]

*Based on respondents who currently provide services to Medicare Part B or dual eligible beneficiaries*

	Total		Ambulance suppliers		Dialysis staff		SNF staff		Physicians	
	Yr 1 n=325	Yr 2 n=203	Yr 1 n=91	Yr 2 n=37	Yr 1 n=81	Yr 2 n=65	Yr 1 n=94	Yr 2 n=62	Yr 1 n=59	Yr 2 n=37
New Jersey	38		35		32		38		51	
Pennsylvania	38		40		47		32		32	
South Carolina	31		26		37		35		25	
Delaware		9		8		8		8		16
District of Columbia		1		0		3		2		0
Maryland		12		10		15		8		16
North Carolina		28		15		28		35		27
Virginia		42		54		40		40		38
West Virginia		24		31		25		19		24

A05. Did the organization you work for formerly provide services to Medicare Part B or dual eligible beneficiaries in the following states? [Select all that apply]

*Based on respondents who DO NOT currently provide services to Medicare Part B or dual eligible beneficiaries*

*Question A05 asked in Year 1 model states only*

	Ambulance suppliers n=1
New Jersey	100
Pennsylvania	0
South Carolina	0
None of these states	0

A06. In [December 2014/January 2016], CMS implemented the prior authorization payment model in [New Jersey, Pennsylvania, and South Carolina/six expansion states] requiring ambulance transport suppliers to submit prior authorization requests for repetitive, scheduled, non-emergent ambulance transport services for Medicare beneficiaries. How familiar are you with the prior authorization payment model? [Select one only]

	Total		Ambulance suppliers		Dialysis staff		SNF staff		Physicians	
	Yr 1 n=326	Yr 2 n=203	Yr 1 n=92	Yr 2 n=39	Yr 1 n=81	Yr 2 n=65	Yr 1 n=94	Yr 2 n=62	Yr 1 n=59	Yr 2 n=37
Very familiar	42	35	89	90	31	25	22	21	15	19
Somewhat familiar	36	35	11	8	46	40	51	47	39	38
Not too familiar	14	16	0	3	20	25	17	10	25	24
Not at all familiar	7	14	0	0	4	11	10	23	20	19

A07. How did you first learn about the prior authorization payment model for ambulance transport services? [Select all that apply]

*Based on respondents who are familiar with the prior authorization model*

	Total		Ambulance suppliers		Dialysis staff		SNF staff		Physicians	
	Yr 1 n=302	Yr 2 n=173	Yr 1 n=92	Yr 2 n=39	Yr 1 n=78	Yr 2 n=57	Yr 1 n=85	Yr 2 n=47	Yr 1 n=47	Yr 2 n=30
Employer-sponsored trainings, meetings, and/or materials	18	18	18	23	21	21	21	19	6	3
Centers for Medicare and Medicaid Services (CMS)-sponsored trainings, meetings, and/or materials	31	25	68	64	19	11	15	21	4	10
Independent reading and training	21	19	38	41	14	12	19	15	4	10
Requests for documentation from beneficiaries or transportation suppliers	51	59	11	8	71	68	57	74	89	83
Information or training offered by professional associations	N/A	8	N/A	21	N/A	4	N/A	6	N/A	0
Other (specify)	6	5	12	10	4	4	5	2	2	3

M-9

A08. How well informed did you feel about the prior authorization payment model at the start of its implementation in [December 2014/January 2016]? [Select one only]

*Based on respondents who are familiar with the prior authorization model*

	Total		Ambulance suppliers		Dialysis staff		SNF staff		Physicians	
	Yr 1 n=302	Yr 2 n=174	Yr 1 n=92	Yr 2 n=39	Yr 1 n=78	Yr 2 n=57	Yr 1 n=85	Yr 2 n=48	Yr 1 n=47	Yr 2 n=30
Very well informed	10	11	20	33	8	9	6	2	0	0
Somewhat well informed	30	32	37	31	23	26	34	44	19	27
Not too well informed	38	37	21	23	50	37	42	38	47	57
Not well informed at all	22	20	23	13	19	28	18	17	34	17

A09. How well informed do you feel about the prior authorization payment model today? [Select one only]

*Based on respondents who are familiar with the prior authorization model*

	Total		Ambulance suppliers		Dialysis staff		SNF staff		Physicians	
	Yr 1 n=302	Yr 2 n=173	Yr 1 n=92	Yr 2 n=39	Yr 1 n=78	Yr 2 n=56	Yr 1 n=85	Yr 2 n=48	Yr 1 n=47	Yr 2 n=30
Very well informed	22	23	48	49	12	20	11	19	6	3
Somewhat well informed	52	45	40	38	59	39	61	58	45	43
Not too well informed	24	29	9	13	28	36	27	23	40	50
Not well informed at all	3	2	3	0	1	5	1	0	9	3

B01. Approximately how many prior authorization requests for non-emergent ambulance transport has your organization submitted in the past 12 months? [Select one only]

*Based on respondents from ambulance transportation companies*

	Ambulance suppliers	
	Yr 1 n=92	Yr 2 n=39
None	5	0
1–10	39	28
11–25	21	28
26–50	13	10
51–75	9	8
76 or more	13	26

B02. Below please enter what percentage of the prior authorization requests your organization submitted that resulted in each outcome. Your percentage should sum to 100%.

