

**H1 FORECAST MODEL
KY 2010-2016 HOSP Data**

The AUTOREG Procedure

Dependent Variable	TCC_PRE
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H1 FORECAST MODEL
KY 2010-2016 HOSP Data

The AUTOREG Procedure

Ordinary Least Squares Estimates			
SSE	39446.2945	DFE	61
MSE	646.66056	Root MSE	25.42952
SBC	592.764847	AIC	588.478577
MAE	22.0078241	AICC	588.678577
MAPE	4.53564766	HQC	590.164388
Durbin-Watson	0.0344	Total R-Square	0.1055

Parameter Estimates					
Variable	DF	Estimate	Standard Error	t Value	Approx Pr > t
Intercept	1	500.7032	7.4222	67.46	<.0001
TIME	1	-0.4726	0.1762	-2.68	0.0094

Estimates of Autocorrelations																								
Lag	Covariance	Correlation	-1	9	8	7	6	5	4	3	2	1	0	1	2	3	4	5	6	7	8	9	1	
0	626.1	1.000000													*****									
1	582.0	0.929556													*****									
2	527.3	0.842088													*****									
3	465.8	0.743988													*****									
4	397.5	0.634897													*****									
5	328.9	0.525284													*****									
6	264.1	0.421863													*****									
7	199.8	0.319042													*****									
8	134.6	0.214951													****									
9	68.2394	0.108986													**									
10	2.4210	0.003867																						
11	-60.6702	-0.096897											**											

Preliminary MSE	78.7840
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Estimates of Autoregressive Parameters			
Lag	Coefficient	Standard Error	t Value
1	-0.929945	0.046181	-20.14
11	0.100493	0.046181	2.18

Expected Autocorrelations	
Lag	Autocorr
0	1.0000
1	0.9236
2	0.8420
3	0.7557
4	0.6653
5	0.5710
6	0.4737
7	0.3736
8	0.2715
9	0.1679
10	0.0633
11	-0.0416

Coefficients for First NLAG Observations											
	1	2	3	4	5	6	7	8	9	10	11
1	0.3700453701	0	0	0	0	0	0	0	0	0	0
2	-0.891425208	0.9651800234	0	0	0	0	0	0	0	0	0
3	0.0723974081	-0.960794557	0.9678914516	0	0	0	0	0	0	0	0
4	0.0731401058	-7.44297E-16	-0.958063044	0.9706509863	0	0	0	0	0	0	0
5	0.0743179707	1.358481E-16	1.698238E-16	-0.955267147	0.9734919096	0	0	0	0	0	0
6	0.0759660656	4.640784E-16	-1.74821E-16	-7.44775E-17	-0.952371861	0.9764514023	0	0	0	0	0
7	0.0781357384	-5.75939E-16	4.43086E-16	2.559856E-16	-9.7709E-17	-0.949337304	0.9795726286	0	0	0	0
8	0.0808987517	-3.47915E-17	-6.55261E-16	6.506663E-16	2.564379E-18	-1.42374E-16	-0.946116337	0.9829074945	0	0	0
9	0.0843535541	2.694275E-16	-1.25704E-16	-8.40322E-16	7.33811E-16	3.00447E-18	-2.28464E-16	-0.942651323	0.9865204837	0	0
10	0.0886347957	-6.58224E-17	3.243925E-16	6.689921E-17	-8.09001E-16	7.105892E-16	-7.76243E-17	9.718759E-18	-0.93886953	0.990494216	0
11	0.093927971	-1.39111E-16	-1.84592E-16	4.012708E-16	3.97335E-17	-8.53522E-16	6.730731E-16	-3.03139E-17	3.031186E-17	-0.934676343	0.9949378149

ERROR: The estimation did not converge in the maximum iterations. Continuing assuming convergence.

