Model 1: Outcome LEU3N Crude

The MCMC Procedure

Number of Observations Read	506
Number of Observations Used	487

Parameters				
Block	Parameter	Sampling Method	Initial Value	Prior Distribution
1	betaInt	N-Metropolis	0	normal(mean = 0, var = 1000)
2	betaBaseline	N-Metropolis	0	normal(mean = 0, var = 1000)
3	betahard_drugs	N-Metropolis	0	normal(mean = 0, var = 1000)
4	sigma2	Conjugate	1.0000	igamma(shape=2.001,scale=1.001)

Model 1: Outcome LEU3N Crude

The MCMC Procedure

Posterior Summaries and Intervals					
Parameter	N	Mean	Standard Deviation	95% HPD Interval	
betaInt	6667	142.2	15.1515	113.1	172.4
betaBaseline	6667	0.0648	0.0373	-0.00702	0.1379
betahard_drugs	6667	-82.7447	21.8499	-125.3	-40.5603
sigma2	6667	32446.0	2133.0	28272.1	36613.5

Model 1: Outcome LEU3N Crude

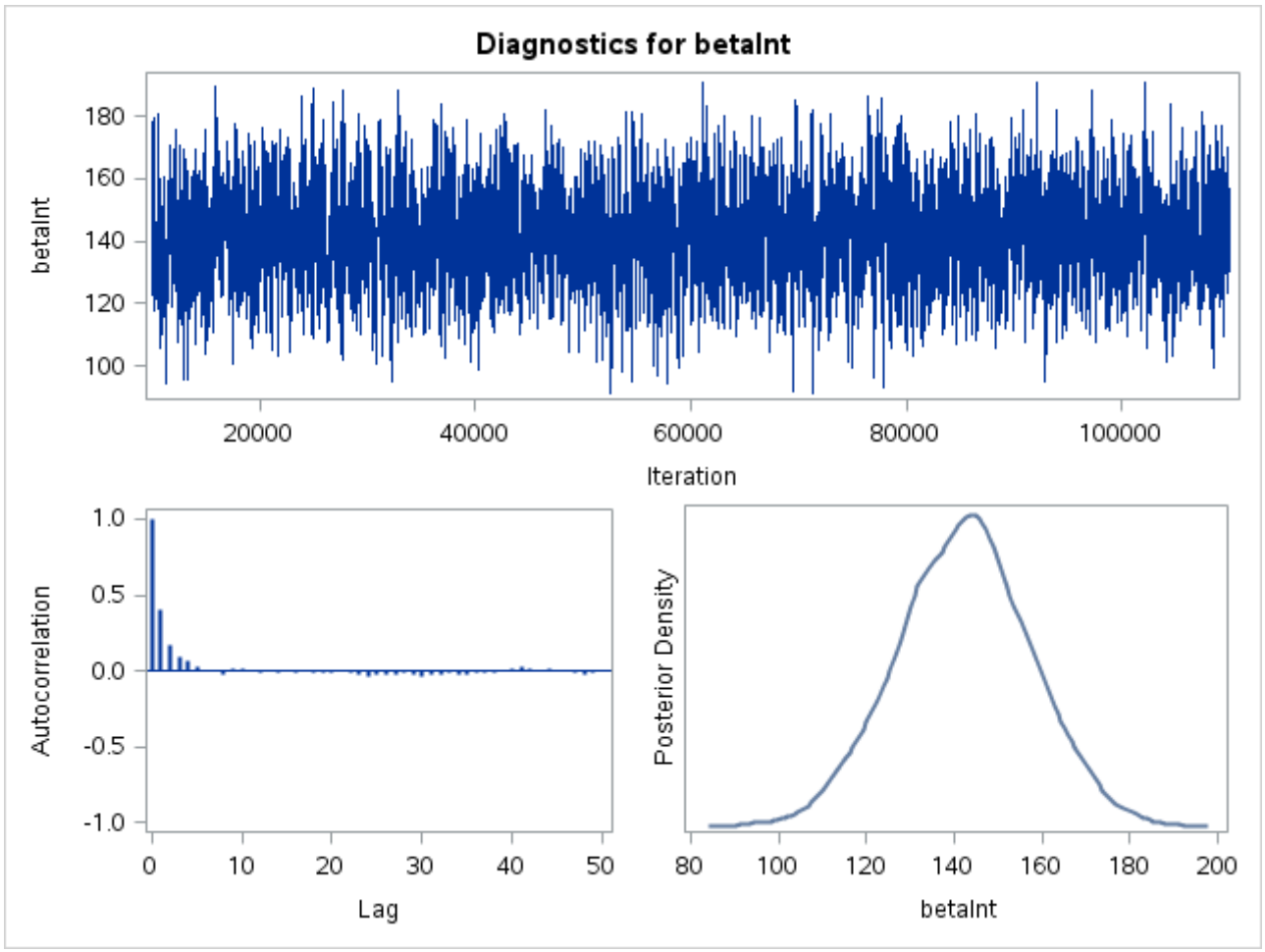
The MCMC Procedure

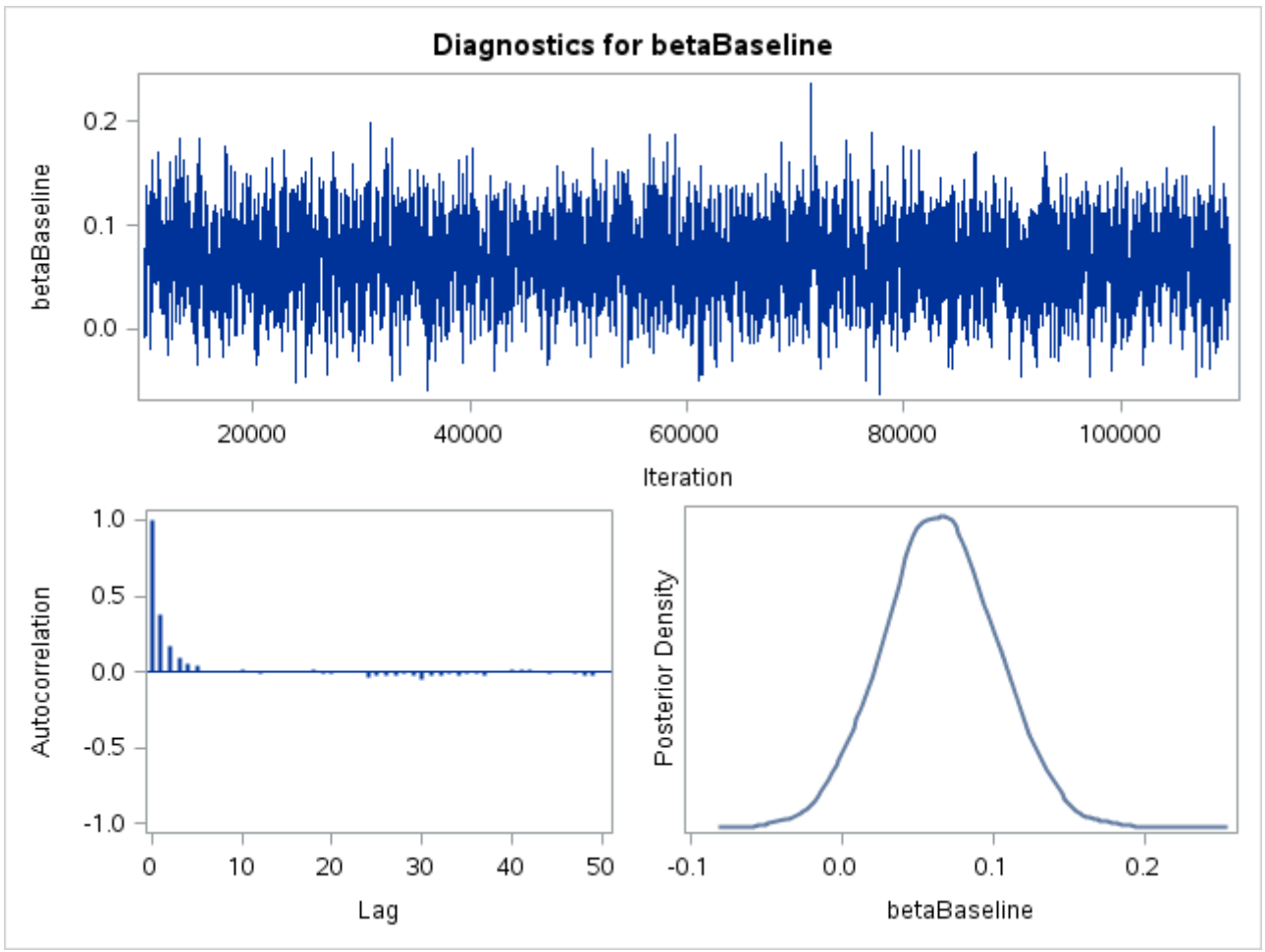
Geweke Diagnostics		
Parameter	z	Pr > |z|
betaInt	-1.0329	0.3017
betaBaseline	1.5220	0.1280
betahard_drugs	1.7961	0.0725
sigma2	-0.7329	0.4636

