

AVE\_ave\_provider\_charge ~ AVE\_ave\_medicare\_payment + AVE\_num\_service

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	3.85E+11	1.92E+11	1148.9	<.0001
Error	3334	5.58E+11	167376011		
Corrected Total	3336	9.43E+11			

Root MSE	12937	R-Square	0.408
Dependent Mean	24721	Adj R-Sq	0.4076
Coeff Var	52.33355		

Parameter Estimates							
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr >  t	Variance Inflation
Intercept	Intercept	1	-1219.43	598.38	-2.04	0.0416	0
AVE_ave_medicare_payment	Average Medicare Payment	1	3.83	0.08	47.88	<.0001	1.02
AVE_num_service	Number of Services	1	-5.84	1.17	-4.96	<.0001	1.02

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$$SSM = \sum(\hat{y}_i - \bar{y})^2$$

$$SSE = \sum(y_i - \hat{y}_i)^2$$

$$SST = SSM + SSE$$

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F = MSM/MSE, scaled ratio of the model variance to the error/residual variance.

Interpreted here as “rejecting the null hypothesis that all regression parameters equal 0,” i.e. the regression model is valid.

Root MSE	12937	R-Square	0.408
Dependent Mean	24721	Adj R-Sq	0.4076
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$R^2 = SSM/SST$ , always interpreted as “the proportion of variance in the data explained by the model.”

$R^2$  adjusted for more than one variable.

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VIF > 10 is considered an indicator of possible multicollinearity problems.

Estimated parameter for the input, here interpreted as “holding all other inputs constant, for a one unit increase in average Medicare payment, average provider charge will increase by 3.83 units on average.”

Standard error of the coefficient – should be much smaller than the coefficient. (Std. deviation for the coefficient.)

t-test for the coefficient, here interpreted as “rejecting the null hypothesis that this coefficient is equal to 0,” i.e. this variable is “significant.”