H1 FORECAST MODEL KY 2010-2016 HOSP Data

The AUTOREG Procedure

Maximum Likelihood Estimates			
SSE	382.419314	DFE	59
MSE	6.48168	Root MSE	2.54592
SBC	316.351221	AIC	307.778682
MAE	2.05361653	AICC	308.468337
MAPE	0.42950276	HQC	311.150303
Log Likelihood	-149.88934	Transformed Regression R-Square	0.0535
Durbin-Watson	0.7279	Total R-Square	0.9913
		Observations	63

Parameter Estimates					
Variable	DF	Estimate	Standard Error	t Value	Approx Pr > t
Intercept	1	466.3998	14.6211	31.90	<.0001
TIME	1	0.4542	0.3767	1.21	0.2328
AR1	1	-1.0375	0.0134	-77.60	<.0001
AR11	1	0.1224	0.009467	12.93	<.0001

Expected Autocorrelations	
Lag	Autocorr
0	1.0000
1	0.9901
2	0.9673
3	0.9319
4	0.8842
5	0.8250
6	0.7550
7	0.6752
8	0.5865
9	0.4901
10	0.3873
11	0.2795

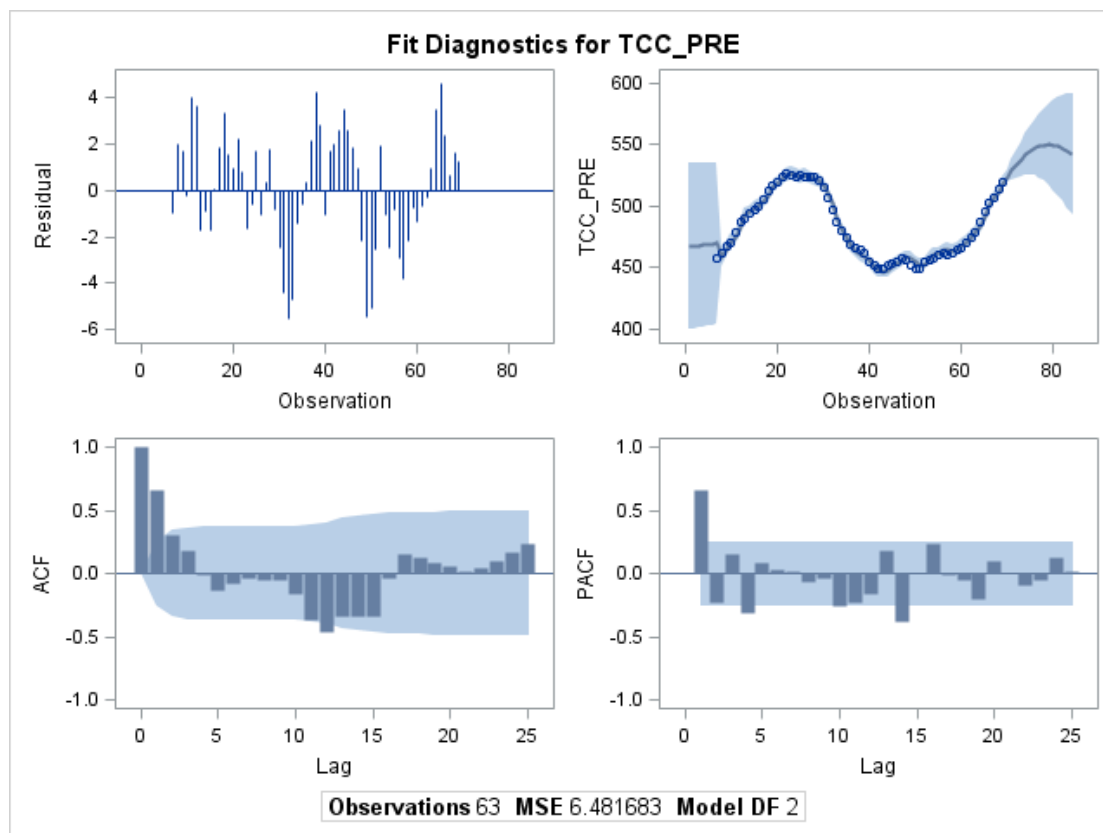
Coefficients for First NLAG Observations											
	1	2	3	4	5	6	7	8	9	10	11
1	0.0831238142	0	0	0	0	0	0	0	0	0	0
2	-0.587333359	0.5931863478	0	0	0	0	0	0	0	0	0
3	0.527051045	-1.307527737	0.7935066775	0	0	0	0	0	0	0	0
4	0.3495063836	-4.70725E-14	-1.196597668	0.8670683706	0	0	0	0	0	0	0
5	0.2648036643	3.191103E-14	-5.52663E-14	-1.144417436	0.9066027465	0	0	0	0	0	0
6	0.2156281428	2.278905E-14	2.990337E-15	-4.10128E-14	-1.113359909	0.931892717	0	0	0	0	0
7	0.183965983	7.129038E-15	9.382437E-15	1.650508E-14	-4.52423E-14	-1.09227963	0.9498776336	0	0	0	0
8	0.162300604	1.187447E-14	-1.94594E-14	1.891414E-14	1.160392E-14	-4.05693E-14	-1.076676046	0.9636436089	0	0	0
9	0.1469409164	-1.60678E-14	1.002874E-14	-1.04052E-14	1.643578E-14	1.463925E-14	-4.57887E-14	-1.064372971	0.9747823541	0	0
10	0.1358736054	3.091447E-14	-2.93386E-14	1.820758E-14	-1.27469E-14	1.902E-14	1.029296E-14	-4.29897E-14	-1.054181288	0.9842064186	0
11	0.1279215422	-1.51897E-14	1.263723E-14	-1.83351E-14	1.379952E-14	-9.93588E-15	1.528334E-14	1.216595E-14	-4.16496E-14	-1.04538823	0.992484859