*Based on respondents from ambulance transportation companies that have submitted a prior authorization request in the past 12 months*

	Mean % reported		Median % reported	
	Yr 1 n=87	Yr 2 n=39	Yr 1 n=87	Yr 2 n=39
Affirmed upon initial submission	36	45	30	50
Affirmed after one or more resubmissions	31	28	25	20
Affirmed after appeal	4	25	0	5
In process/no outcome to date	1	3	0	0

B03. Approximately what percentage of non-affirmed prior authorization requests has your organization appealed? [Select one only]

*Based on respondents from ambulance transportation companies that have submitted a prior authorization request in the past 12 months*

	Ambulance suppliers	
	Yr 1 n=87	Yr 2 n = 39
None	33	3
1–10%	29	10
11–25%	6	18
26–50%	10	0
51–75%	6	5
More than 75%	10	62
Have not had non-affirmed PARs	5	3
No response	1	0

- B04. About how long is the typical response time from Medicare for an initial request for prior authorization? [Select one only]

*Based on respondents from ambulance transportation companies that have submitted a prior authorization request in the past 12 months*

	Ambulance suppliers	
	Yr 1 n=87	Yr 2 n=39
1–5 business days	34	10
6–10 business days	47	49
11–15 business days	14	26
More than 15 business days	5	15

- B05. Since implementation of the prior authorization payment model for non-emergent ambulance transport, has the number of Medicare beneficiaries your organization transports increased, decreased, or remained about the same? [Select one only]

*Based on respondents from ambulance transportation companies that have submitted a prior authorization request in the past 12 months*

	Ambulance suppliers	
	Yr 1 n=87	Yr 2 n=39
Increased significantly	0	0
Increased somewhat	3	0
Remained about the same	39	69
Decreased somewhat	31	15
Decreased significantly	26	15

- B06. How often, if ever, do you provide non-emergent ambulance transport for a Medicare beneficiary before receiving prior authorization approval? [Select one only]

*Based on respondents from ambulance transportation companies that have submitted a prior authorization request in the past 12 months*

	Ambulance suppliers	
	Yr 1 n=87	Yr 2 n=39
Always or almost always	38	21
Most of the time	18	33
Sometimes	17	23
Hardly ever	11	10
Never	10	13
I did not know transportation could be provided without prior authorization approval	5	0

B07. When you provide ambulance transport to beneficiaries before receiving prior authorization, how often is approval eventually obtained? [Select one only]

*Based on respondents from ambulance transportation companies that have provided transport to Medicare beneficiaries before receiving prior authorization*

	Ambulance suppliers	
	Yr 1 n=64	Yr 2 n=30
Never	11	3
1–10% of the time	9	10
11–25% of the time	8	10
26–50% of the time	16	3
51–75%	13	13
More than 75% of the time	44	60

B08. Since [the 2014] implementation of the prior authorization payment model, have you limited or stopped altogether the practice of providing ambulance transport to Medicare beneficiaries before receiving prior authorization approval? [Select one only]

*Based on respondents from ambulance transportation companies that have submitted a prior authorization request in the past 12 months*

	Ambulance suppliers	
	Yr 1 n=87	Yr 2 n=39
Yes	38	26
No	38	56
We are planning to limit or stop this practice in the future	24	18

B09. Has your organization or facility provided beneficiaries an Advance Beneficiary Notice of Noncoverage to make them aware that their non-emergent ambulance transport may not be covered by Medicare? [Select one only]

*Based on respondents who are not physicians*

	Total		Ambulance suppliers		Dialysis staff		SNF staff	
	Yr 1 n=250	Yr 2 n=140	Yr 1 n=87	Yr 2 n=39	Yr 1 n=78	Yr 2 n=54	Yr 1 n=85	Yr 2 n=47
Yes	60	36	72	38	44	44	61	23
No	38	64	26	62	53	56	38	77
No response	2	0	1	0	4	0	1	0

B10. Has your organization made the decision to stop serving Medicare beneficiaries due to the prior authorization requirement for non-emergent ambulance transport? [Select one only]

*Based on respondents who are not physicians*

	Total		Ambulance suppliers		Dialysis staff		SNF staff	
	Yr 1 n=250	Yr 2 n=139	Yr 1 n=87	Yr 2 n=39	Yr 1 n=78	Yr 2 n=53	Yr 1 n=85	Yr 2 n=47
Yes	6	5	13	13	5	4	0	0
No	85	91	71	82	91	92	94	98
We are planning to in the future	7	4	16	5	1	4	4	2
No response	2	0	0	0	3	0	2	0

B11. In order to be approved for non-emergent ambulance transport, beneficiaries must meet the "medical necessity" requirement. How familiar are you with this requirement? [Select one only]