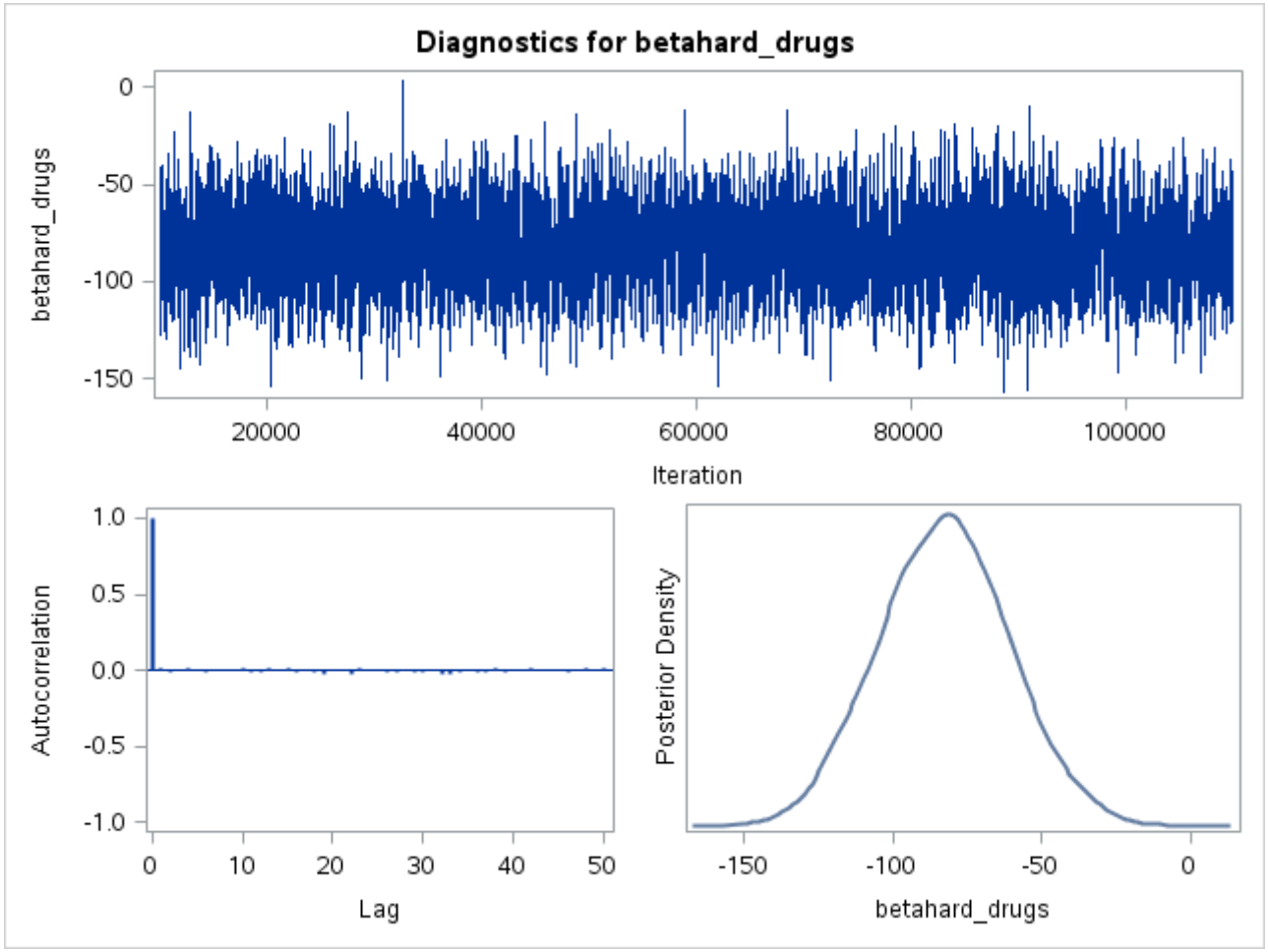
Deviance Information Criterion	
Dbar (posterior mean of deviance)	6443.918
Dmean (deviance evaluated at posterior mean)	6440.660
pD (effective number of parameters)	3.257
DIC (smaller is better)	6447.175

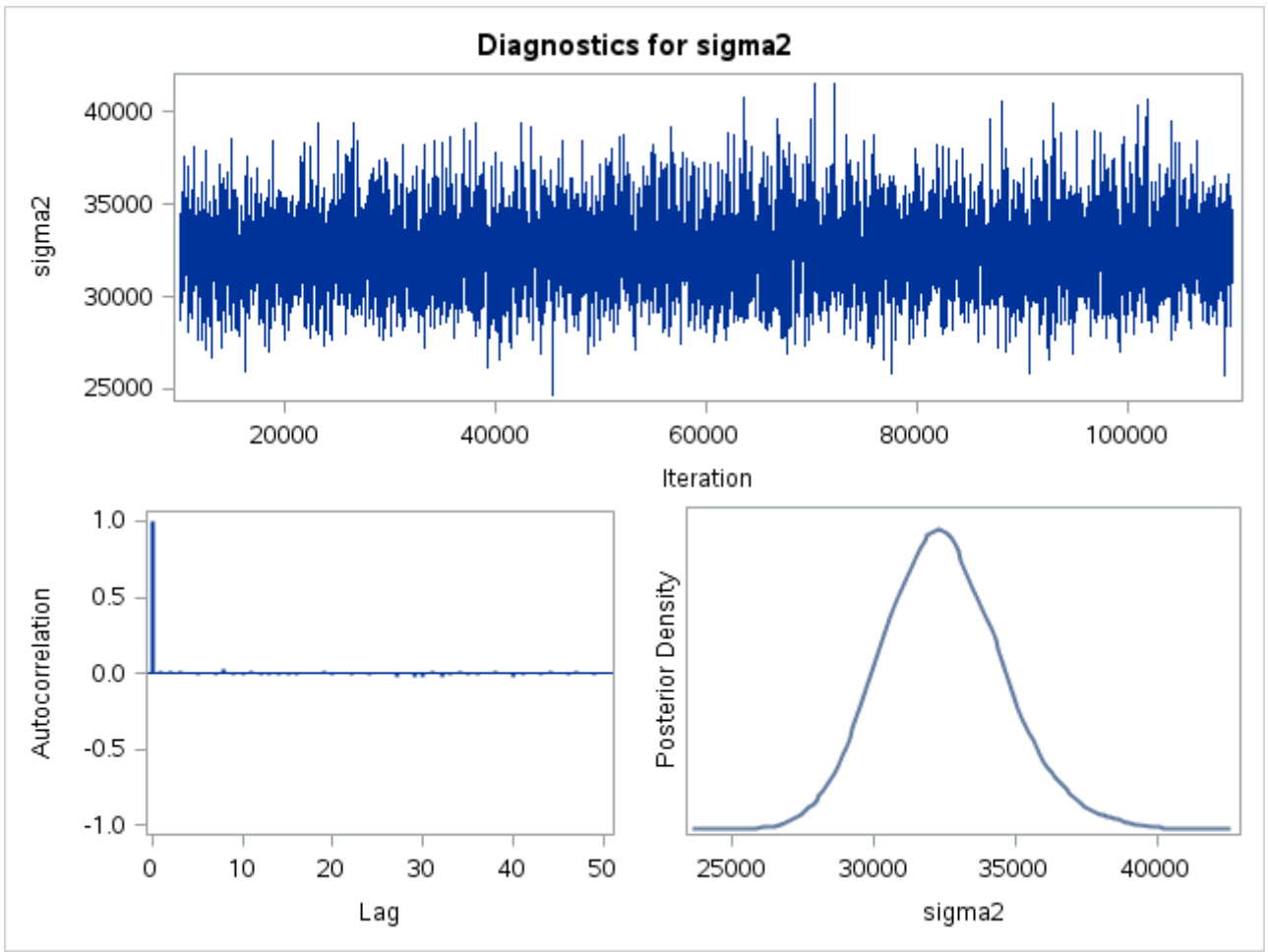
Model 1: Outcome LEU3N Crude

The MCMC Procedure


Diagnostics for betaInt
betaInt
180
160
140
120
100
20000
40000
60000
80000
100000
Iteration
Autocorrelation
1.0
0.5
0.0
-0.5
-1.0
0
10
20
30
40
50
Lag
Posterior Density
80
100
120
140
160
180
200
betaInt


Diagnostics for betaBaseline
betaBaseline
0.2
0.1
0.0
20000
40000
60000
80000
100000
Iteration
Autocorrelation
1.0
0.5
0.0
-0.5
-1.0
0
10
20
30
40
50
Lag
Posterior Density
-0.1
0.0
0.1
0.2
betaBaseline


Diagnostics for betahard_drugs
betahard_drugs
0
-50
-100
-150
20000
40000
60000
80000
100000
Iteration
Autocorrelation
1.0
0.5
0.0
-0.5
-1.0
0
10
20
30
40
50
Lag
Posterior Density
-150
-100
-50
0
betahard_drugs


Diagnostics for sigma2
sigma2
40000
35000
30000
25000
20000
40000
60000
80000
100000
Iteration
Autocorrelation
1.0
0.5
0.0
-0.5
-1.0
0
10
20
30
40
50
Lag
Posterior Density
25000
30000
35000
40000
sigma2

Model 1: Outcome LEU3N Full

The MCMC Procedure

Number of Observations Read	506
Number of Observations Used	457

Parameters				
Block	Parameter	Sampling Method	Initial Value	Prior Distribution
1	betaInt	N-Metropolis	0	normal(mean = 0, var = 1000)
2	betaBaseline	N-Metropolis	0	normal(mean = 0, var = 1000)
3	betaHASHV	N-Metropolis	0	normal(mean = 0, var = 1000)
4	betaincome	N-Metropolis	0	normal(mean = 0, var = 1000)
5	betaBMI	N-Metropolis	0	normal(mean = 0, var = 10000)
6	betaSMOKE	N-Metropolis	0	normal(mean = 0, var = 1000)
7	betaDKGRP	N-Metropolis	0	normal(mean = 0, var = 1000)
8	betaADH	N-Metropolis	0	normal(mean = 0, var = 1000)
9	betaRACE	N-Metropolis	0	normal(mean = 0, var = 1000)
10	betaEDUCBAS	N-Metropolis	0	normal(mean = 0, var = 1000)
11	betaage	N-Metropolis	0	normal(mean = 0, var = 10000)
12	betahard_drugs	N-Metropolis	0	normal(mean = 0, var = 1000)
13	sigma2	Conjugate	1.0000	igamma(shape=2.001,scale=1.001)