Autoregressive parameters assumed given					
Variable	DF	Estimate	Standard Error	t Value	Approx Pr > t

Autoregressive parameters assumed given					
Variable	DF	Estimate	Standard Error	t Value	Approx Pr > t
Intercept	1	466.3998	10.2899	45.33	<.0001
TIME	1	0.4542	0.2493	1.82	0.0735

H1 FORECAST MODEL KY 2010-2016 HOSP Data

The AUTOREG Procedure



H2 FORECAST MODEL
KY 2010-2016 HOSP Data

The AUTOREG Procedure

Dependent Variable	TCC_PRE
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H2 FORECAST MODEL
KY 2010-2016 HOSP Data

The AUTOREG Procedure

Ordinary Least Squares Estimates			
SSE	5426.96821	DFE	61
MSE	88.96669	Root MSE	9.43222
SBC	467.8006	AIC	463.51433
MAE	7.98639066	AICC	463.71433
MAPE	10.1160797	HQC	465.200141
Durbin-Watson	0.0424	Total R-Square	0.4080

Parameter Estimates					
Variable	DF	Estimate	Standard Error	t Value	Approx Pr > t
Intercept	1	94.3262	2.7530	34.26	<.0001
TIME	1	-0.4238	0.0654	-6.48	<.0001

Estimates of Autocorrelations																								
Lag	Covariance	Correlation	-1	9	8	7	6	5	4	3	2	1	0	1	2	3	4	5	6	7	8	9	1	
0	86.1424	1.000000													*****									
1	78.1060	0.906709													*****									
2	68.8249	0.798967													*****									

Preliminary MSE	15.0633
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Estimates of Autoregressive Parameters			
Lag	Coefficient	Standard Error	t Value
1	-1.024732	0.129081	-7.94
2	0.130167	0.129081	1.01

Expected Autocorrelations	
Lag	Autocorr
0	1.0000
1	0.9067
2	0.7990

Coefficients for First NLAG Observations		
	1	2
1	0.4181688553	0
2	-0.898994649	0.9914920927

Algorithm converged.