*Based on respondents who are familiar with the prior authorization model*

	Total		Ambulance suppliers		Dialysis staff		SNF staff		Physicians	
	Yr 1 n=297	Yr 2 n=173	Yr 1 n=87	Yr 2 n=39	Yr 1 n=78	Yr 2 n=65	Yr 1 n=85	Yr 2 n=62	Yr 1 n=47	Yr 2 n=37
Very familiar	50	52	91	90	40	42	35	50	17	27
Somewhat familiar	41	41	9	10	51	49	49	44	68	60
Not very familiar	8	6	0	0	9	9	15	6	11	10
Not at all familiar	0	1	0	0	0	0	0	0	2	3
No response	0	0	0	0	0	0	0	0	2	0



B12. Would you say the criteria for establishing “medical necessity” are...? [Select one only]

*Based on respondents who are familiar with the medical necessity requirement*

	Total		Ambulance suppliers		Dialysis staff		SNF staff		Physicians	
	Yr 1 n=296	Yr 2 n=168	Yr 1 n=87	Yr 2 n=39	Yr 1 n=78	Yr 2 n=65	Yr 1 n=85	Yr 2 n=62	Yr 1 n=46	Yr 2 n=36
Very clear	15	20	26	36	14	23	9	15	2	3
Mostly clear	51	56	38	41	63	45	52	72	57	69
Mostly unclear	26	19	21	13	19	28	33	11	33	24
Very unclear	8	5	15	10	4	4	6	2	4	3
No response	1	0	0	0	0	0	0	0	4	0

B12a. Would you say the criteria for establishing “medical necessity” are...? [Select one only]

*Based on respondents who are familiar with the medical necessity requirement*

*Question B12a was asked in Year 2 expansion states only*

	Total n=168	Ambulance Suppliers n=39	Dialysis staff n=53	SNF staff n=47	Physicians n=29
Too Broad	14	15	11	19	10
Too narrow	55	59	57	51	55
Appropriate as currently written	30	26	32	30	34

B13. In your experience, how easy or difficult is it to get supporting information for prior authorization requests from treatment facilities (e.g. dialysis centers, skilled nursing facilities)? [Select one only]

*Based on respondents from ambulance transportation companies*

	Ambulance suppliers	
	Yr 1 N=87	Yr 2 n=39
Extremely easy	1	0
Easy	17	26
Difficult	40	44
Extremely difficult	41	31

B14. How easy or difficult is it to get supporting information for prior authorization requests from physicians? [Select one only]

*Based on respondents from ambulance transportation companies*

	Ambulance suppliers	
	Yr 1 n=87	Yr 2 n=39
Extremely easy	1	0
Easy	16	23
Difficult	33	44
Extremely difficult	49	33

B15\_Yr 1. In the current model, prior authorization requests are submitted by ambulance transport suppliers. Which entity do you believe should be responsible for submitting these requests? [Select one only]

*Based on respondents who are familiar with the prior authorization model*

*Question B15\_Yr 1 was asked in Year 1 model states only*

	Total n=297	Ambulance suppliers n=87	Dialysis staff n=78	SNF staff n=85	Physicians n=47
Ambulance transport suppliers	47	28	54	66	40
Beneficiaries	4	3	6	2	2
Facilities where residents live	14	17	12	13	17
Facilities where beneficiaries receive treatment	21	32	9	15	32
Primary care providers	10	16	15	2	6
Other (specify)	2	3	3	1	0
No response	1	0	1	0	2

B15\_expansion. Which of the following challenges, if any, have you experienced when gathering medical necessity documentation from physicians or facilities?

*Based on respondents from ambulance transportation companies, n=39*

*Question B15\_expansion was asked in Year 2 expansion states only*

	Ambulance suppliers
Slow response time	85
Inaccurate documentation	54
Inaccurate or missing documentation	87
Physician does not have current information on patient or has not seen patient recently	51
Physician does not believe patient needs ambulance transport	8
Other (specify)	13
No response	0

C01. Next are some questions about how the prior authorization model might be affecting the organization or facility where you work, as well as affecting Medicare beneficiaries.

How much, if at all, has the prior authorization payment model affected your organization or facility's day-to-day operations? [Select one only]

*Based on respondents who are familiar with the prior authorization model*

	Total		Ambulance suppliers		Dialysis staff		SNF staff		Physicians	
	Yr 1 n=297	Yr 2 n=170	Yr 1 n=87	Yr 2 n=39	Yr 1 n=78	Yr 2 n=53	Yr 1 n=85	Yr 2 n=48	Yr 1 n=47	Yr 2 n=30
A lot	29	21	53	41	13	17	24	13	19	17
Some	39	46	32	44	41	42	44	46	43	57
Only a little	25	22	10	10	32	26	26	27	36	23
Not at all	7	11	5	5	14	15	7	15	2	3

C02. How much, if at all, has the prior authorization payment model affected your own day-to-day role providing services to Medicare beneficiaries? [Select one only]

*Based on respondents who are familiar with the prior authorization model, n=297*