Model 1: Outcome LEU3N Full

The MCMC Procedure

Posterior Summaries and Intervals					
Parameter	N	Mean	Standard Deviation	95% HPD Interval	
betaInt	6667	14.7161	28.4412	-42.4795	69.1661
betaBaseline	6667	-0.0478	0.0408	-0.1261	0.0325
betaHASHV	6667	34.9299	14.5932	8.1596	64.8555
betaincome	6667	-20.5078	12.1020	-43.9799	3.2793
betaBMI	6667	5.2428	1.6378	2.0708	8.4726
betaSMOKE	6667	-9.9613	15.5313	-41.4855	18.6217
betaDKGRP	6667	-5.8570	22.4613	-49.5769	37.7652
betaADH	6667	37.9615	20.1764	-0.1184	77.2804
betaRACE	6667	-12.6419	15.0659	-43.0112	16.4934
betaEDUCBAS	6667	22.7270	18.2465	-13.3136	57.9402
betaage	6667	-0.2505	0.8963	-1.9274	1.5209
betahard_drugs	6667	-83.3148	21.8973	-124.4	-38.8293
sigma2	6667	30563.6	2081.1	26561.0	34572.8

Model 1: Outcome LEU3N Full

The MCMC Procedure

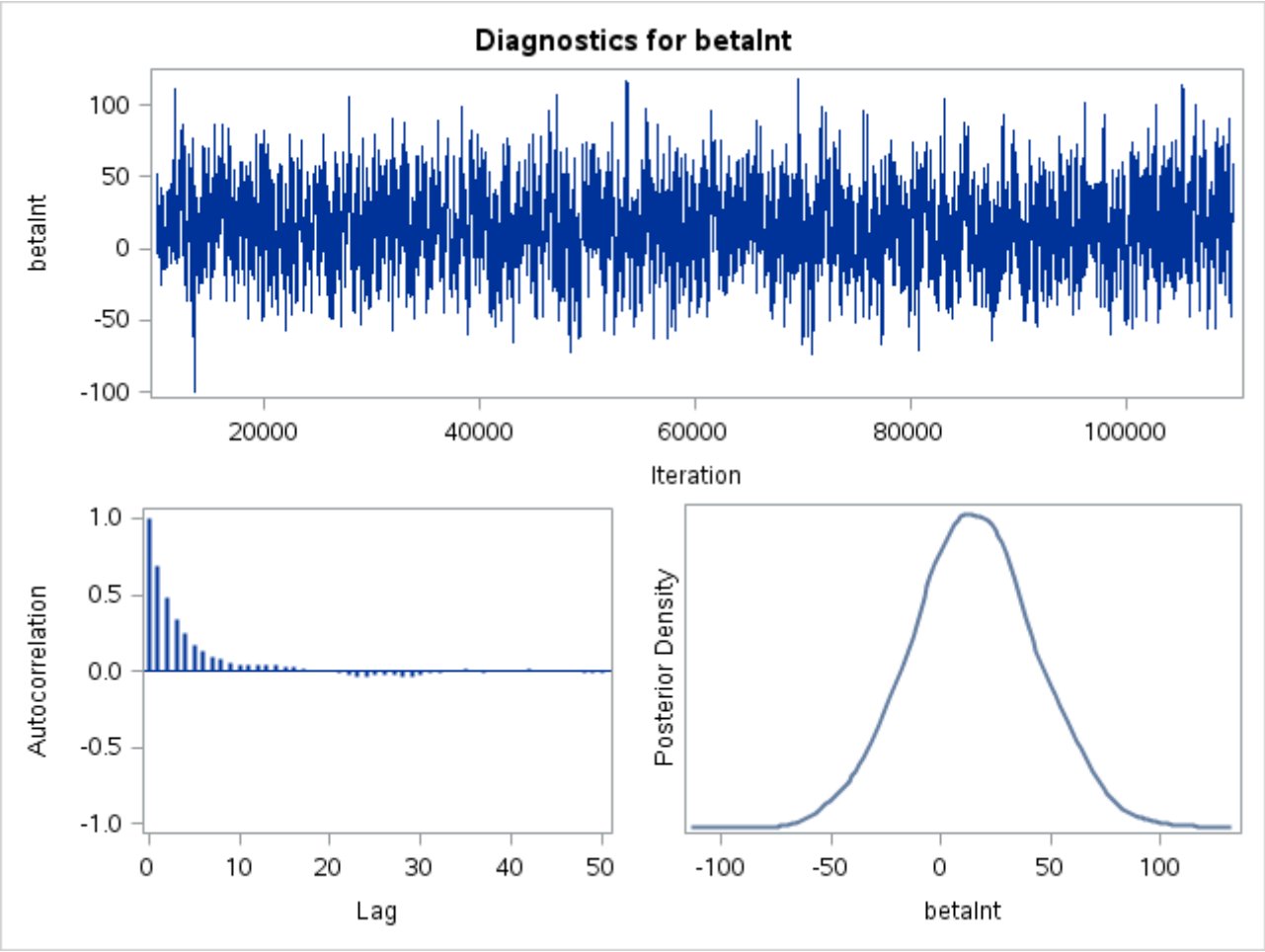
Geweke Diagnostics		
Parameter	z	Pr > |z|
betaInt	1.3388	0.1806

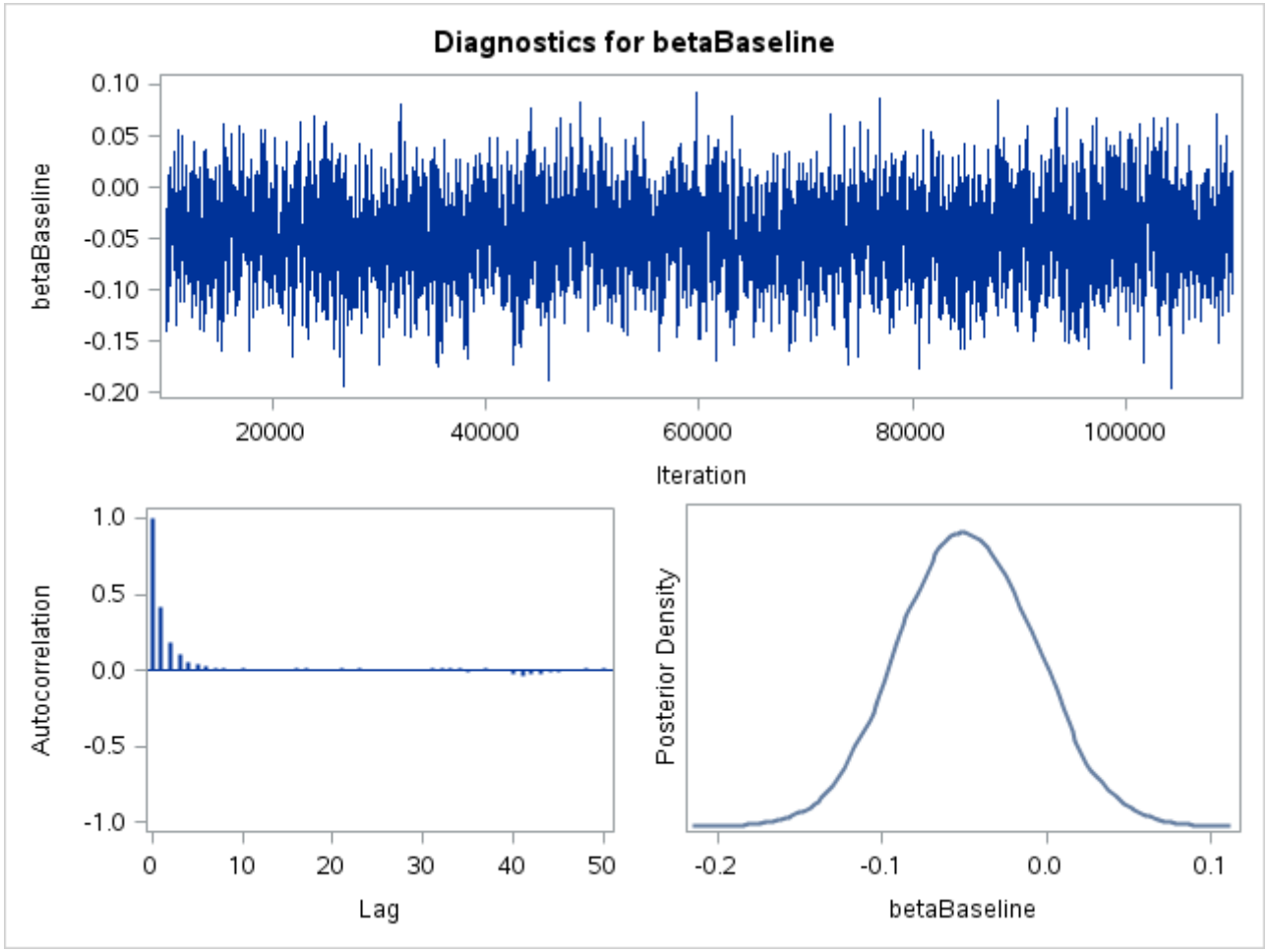
Geweke Diagnostics		
Parameter	z	Pr > |z|
betaBaseline	1.1887	0.2345
betaHASHV	0.4587	0.6465
betaincome	1.0248	0.3054
betaBMI	-0.6092	0.5424
betaSMOKE	-0.7684	0.4423
betaDKGRP	1.1467	0.2515
betaADH	-0.3436	0.7311
betaRACE	-1.0436	0.2967
betaEDUCBAS	-0.1945	0.8458
betaage	-0.0657	0.9477
betahard_drugs	1.3722	0.1700
sigma2	-0.0416	0.9669