H2 FORECAST MODEL KY 2010-2016 HOSP Data

The AUTOREG Procedure

Maximum Likelihood Estimates			
SSE	46.3948872	DFE	59
MSE	0.78635	Root MSE	0.88677
SBC	183.064778	AIC	174.492239
MAE	0.7184568	AICC	175.181894
MAPE	0.94370646	HQC	177.863861
Log Likelihood	-83.24612	Transformed Regression R-Square	0.0005
Durbin-Watson	2.1035	Total R-Square	0.9949
		Observations	63

Parameter Estimates					
Variable	DF	Estimate	Standard Error	t Value	Approx Pr > t
Intercept	1	78.6633	12.6158	6.24	<.0001
TIME	1	0.0451	0.3162	0.14	0.8871
AR1	1	-1.8659	0.0636	-29.35	<.0001
AR2	1	0.8844	0.0643	13.76	<.0001

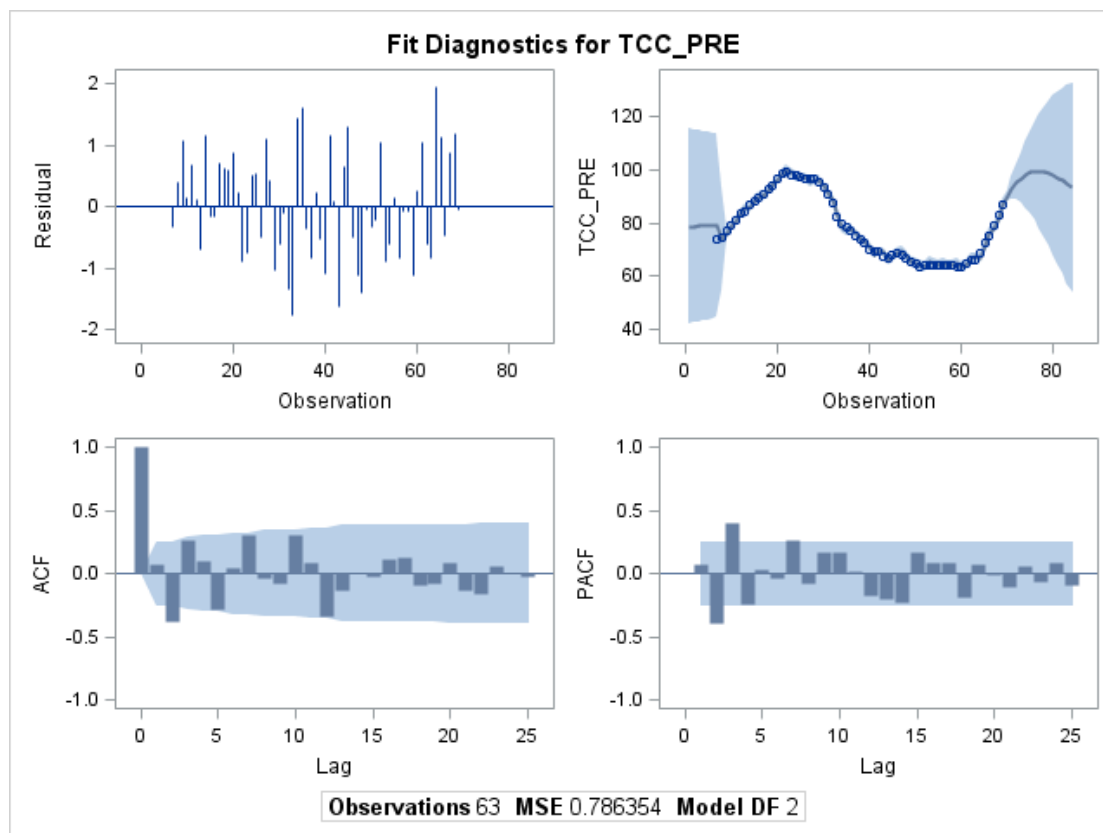
Expected Autocorrelations	
Lag	Autocorr
0	1.0000
1	0.9901
2	0.9631

Coefficients for First NLAG Observations		
	1	2
1	0.0653433489	0
2	-0.462053056	0.4666505972