*Question C02 was asked in Year 1 model states only*

	Total n=297	Ambulance suppliers n=87	Dialysis staff n=78	SNF staff n=85	Physicians n=47
A lot	22	49	9	11	11
Some	34	33	28	35	43
Only a little	26	9	36	32	30
Not at all	19	8	27	22	17

C03. Has the prior authorization payment model had a positive or negative effect on your organization or facility's ability to serve Medicare patients? [Select one only]

*Based on respondents who are familiar with the prior authorization model*

	Total		Ambulance suppliers		Dialysis staff		SNF staff		Physicians	
	Yr 1 n=297	Yr 2 n=170	Yr 1 n=87	Yr 2 n=39	Yr 1 n=78	Yr 2 n=53	Yr 1 n=85	Yr 2 n=48	Yr 1 n=47	Yr 2 n=30
Completely positive	1	2	3	5	0	0	0	2	0	0
Mostly positive	16	16	15	15	12	15	15	17	26	17
Mostly negative	41	45	46	41	31	43	47	35	36	67
Completely negative	14	8	23	21	10	8	11	4	11	0
No effect at all	28	29	13	18	47	34	27	42	28	17

C04. How would you describe the overall effect the prior authorization payment model has had on your organization or facility's financial condition? [Select one only]

*Based on respondents who are not physicians*

	Total		Ambulance suppliers		Dialysis staff		SNF staff	
	Yr 1 n=250	Yr 2 n=139	Yr 1 n=87	Yr 2 n=39	Yr 1 n=78	Yr 2 n=53	Yr 1 n=85	Yr 2 n=47
Completely positive	1	1	1	0	0	0	1	2
Mostly positive	10	14	9	21	8	9	13	15
Mostly negative	37	30	44	36	14	21	52	36
Completely negative	15	7	30	18	4	2	9	4
No effect at all	34	47	16	26	68	68	22	43
No response	3	0	0	0	6	0	2	0

C05. Has your organization or facility increased the volume or cost of other services to compensate for any negative financial effects of prior authorization? [Select one only]

*Based on respondents who are not physicians*

	Total		Ambulance suppliers		Dialysis staff		SNF staff	
	Yr 1 n=250	Yr 2 n=139	Yr 1 n=87	Yr 2 n=39	Yr 1 n=78	Yr 2 n=53	Yr 1 n=85	Yr 2 n=47
Yes	17	7	34	13	4	4	12	6
No	73	84	54	77	90	94	78	79
We are planning to in the future	8	9	11	10	1	2	9	15
No response	2	0	0	0	5	0	1	0

C06. How much, if at all, has the prior authorization model increased administrative burden (time spent on paperwork) for staff at your organization or facility? [Select one only]

*Based on respondents who are familiar with the prior authorization model*

	Total		Ambulance suppliers		Dialysis staff		SNF staff		Physicians	
	Yr 1 n=297	Yr 2 n=170	Yr 1 n=87	Yr 2 n=39	Yr 1 n=78	Yr 2 n=53	Yr 1 n=85	Yr 2 n=48	Yr 1 n=47	Yr 2 n=30
A lot	43	44	72	74	26	36	34	33	34	33
Some	35	33	22	10	32	30	47	42	43	53
Only a little	19	20	6	15	32	25	18	23	23	13
Not at all	3	4	0	0	10	9	1	2	0	0

- C07. How much, if at all, has the prior authorization model increased administrative burden on you personally? [Select one only]

*Based on respondents who are familiar with the prior authorization model, n=297*

*Question C07 was asked in Year 1 model states only*

	Total n=297	Ambulance suppliers n=87	Dialysis staff n=78	SNF staff n=85	Physicians =47
A lot	34	68	23	12	30
Somewhat	33	23	27	47	38
Very little	22	7	31	27	26
Not at all	11	2	19	14	6

- C08. Overall, would you say implementation of the prior authorization payment model for non-emergent ambulance transport has been easy or difficult for your organization or facility? [Select one only]

*Based on respondents who are familiar with the prior authorization model, n=297*

*Question C08 was asked in Year 1 model states only*

	Total n=297	Ambulance suppliers n=87	Dialysis staff n=78	SNF staff n=85	Physicians n=47
Very easy	1	1	0	1	0
Easy	37	22	44	41	47
Difficult	42	41	38	48	38
Very difficult	20	36	15	9	15
No response	1	0	3	0	0

- C09. Overall, has implementation of the prior authorization payment model for non-emergent ambulance transport been easy or difficult for beneficiaries? [Select one only]

*Based on respondents who are familiar with the prior authorization model, n=297*

*Question C09 was asked in Year 1 model states only*

	Total n=297	Ambulance suppliers n=87	Dialysis staff n=78	SNF staff n=85	Physicians n=47
Very easy	4	6	1	2	9
Easy	24	14	28	27	28
Difficult	49	38	50	61	45
Very difficult	23	41	21	9	19
No response	0	1	0	0	0

C10. How would you describe the overall impact of the prior authorization payment model on beneficiaries' ability to get to and from dialysis and other treatment? [Select one only]