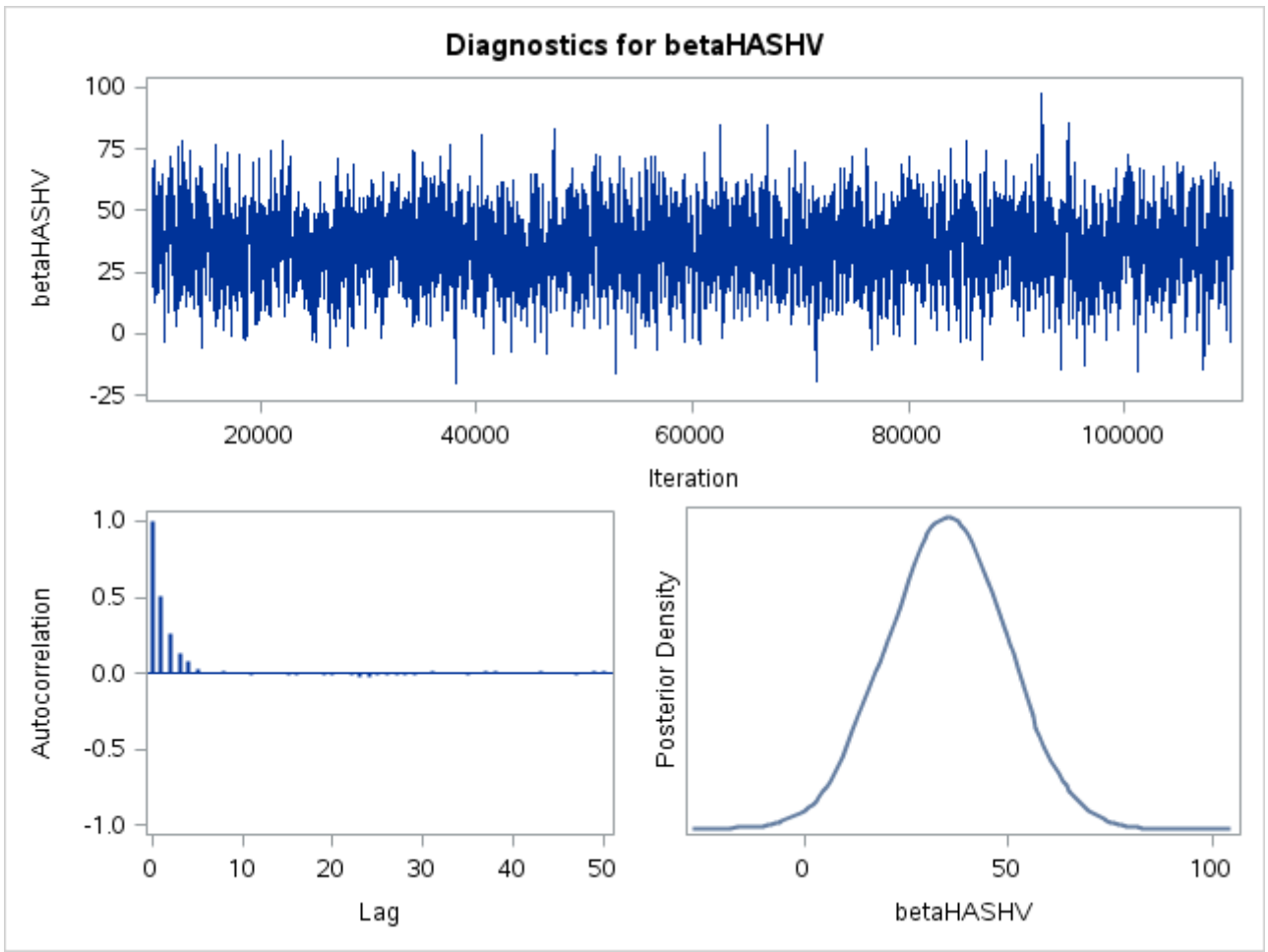
Deviance Information Criterion	
Dbar (posterior mean of deviance)	6019.839
Dmean (deviance evaluated at posterior mean)	6010.264
pD (effective number of parameters)	9.576
DIC (smaller is better)	6029.415