Autoregressive parameters assumed given					
Variable	DF	Estimate	Standard Error	t Value	Approx Pr > t
Intercept	1	78.6633	11.3775	6.91	<.0001
TIME	1	0.0451	0.2610	0.17	0.8635

H2 FORECAST MODEL KY 2010-2016 HOSP Data

The AUTOREG Procedure



H3 FORECAST MODEL
KY 2010-2016 HOSP Data

The AUTOREG Procedure

Dependent Variable	TCC_PRE
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H3 FORECAST MODEL
KY 2010-2016 HOSP Data

The AUTOREG Procedure

Ordinary Least Squares Estimates			
SSE	191.734262	DFE	61
MSE	3.14318	Root MSE	1.77290
SBC	257.18999	AIC	252.90372
MAE	1.54677391	AICC	253.10372
MAPE	27.6799216	HQC	254.589531
Durbin-Watson	0.0702	Total R-Square	0.9606

Parameter Estimates					
Variable	DF	Estimate	Standard Error	t Value	Approx Pr > t
Intercept	1	-3.9894	0.5175	-7.71	<.0001
TIME	1	0.4735	0.0123	38.55	<.0001

Estimates of Autocorrelations																								
Lag	Covariance	Correlation	-1	9	8	7	6	5	4	3	2	1	0	1	2	3	4	5	6	7	8	9	1	
0	3.0434	1.000000													*****									
1	2.8890	0.949268													*****									
2	2.6110	0.857938													*****									
3	2.2568	0.741545													*****									
4	1.8244	0.599458													*****									

Preliminary MSE	0.2272
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Estimates of Autoregressive Parameters			
Lag	Coefficient	Standard Error	t Value
1	-1.121374	0.053017	-21.15
4	0.232091	0.053017	4.38

Expected Autocorrelations	
Lag	Autocorr
0	1.0000
1	0.9479
2	0.8627
3	0.7474
4	0.6061

Coefficients for First NLAG Observations				
	1	2	3	4
1	0.2787645324	0	0	0
2	-0.829475639	0.8750654267	0	0
3	0.3298509763	-1.199114112	0.9351690583	0
4	0.2675675779	1.769825E-15	-1.152854278	0.9726939787

Algorithm converged.

H3 FORECAST MODEL KY 2010-2016 HOSP Data

The AUTOREG Procedure

Maximum Likelihood Estimates			
SSE	7.75507165	DFE	59
MSE	0.13144	Root MSE	0.36255
SBC	67.1468005	AIC	58.5742616
MAE	0.26818416	AICC	59.2639168
MAPE	3.9849377	HQC	61.945883
Log Likelihood	-25.287131	Transformed Regression R-Square	0.8553
Durbin-Watson	1.2363	Total R-Square	0.9984
		Observations	63

Parameter Estimates					
Variable	DF	Estimate	Standard Error	t Value	Approx Pr > t
Intercept	1	-3.9283	1.0865	-3.62	0.0006
TIME	1	0.4764	0.0257	18.50	<.0001
AR1	1	-1.1717	0.0407	-28.76	<.0001
AR4	1	0.2645	0.0407	6.49	<.0001

Expected Autocorrelations	
Lag	Autocorr
0	1.0000
1	0.9626
2	0.8920
3	0.7905
4	0.6618

Coefficients for First NLAG Observations				
	1	2	3	4
1	0.2171258756	0	0	0
2	-0.771592564	0.8015601858	0	0
3	0.429320173	-1.288567373	0.9092934303	0
4	0.3213134613	-2.61577E-15	-1.21494447	0.964394568

Autoregressive parameters assumed given					
Variable	DF	Estimate	Standard Error	t Value	Approx Pr > t
Intercept	1	-3.9283	1.0831	-3.63	0.0006
TIME	1	0.4764	0.0255	18.67	<.0001

H3 FORECAST MODEL KY 2010-2016 HOSP Data

The AUTOREG Procedure