*Based on respondents who are familiar with the prior authorization model*

	Total		Ambulance suppliers		Dialysis staff		SNF staff		Physicians	
	Yr 1 n=297	Yr 2 n=168	Yr 1 n=87	Yr 2 n=39	Yr 1 n=78	Yr 2 n=53	Yr 1 n=85	Yr 2 n=46	Yr 1 n=47	Yr 2 n=30
Completely positive	2	1	3	3	0	0	2	2	0	0
Mostly positive	9	17	7	15	13	11	6	22	15	23
No impact	23	29	14	21	21	19	32	50	30	27
Mostly negative	51	43	49	44	50	57	55	24	47	50
Completely negative	15	9	26	18	17	13	5	2	9	0

C11. How would you describe the overall impact of the prior authorization payment model on beneficiaries' access to timely care? [Select one only]

*Based on respondents who are familiar with the prior authorization model*

	Total		Ambulance suppliers		Dialysis staff		SNF staff		Physicians	
	Yr 1 n=297	Yr 2 N=170	Yr 1 n=87	Yr 2 n=39	Yr 1 n=78	Yr 2 n=53	Yr 1 n=85	Yr 2 n=48	Yr 1 n=47	Yr 2 n=30
Completely positive	2	1	3	0	1	0	1	2	0	0
Mostly positive	6	16	3	18	5	9	6	15	11	27
No impact	33	29	21	26	37	32	40	35	38	17
Mostly negative	44	46	43	41	44	49	48	42	43	57
Completely negative	15	8	30	15	13	9	5	6	9	0

C12. In your experience, has prior authorization for non-emergent ambulance transportation resulted in more beneficiaries utilizing costly medical services, such as hospitalization or emergency care? [Select one only]

*Based on respondents who are familiar with the prior authorization model*

	Total		Ambulance suppliers		Dialysis staff		SNF staff		Physicians	
	Yr 1 n=297	Yr 2 n=169	Yr 1 n=87	Yr 2 n=39	Yr 1 n=78	Yr 2 n=53	Yr 1 n=85	Yr 2 n=47	Yr 1 n=47	Yr 2 n=30
Yes	46	44	67	49	41	45	33	38	38	57
No	54	53	32	51	59	47	67	60	62	43
No response	0	3	1	0	0	9	0	2	0	0

C12a. Have any of your patients used the following services as a direct result of being denied ambulance transport under prior authorization...? [Select one only]

*Based on respondents who are familiar with the prior authorization model, n=131*

*Question C12a was asked in Year 2 expansion states only*

	Total n=131	Ambulance suppliers n=26	Dialysis staff n=44	SNF staff n=34	Physicians n=27
Emergency ambulance transport	50	69	32	59	52
Emergency room care	59	69	73	41	48
Inpatient hospitalization	40	50	52	24	30
Treatment in a residential facility	15	12	9	18	22
Other (specify)	14	19	14	18	4

C12b. Have any of your patients delayed or canceled scheduled treatments because they were not approved for ambulance transportation under prior authorization? [Select one only]

*Based on respondents who are familiar with the prior authorization model, n=168 (expansion)*

*Question C12b was asked in Year 2 expansion states only*

	Total n=168	Ambulance suppliers n=39	Dialysis staff n=52	SNF staff n=47	Physicians n=30
Yes	64	74	60	54	73
No	32	26	29	44	27
No response	4	0	10	2	0



C13. How much do you agree or disagree with the following statement: [Select one only]

The prior authorization payment model has been successful in reducing the use of medically *unnecessary* ambulance transport.

*Based on respondents who are familiar with the prior authorization model*

	Total		Ambulance suppliers		Dialysis staff		SNF staff		Physicians	
	Yr 1 n=297	Yr 2 n=169	Yr 1 n=87	Yr 2 n=39	Yr 1 n=297	Yr 2 n=78	Yr 1 n=169	Yr 2 n=87	Yr 1 n=47	Yr 2 n=30
Strongly agree	12	6	21	13	9	6	7	2	9	3
Agree	47	54	44	46	56	57	38	60	55	53
Disagree	30	33	20	28	28	30	45	34	28	40
Strongly disagree	11	7	16	13	6	8	11	4	9	3

C14. How much do you agree or disagree with the following statement: [Select one only]

Final prior authorization determinations are usually correct.

*Based on respondents who are familiar with the prior authorization model*

	Total		Ambulance suppliers		Dialysis staff		SNF staff		Physicians	
	Yr 1 n=297	Yr 2 n=169	Yr 1 n=87	Yr 2 n=39	Yr 1 n=78	Yr 2 n=53	Yr 1 n=85	Yr 2 n=47	Yr 1 n=47	Yr 2 n=30
Strongly agree	3	2	5	3	4	2	1	0	4	3
Agree	43	54	28	46	50	57	44	54	57	60
Disagree	38	35	32	36	37	26	47	44	32	37
Strongly disagree	15	6	34	15	8	7	7	0	6	0
No response	1	3	1	0	1	9	1	2	0	0

C15. How much do you agree or disagree with the following statement: [Select one only]

Before prior authorization implementation, fraud was a significant problem in the ambulance transport industry.