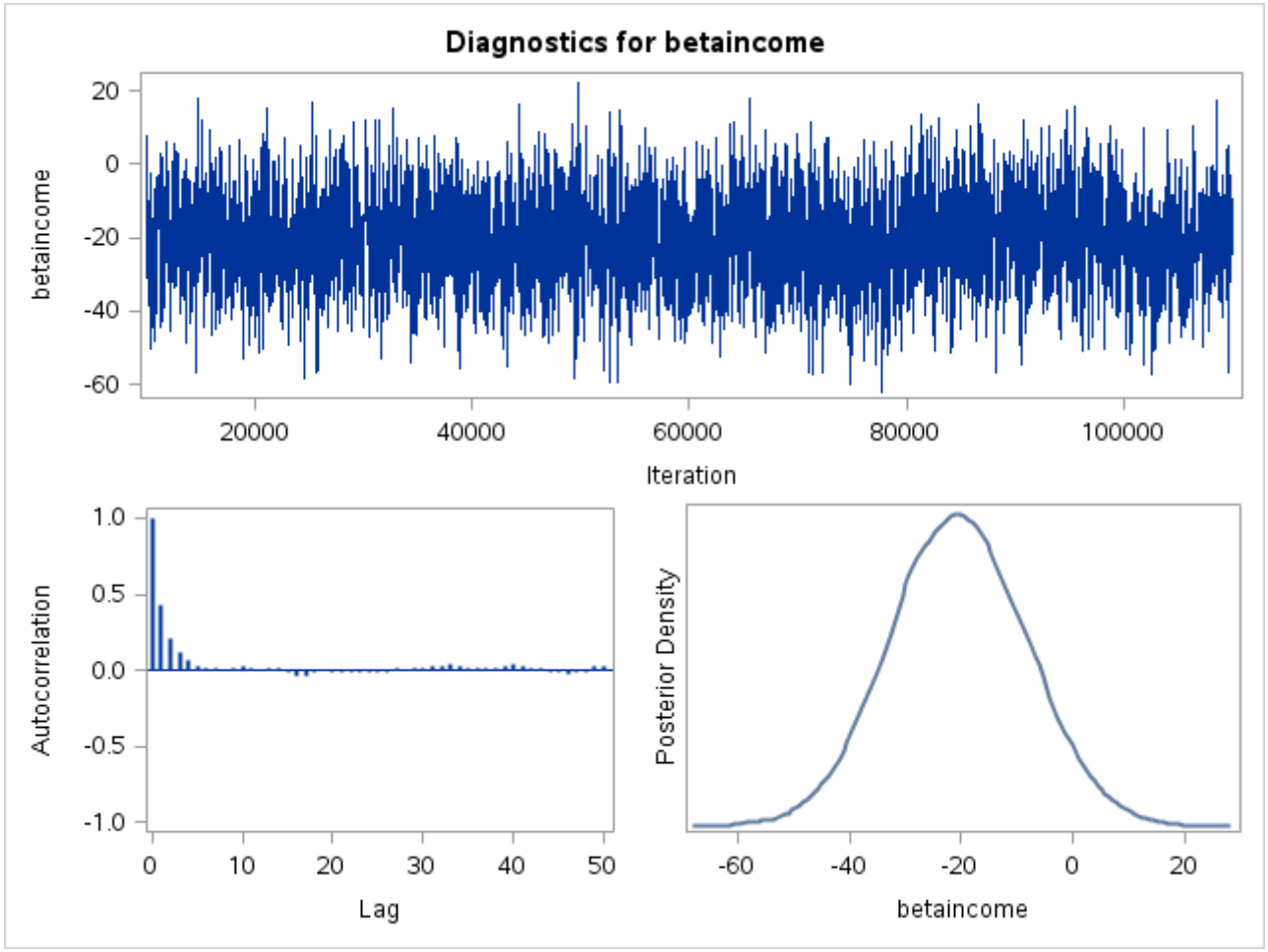
Model 1: Outcome LEU3N Full

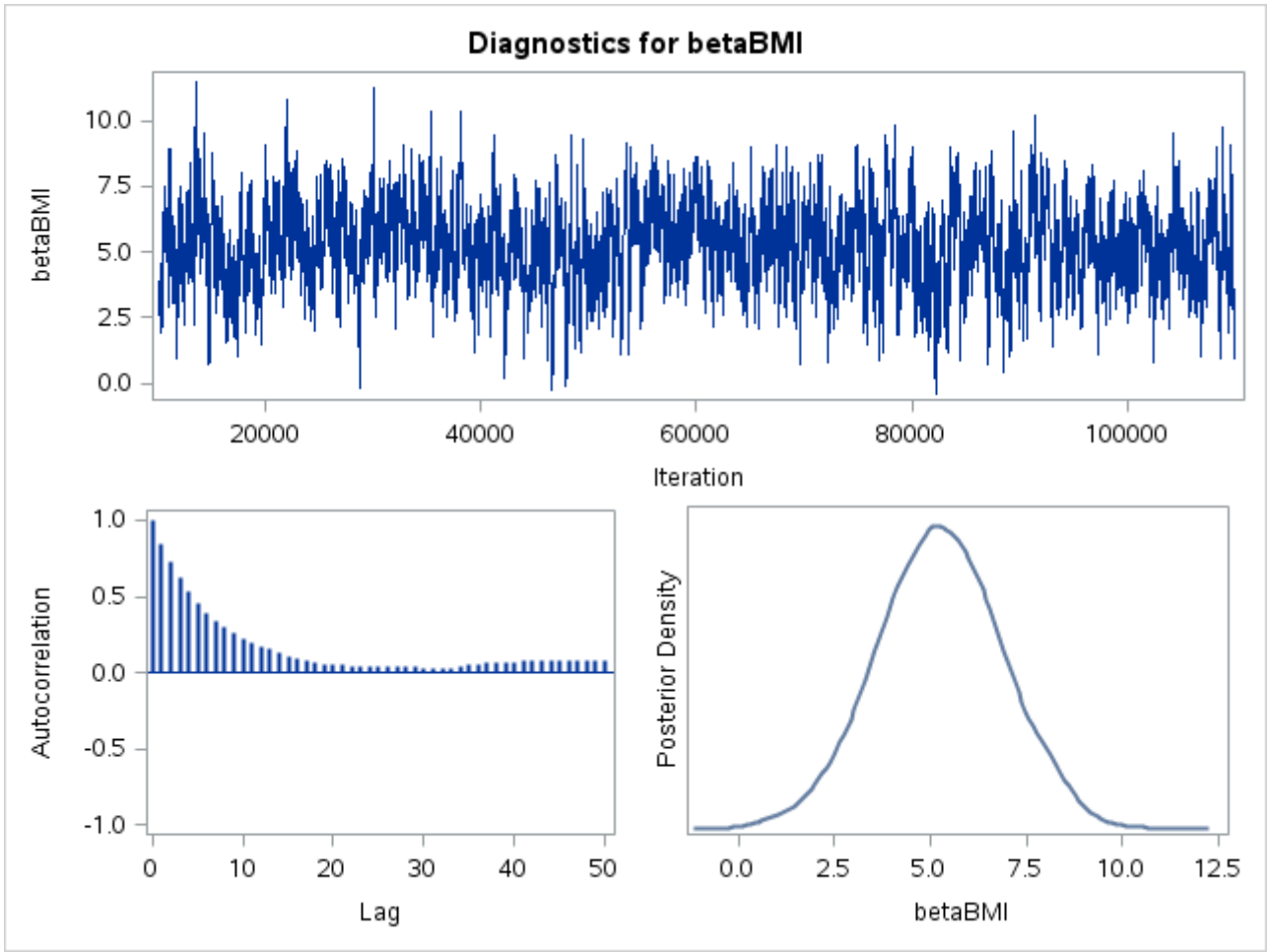
The MCMC Procedure

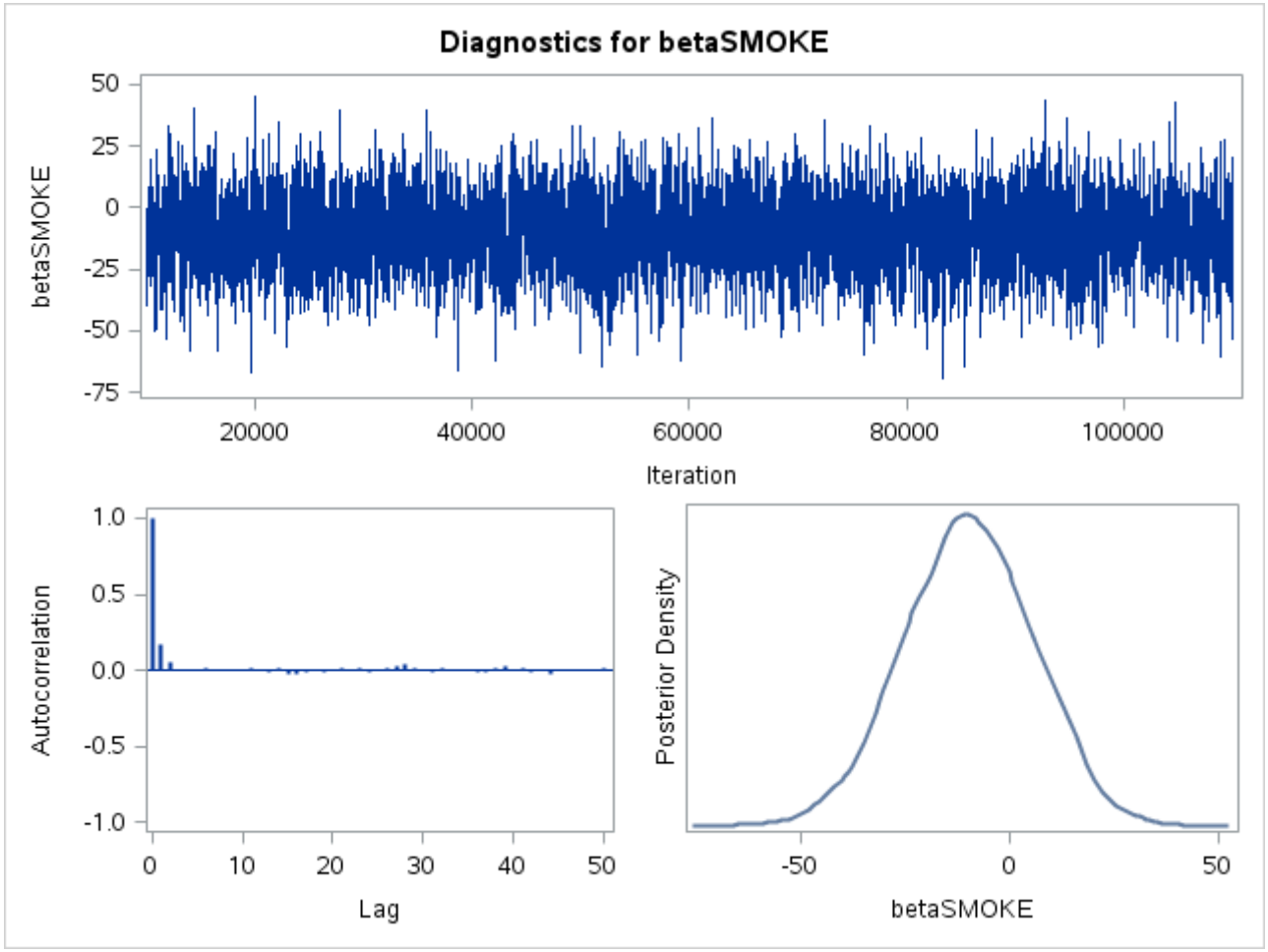


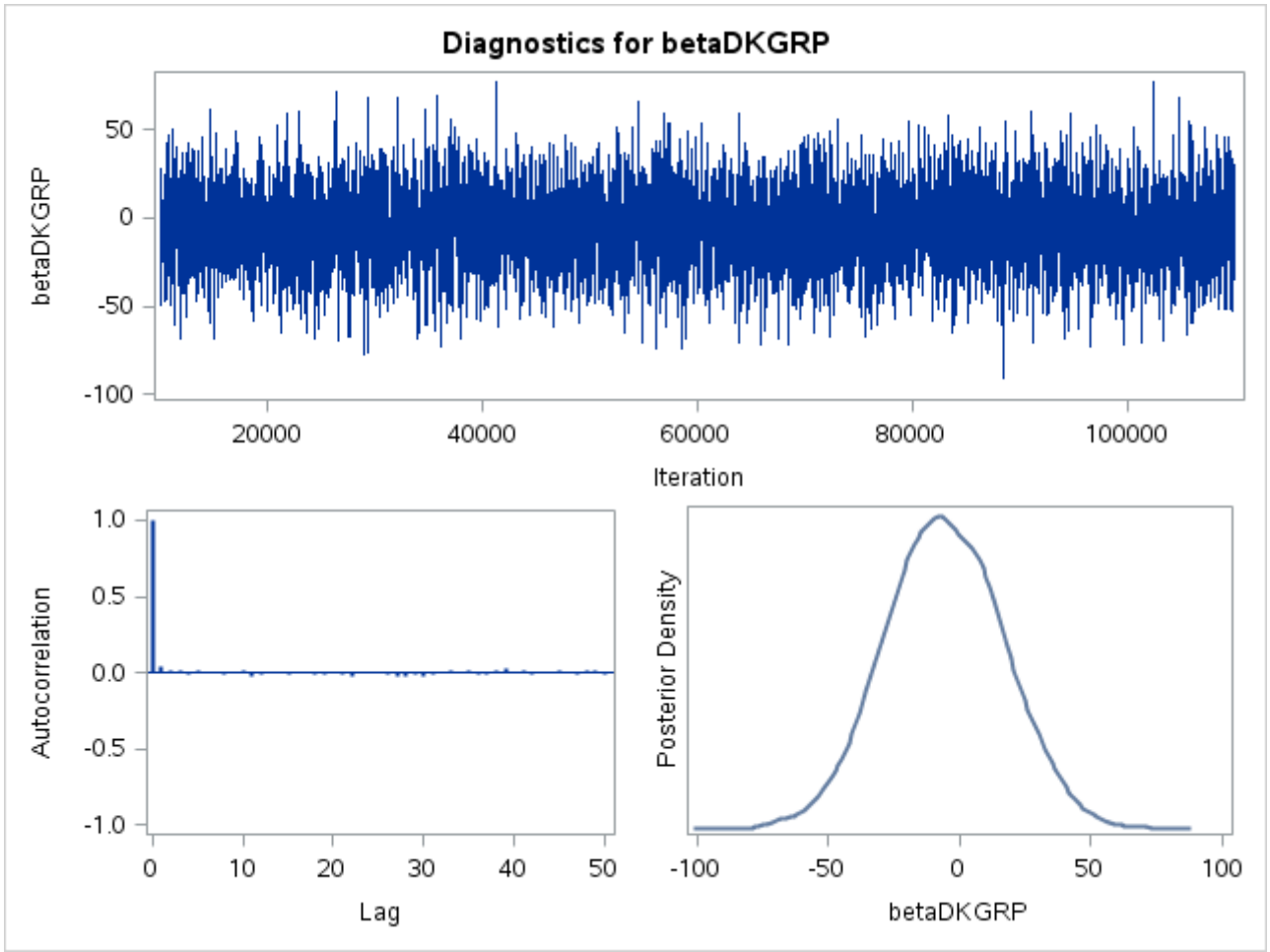

Diagnostics for betaBaseline
betaBaseline
0.10
0.05
0.00
-0.05
-0.10
-0.15
-0.20
20000
40000
60000
80000
100000
Iteration
Autocorrelation
1.0
0.5
0.0
-0.5
-1.0
0
10
20
30
40
50
Lag
Posterior Density