*Based on respondents who are familiar with the prior authorization model*

	Total		Ambulance suppliers		Dialysis staff		SNF staff		Physicians	
	Yr 1 n=297	Yr 2 n=164	Yr 1 n=87	Yr 2 n=38	Yr 1 n=78	Yr 2 n=50	Yr 1 n=85	Yr 2 n=46	Yr 1 n=47	Yr 2 n=30
Strongly agree	20	9	31	18	21	3	8	10	19	7
Agree	42	42	52	49	49	50	29	31	36	37
Disagree	33	39	14	26	24	31	58	50	40	53
Strongly disagree	3	3	2	5	4	2	4	4	2	3
No response	2	6	1	3	3	14	1	4	2	0

C16. How much do you agree or disagree with the following statement: [Select one only]

Changes need to be made to the prior authorization payment model before expanding it to other states.

*Based on respondents who are familiar with the prior authorization model*

	Total		Ambulance suppliers		Dialysis staff		SNF staff		Physicians	
	Yr 1 n=297	Yr 2 n=167	Yr 1 n=87	Yr 2 n=30	Yr 1 n=78	Yr 2 n=51	Yr 1 n=85	Yr 2 n=48	Yr 1 n=47	Yr 2 n=30
Strongly agree	35	21	56	36	23	19	26	17	30	10
Agree	43	55	29	41	45	48	55	56	45	83
Disagree	20	19	11	21	31	21	18	25	23	7
Strongly disagree	1	1	3	0	0	0	1	2	0	0
No response	1	5	0	3	1	12	0	0	2	0

C17. In the box below, please tell us what changes, if any, would you make to the prior authorization payment model for non-emergent ambulance transportation? [Open end]

*Note: n represents the total number of coded responses for each sample group. It is possible that more than one code could have been applied to a single response.*

*Based on respondents who agree or strongly agree that changes should be made, n=231*

*Question C17 was asked in Year 1 model states only*

% of coded response items in each category	Ambulance suppliers n=90	Dialysis staff n=34	SNF staff n=50	Physicians n=30
Medical necessity guidelines	29	35	40	17
Need more transfer support	1	9	2	0
Education and communication	9	9	14	3
Extend authorization period beyond 60 days	8	9	0	7
PAR review timeframe	3	6	10	10
Redesign model	7	6	0	13
General negative comments/recommendations	8	6	10	0
General positive comments/recommendations	6	6	0	17
Accountability	4	3	4	0
Shift responsibility to different stakeholder	13	3	4	13
Eliminate model	0	3	0	3
Create standardized PAR form	2	0	2	0
Streamline documentation	2	0	2	10
Costs and reimbursement rates	2	0	4	0
Other	5	3	4	3
Not enough experience with model to comment	0	3	4	3

C18. How much do you agree or disagree with the following statement: [Select one only]

Some beneficiaries who truly need ambulance transportation are being denied the service because of the prior authorization payment model.

*Based on respondents who are familiar with the prior authorization model*

	Total		Ambulance suppliers		Dialysis staff		SNF staff		Physicians	
	Yr 1 n=297	Yr 2 n=169	Yr 1 n=87	Yr 2 n=39	Yr 1 n=78	Yr 2 n=53	Yr 1 n=85	Yr 2 n=47	Yr 1 n=47	Yr 2 n=30
Strongly agree	32	22	57	33	26	31	18	15	19	3
Agree	44	45	33	41	45	33	54	46	43	70
Disagree	21	27	5	18	26	26	26	38	32	17
Strongly disagree	3	4	5	8	1	2	2	0	6	10
No response	1	3	0	0	3	9	0	2	0	0

C19. How much do you agree or disagree with the following statement: [Select one only]

The prior authorization payment model is resulting in significant out-of-pocket transportation costs for some beneficiaries.

*Based on respondents who are familiar with the prior authorization model*

	Total		Ambulance suppliers		Dialysis staff		SNF staff		Physicians	
	Yr 1 n=297	Yr 2 n=166	Yr 1 n=87	Yr 2 n=38	Yr 1 n=78	Yr 2 n=51	Yr 1 n=85	Yr 2 n=47	Yr 1 n=47	Yr 2 n=30
Strongly agree	30	18	48	21	23	29	24	15	17	0
Agree	49	51	41	50	49	39	55	57	53	63
Disagree	19	28	6	24	24	29	20	28	30	33
Strongly disagree	1	2	3	5	1	2	0	0	0	3
No response	1	0	1	0	3	0	1	0	0	0

C20. How much do you agree or disagree with the following statement: [Select one only]

The prior authorization requirement is causing emotional distress for many beneficiaries and their caregivers.

*Based on respondents who are familiar with the prior authorization model*

	Total		Ambulance suppliers		Dialysis staff		SNF staff		Physicians	
	Yr 1 n=297	Yr 2 n=169	Yr 1 n=87	Yr 2 n=39	Yr 1 n=78	Yr 2 n=52	Yr 1 n=85	Yr 2 n=48	Yr 1 n=47	Yr 2 n=30
Strongly agree	32	24	55	36	30	38	15	10	21	7
Agree	44	51	32	38	41	38	64	63	36	70
Disagree	20	22	6	21	27	21	19	25	38	20
Strongly disagree	3	3	5	5	1	2	1	2	4	3
No response	1	0	2	0	1	0	1	0	0	0

C21. How much do you agree or disagree with the following statement: [Select one only]

Most beneficiaries who are not approved for ambulance transport are able to find other means of transportation to and from treatment.

*Based on respondents who are familiar with the prior authorization model, n=297*

*Question C21 was asked in Year 1 model states only*

	Total n=297	Ambulance suppliers n=87	Dialysis staff n=78	SNF staff n=85	Physicians n=47
Strongly agree	3	2	3	2	4
Agree	33	14	42	33	53
Disagree	47	55	37	54	34
Strongly disagree	17	28	17	11	9
No response	1	1	1	0	0

C22. Since [the 2014] implementation of the prior authorization payment model, approximately what percentage of Medicare beneficiaries you serve have had to find alternative forms of transportation to and from dialysis or other treatments? [Select one only]

*Based on respondents who are familiar with the prior authorization model*

	Total		Ambulance suppliers		Dialysis staff		SNF staff		Physicians	
	Yr 1 n=297	Yr 2 n=168	Yr 1 n=87	Yr 2 n=39	Yr 1 n=78	Yr 2 n=53	Yr 1 n=85	Yr 2 n=47	Yr 1 n=47	Yr 2 n=29
None	11	17	17	18	6	11	13	26	6	10
1–10%	42	44	37	38	54	55	36	30	40	55
11–25%	23	27	15	15	22	30	26	34	36	28
26–50%	17	8	23	15	15	4	15	6	11	7
51–75%	3	3	2	10	1	0	6	2	2	0
More than 75%	3	1	6	3	0	0	4	2	2	0
No response	1	0	0	0	1	0	0	0	2	0

C23. For beneficiaries who are no longer approved for non-emergent ambulance transport, which forms of transportation are they using instead? [Select all that apply]

*Based on respondents who are familiar with the prior authorization model*

	Total		Ambulance suppliers		Dialysis staff		SNF staff		Physicians	
	Yr 1 n=297	Yr 2 n=168	Yr 1 n=87	Yr 2 n=38	Yr 1 n=78	Yr 2 n=53	Yr 1 n=85	Yr 2 n=47	Yr 1 n=47	Yr 2 n=30
CMS-paid transportation programs*	22	N/A	26	N/A	19	N/A	26	N/A	17	N/A
Family and friends	61	58	21	21	81	70	71	66	87	73
Medical transport paid for out of pocket by beneficiary	54	45	56	42	47	36	49	60	66	43
Public transportation	26	28	6	11	50	49	18	21	36	23
Transportation provided by church groups or other community organizations	20	13	5	8	31	15	13	13	40	17
Alternative transportation provided by the treatment facility, including CMS-paid voucher programs	15	17	16	8	9	11	14	30	23	20
Uber or other car-sharing programs	6	4	1	0	10	9	4	2	11	0
Other (specify)	17	14	31	34	6	11	18	6	6	7
Patients have not used other forms of transportation	14	15	28	29	9	15	12	13	2	3
No response	0	0	1	0	0	0	0	0	0	0

\*response option not included in Year 2 expansion state survey

C24. Overall, has implementation of the prior authorization payment model reduced the available transportation options for facilities and/or beneficiaries in your area? [Select one only]

*Based on respondents who are familiar with the prior authorization model*

	Total		Ambulance suppliers		Dialysis staff		SNF staff		Physicians	
	Yr 1 n=297	Yr 2 n=170	Yr 1 n=87	Yr 2 n=39	Yr 1 n=78	Yr 2 n=53	Yr 1 n=85	Yr 2 n=48	Yr 1 n=47	Yr 2 n=30
Yes, has significantly reduced transportation options	29	18	51	23	24	19	19	21	17	7
Yes, has somewhat reduced transportation options	52	50	36	41	55	45	62	56	60	60
No, has not reduced transportation options	19	32	14	36	21	36	19	23	23	33

C25. How many ambulance transport companies in your area, if any, have ceased operations or stopped serving Medicare beneficiaries due to the prior authorization requirement? [Select one only]

*Based on respondents who are familiar with the prior authorization model*

	Total		Ambulance suppliers		Dialysis staff		SNF staff		Physicians	
	Yr 1 n=297	Yr 2 n=170	Yr 1 n=87	Yr 2 n=39	Yr 1 n=78	Yr 2 n=53	Yr 1 n=85	Yr 2 n=48	Yr 1 n=47	Yr 2 n=30
All or almost all	2	0	5	0	1	0	0	0	0	0
Most	13	5	22	5	12	6	9	4	9	7
Some	28	23	38	41	24	21	26	17	17	13
Very few	10	11	6	3	13	13	8	13	15	13
None	6	22	5	18	10	19	6	31	4	17
I'm not sure	41	39	25	33	40	42	51	35	55	50

C26. Has your own organization ceased operations completely due to the prior authorization requirement for non-emergent ambulance transport? [Select one only]

*Based on respondents from ambulance transportation companies*

	Ambulance suppliers	
	Yr 1 n=87	Yr 2 N=39
Yes	5	3
No	86	92
We are planning to in the future	9	5

D01. We have a few last questions about your organization or facility.