-0.2
-0.1
0.0
0.1
betaBaseline

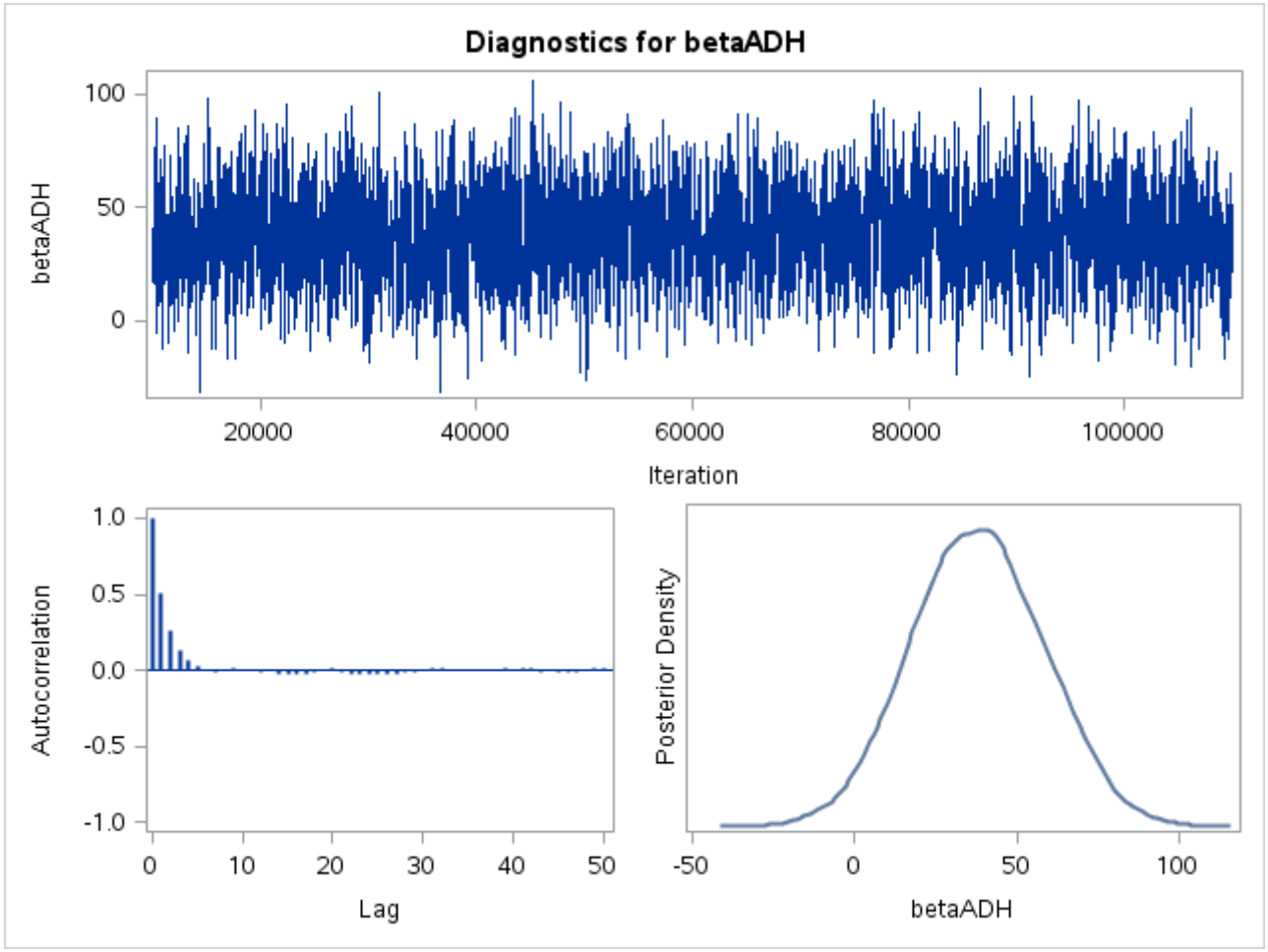

Diagnostics for betaHASHV
betaHASHV
100
75
50
25
0
-25
20000
40000
60000
80000
100000
Iteration
Autocorrelation
1.0
0.5
0.0
-0.5
-1.0
0
10
20
30
40
50
Lag
Posterior Density
0
50
100
betaHASHV

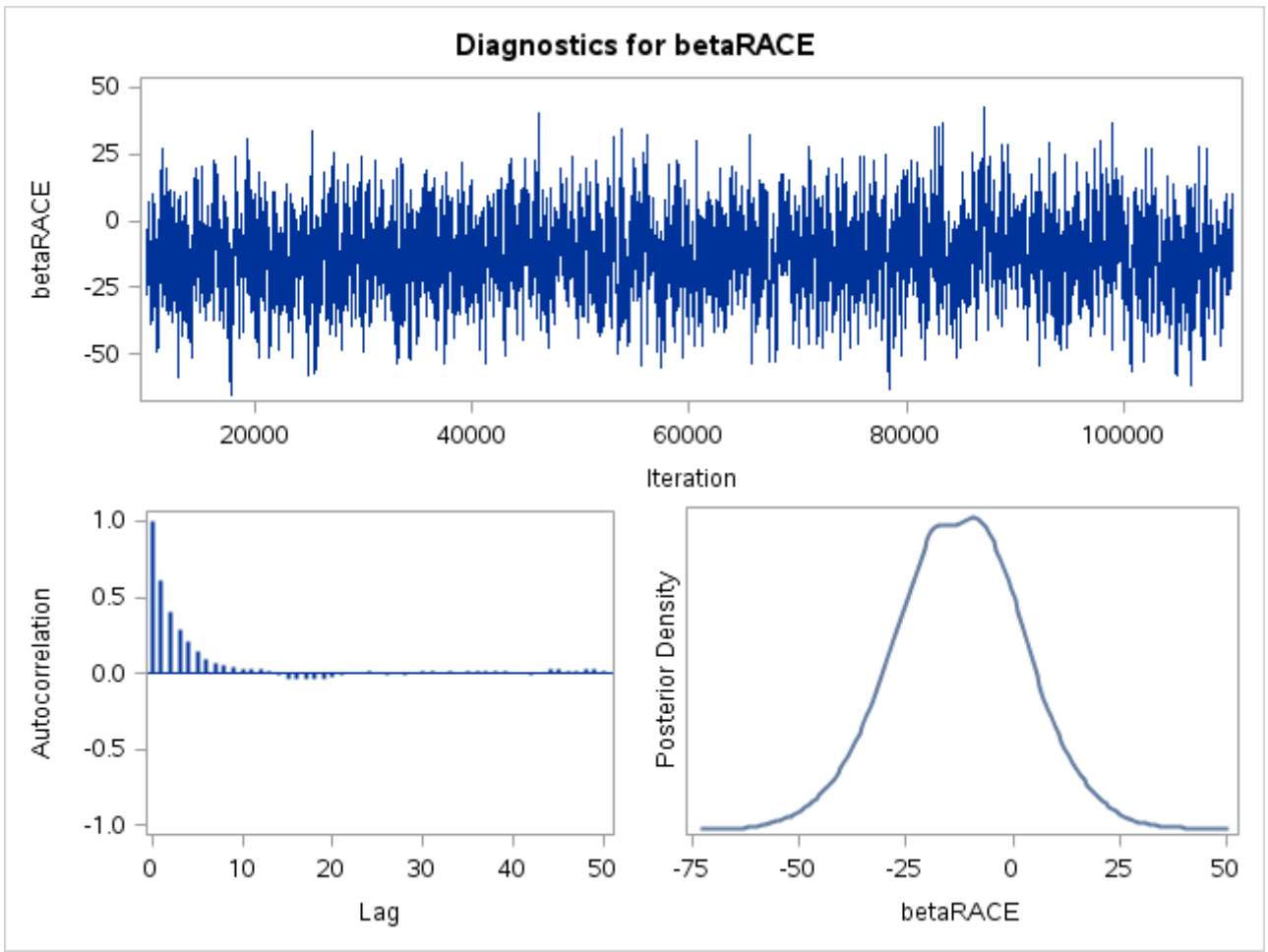

Diagnostics for betaincome
betaincome
Iteration
Autocorrelation
Lag
Posterior Density
betaincome

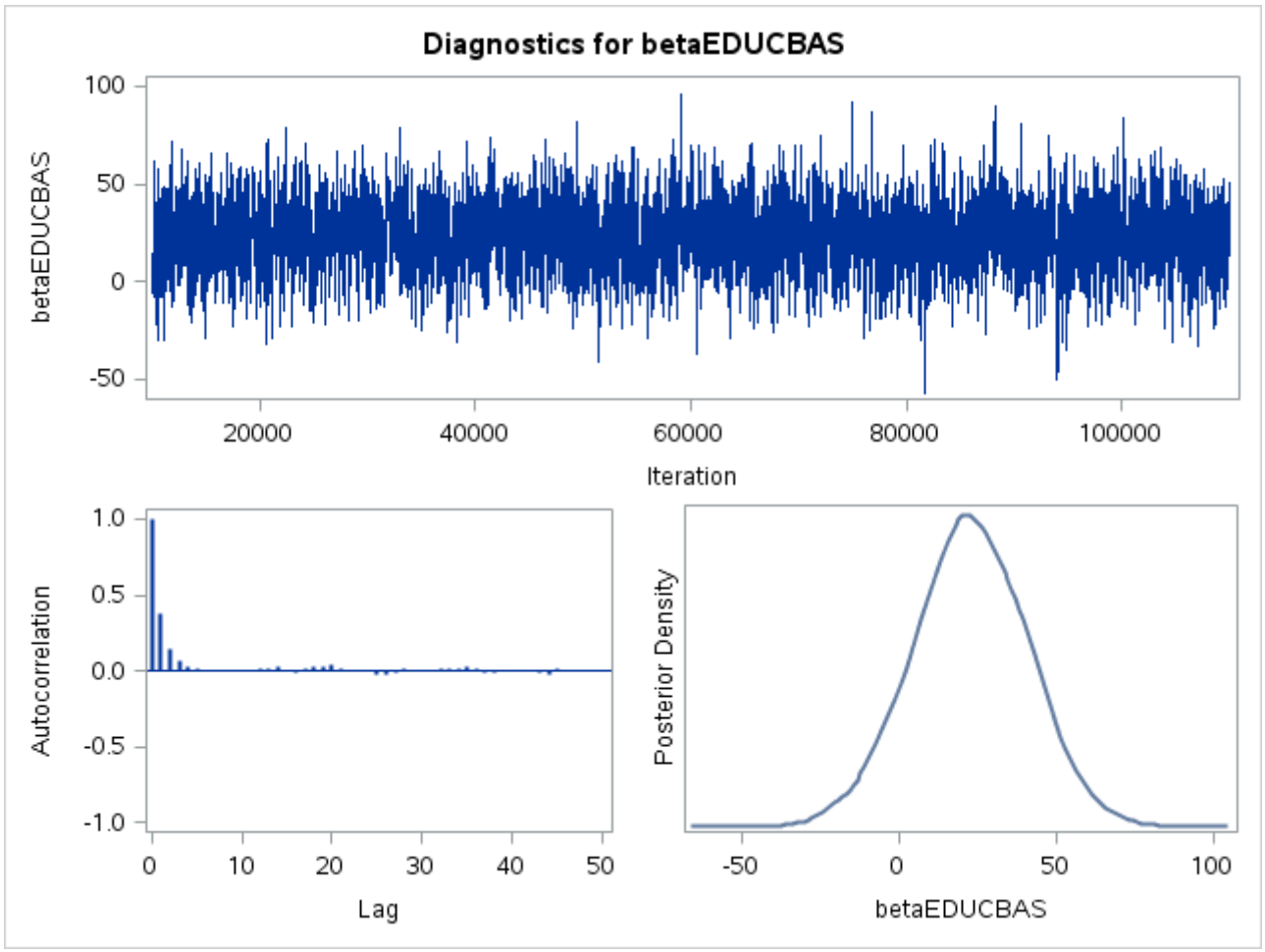

Diagnostics for betaBMI
betaBMI
Iteration
Autocorrelation
Lag
Posterior Density
betaBMI

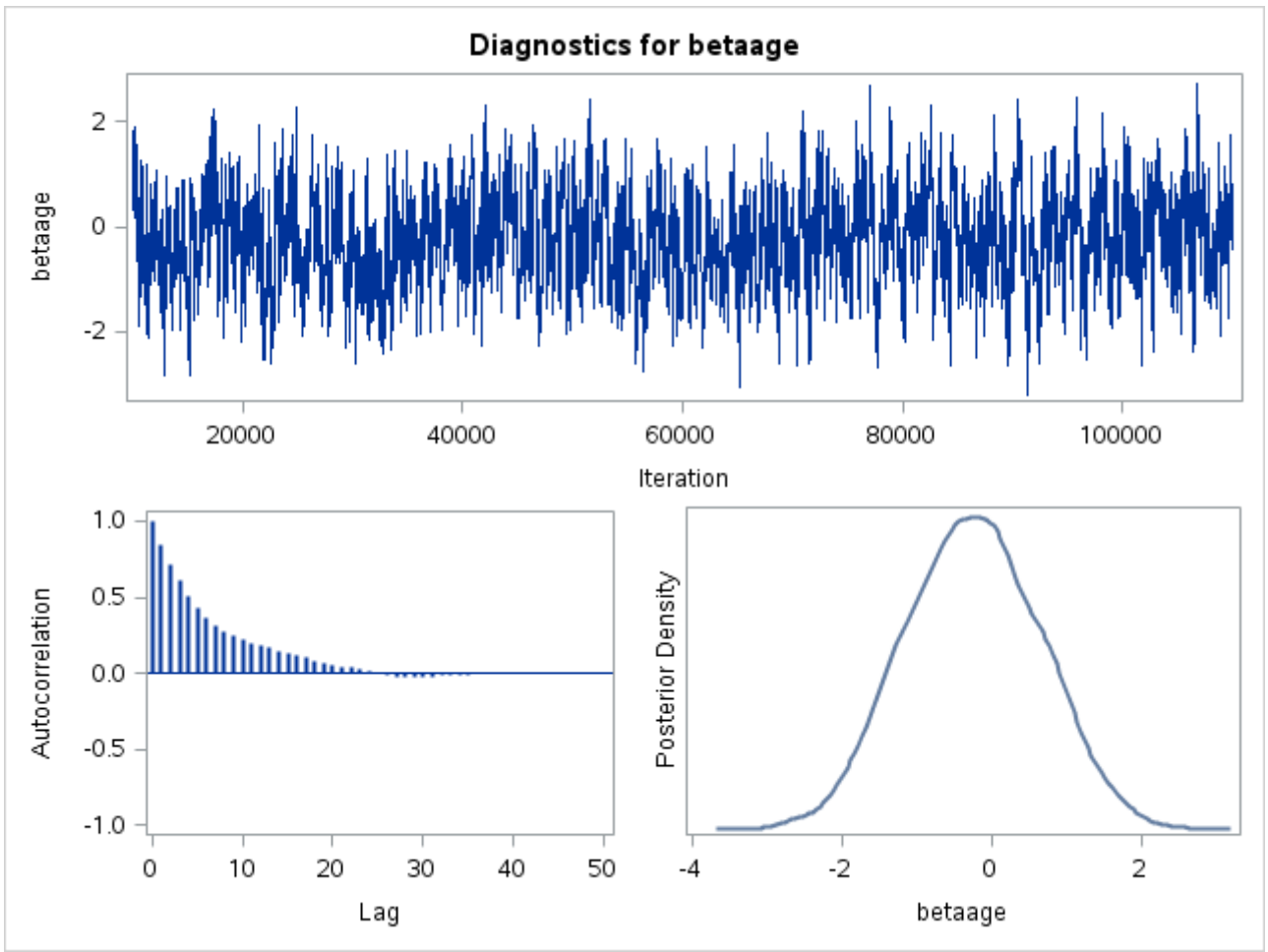

Diagnostics for betaSMOKE
betaSMOKE
50
25
0
-25
-50
-75
20000
40000
60000
80000
100000
Iteration
Autocorrelation
1.0
0.5
0.0
-0.5
-1.0
0
10
20
30
40
50
Lag
Posterior Density
-50
0
50
betaSMOKE