First, is the organization or facility where you work affiliated with a hospital? [Select one only]

	Total		Ambulance suppliers		Dialysis staff		SNF staff		Physicians	
	Yr 1 n=326	Yr 2 n=164	Yr 1 n=92	Yr 2 n=39	Yr 1 n=81	Yr 2 n=64	Yr 1 n=94	Yr 2 n=61	Yr 1 n=59	Yr 2 n=0
Yes	13	9	7	5	11	8	14	13	25	0
No	87	91	93	5	89	8	86	13	75	0

D02. How would you describe the community where your organization or facility is located? [Select one only]

	Total		Ambulance suppliers		Dialysis staff		SNF staff		Physicians	
	Yr 1 n=326	Yr 2 n= 165	Yr 1 n=92	Yr 2 n=39	Yr 1 n=81	Yr 2 n=64	Yr 1 n=94	Yr 2 n=62	Yr 1 n=59	Yr 2 n=0
Urban	30	24	35	18	30	23	30	29	25	0
Suburban	46	27	40	18	44	38	47	21	58	0
Rural	23	49	24	64	26	39	23	50	17	0
No response	0	1	1	0	0	1	0	0	0	0



D03. What is your organization or facility's total annual revenue? [Select one only]

*Question D03 was asked in Year 1 model states only*

	Total n=326	Ambulance suppliers n=92	Dialysis staff n=81	SNF staff n=94	Physicians n=59
Less than \$100,000	2	4	5	0	0
\$100,000 - \$499,999	8	17	9	1	2
\$500,000 - \$999,999	5	11	1	5	0
\$1 million or more	30	32	17	41	27
Don't know	43	16	62	39	63
Refused	12	20	5	13	8
No response	0	0	1	0	0

D04. Is your organization or facility part of an End Stage Renal Disease Seamless Care Organization (ESCO)? [Select one only]

*Based on respondents from dialysis facilities*

	Total		Dialysis staff		Physicians	
	Yr 1 n=116	Yr 2 n=72	Yr 1 n=81	Yr 2 n=55	Yr 1 n=35	Yr 2 n=17
Yes	35	21	35	23	37	12
No	55	67	56	62	54	88
No response	9	12	10	15	9	0

D05. How many ambulances/vans does your organization have in total? Please enter a number between 0 and 999. An approximation is fine.

*Based on respondents from ambulance transportation companies*

*Question D05 was asked in Year 1 model states only*

Ambulance suppliers n=92	
Mean	27
Median	10

D06\_Yr 1. How many of these ambulances/vans are garaged in New Jersey, Pennsylvania, or South Carolina? Please list the total number garaged in each state. Please enter a number between 0 and 999. An approximation is fine.

*Based on respondents from ambulance transportation companies*

*Question D06\_Yr 1 was asked in Year 1 model states only*

Mean reported in each state	Ambulance suppliers n=92
New Jersey	17
Pennsylvania	7
South Carolina	4

D06\_exp. How many ambulances/vans does your organization currently have garaged in Delaware, the District of Columbia, Maryland, North Carolina, Virginia, or West Virginia, Maryland, Delaware or Washington DC? Please list the total number garaged in each state. Please enter a number between 0 and 999. An approximation is fine.

*Based on respondents from ambulance transportation companies*

*Question D06\_exp was asked in Year 2 expansion states only*

Mean reported in each state	Ambulance suppliers n=39
Delaware	8
District of Columbia	0
Maryland	20
North Carolina	22
Virginia	12
West Virginia	18

D07. Has your organization moved any vehicle(s) to states that do not currently require prior authorization for non-emergent ambulance transport? [Select one only]

*Based on respondents from ambulance transportation companies with at least one ambulance/van*

	Ambulance suppliers	
	Yr 1 n=91	Yr 2 n=39
Yes	1	3
No	95	97
We are planning to in the future	2	0
No response	1	0

D08. Since the start of the prior authorization payment model, has your organization ever been subject to prepayment review? [Select one only]

*Based on respondents from ambulance transportation companies*

Ambulance suppliers		
	Yr 1 n=92	Yr 2 n=39
Yes	16	21
No	83	79
No response	1	0

D08. Since the start of the prior authorization payment model, has your organization ever been subject to prepayment review? [Select one only]

*Based on respondents from ambulance transportation companies*

Ambulance suppliers		
	Yr 1 n=92	Yr 2 n=39
Yes	16	21
No	83	79
No response	1	0

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