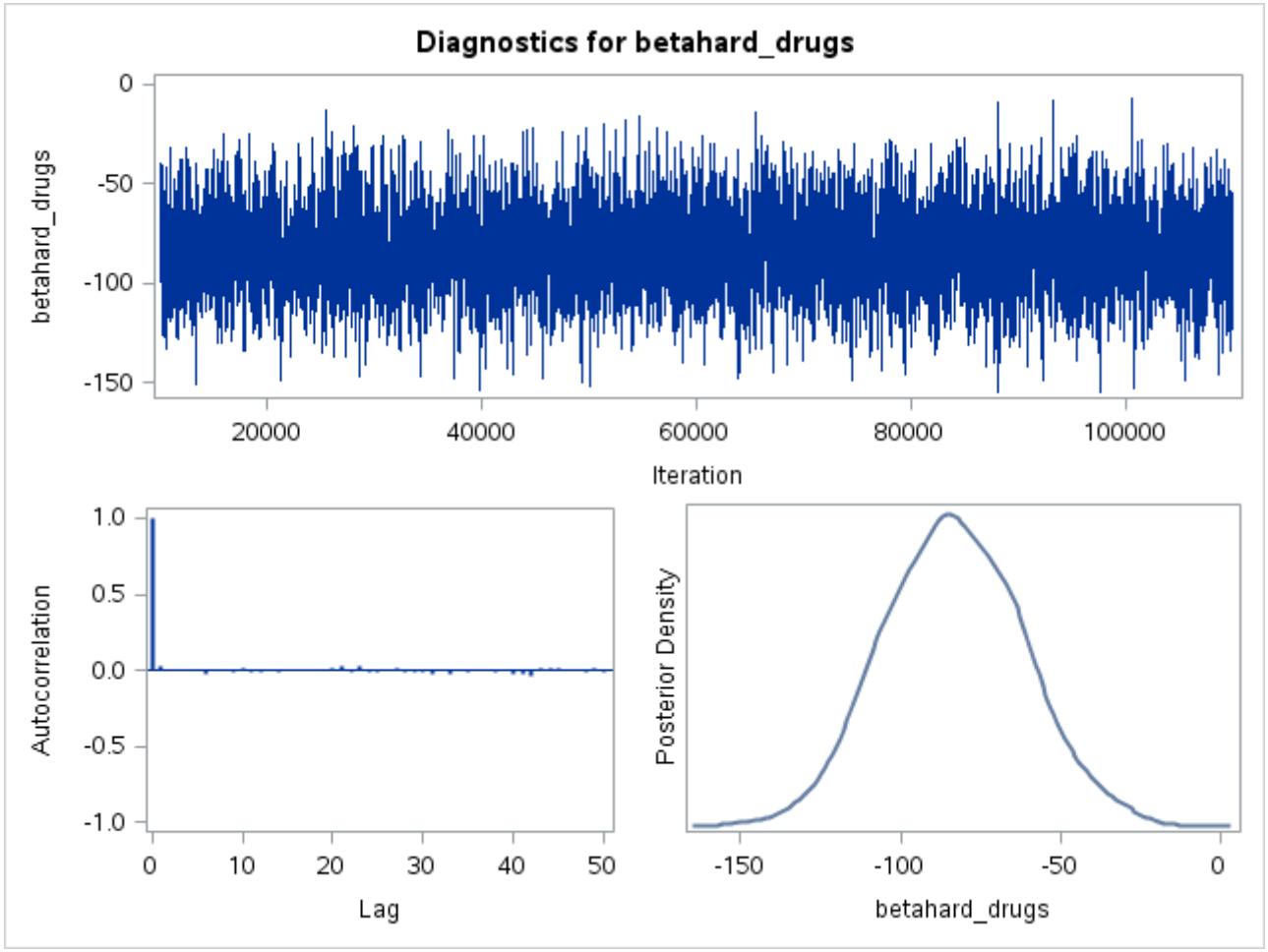

Diagnostics for betaDKGRP
betaDKGRP
50
0
-50
-100
20000
40000
60000
80000
100000
Iteration
Autocorrelation
1.0
0.5
0.0
-0.5
-1.0
0
10
20
30
40
50
Lag
Posterior Density
-100
-50
0
50
100
betaDKGRP

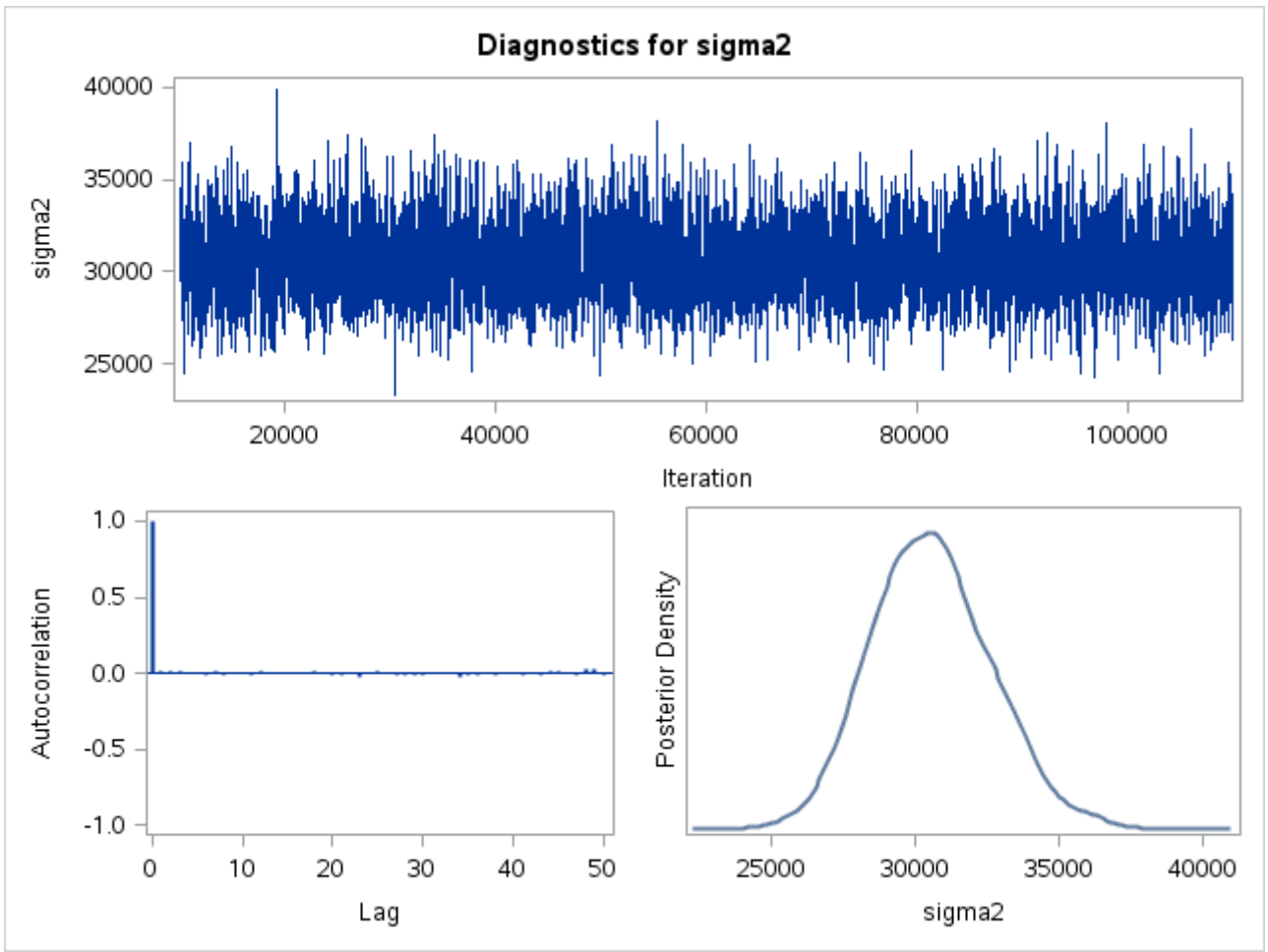

Diagnostics for betaADH
betaADH
100
50
0
20000
40000
60000
80000
100000
Iteration
Autocorrelation
1.0
0.5
0.0
-0.5
-1.0
0
10
20
30
40
50
Lag
Posterior Density
-50
0
50
100
betaADH


Diagnostics for betaRACE
betaRACE
50
25
0
-25
-50
20000
40000
60000
80000
100000
Iteration
Autocorrelation
1.0
0.5
0.0
-0.5
-1.0
0
10
20
30
40
50
Lag
Posterior Density
-75
-50
-25
0
25
50
betaRACE


Diagnostics for betaEDUCBAS
betaEDUCBAS
100
50
0
-50
20000
40000
60000
80000
100000
Iteration
Autocorrelation
1.0
0.5
0.0
-0.5
-1.0
0
10
20
30
40
50
Lag
Posterior Density
-50
0
50
100
betaEDUCBAS


Diagnostics for betaage
betaage
2
0
-2
20000
40000
60000
80000
100000
Iteration
Autocorrelation
1.0
0.5
0.0
-0.5
-1.0
0
10
20
30
40
50
Lag
Posterior Density
-4
-2
0
2
betaage


Diagnostics for betahard_drugs
betahard_drugs
0
-50
-100
-150
20000
40000
60000
80000
100000
Iteration
Autocorrelation
1.0
0.5
0.0
-0.5
-1.0
0
10
20
30
40
50
Lag
Posterior Density
-150
-100
-50
0
betahard_drugs


Diagnostics for sigma2
sigma2
40000
35000
30000
25000
20000
40000
60000
80000
100000
Iteration
Autocorrelation
1.0
0.5
0.0
-0.5
-1.0
0
10
20
30
40
50
Lag
Posterior Density
25000
30000
35000
40000
sigma2

Model 1: Outcome VLOAD Crude

The MCMC Procedure

Number of Observations Read	506
Number of Observations Used	487

Parameters				
Block	Parameter	Sampling Method	Initial Value	Prior Distribution
1	betaInt	N-Metropolis	0	normal(mean = 0, var = 1000)
2	betaBaseline	N-Metropolis	0	normal(mean = 0, var = 1000)
3	betahard_drugs	N-Metropolis	0	normal(mean = 0, var = 1000)
4	sigma2	Conjugate	1.0000	igamma(shape=2.001,scale=1.001)

Model 1: Outcome VLOAD Crude

The MCMC Procedure

Posterior Summaries and Intervals					
Parameter	N	Mean	Standard Deviation	95% HPD Interval	
betaInt	6667	-0.3491	0.2547	-0.8223	0.1688
betaBaseline	6667	-0.5234	0.0550	-0.6371	-0.4232
betahard_drugs	6667	0.0213	0.1918	-0.3391	0.4078
sigma2	6667	1.2929	0.0844	1.1385	1.4646

Model 1: Outcome VLOAD Crude

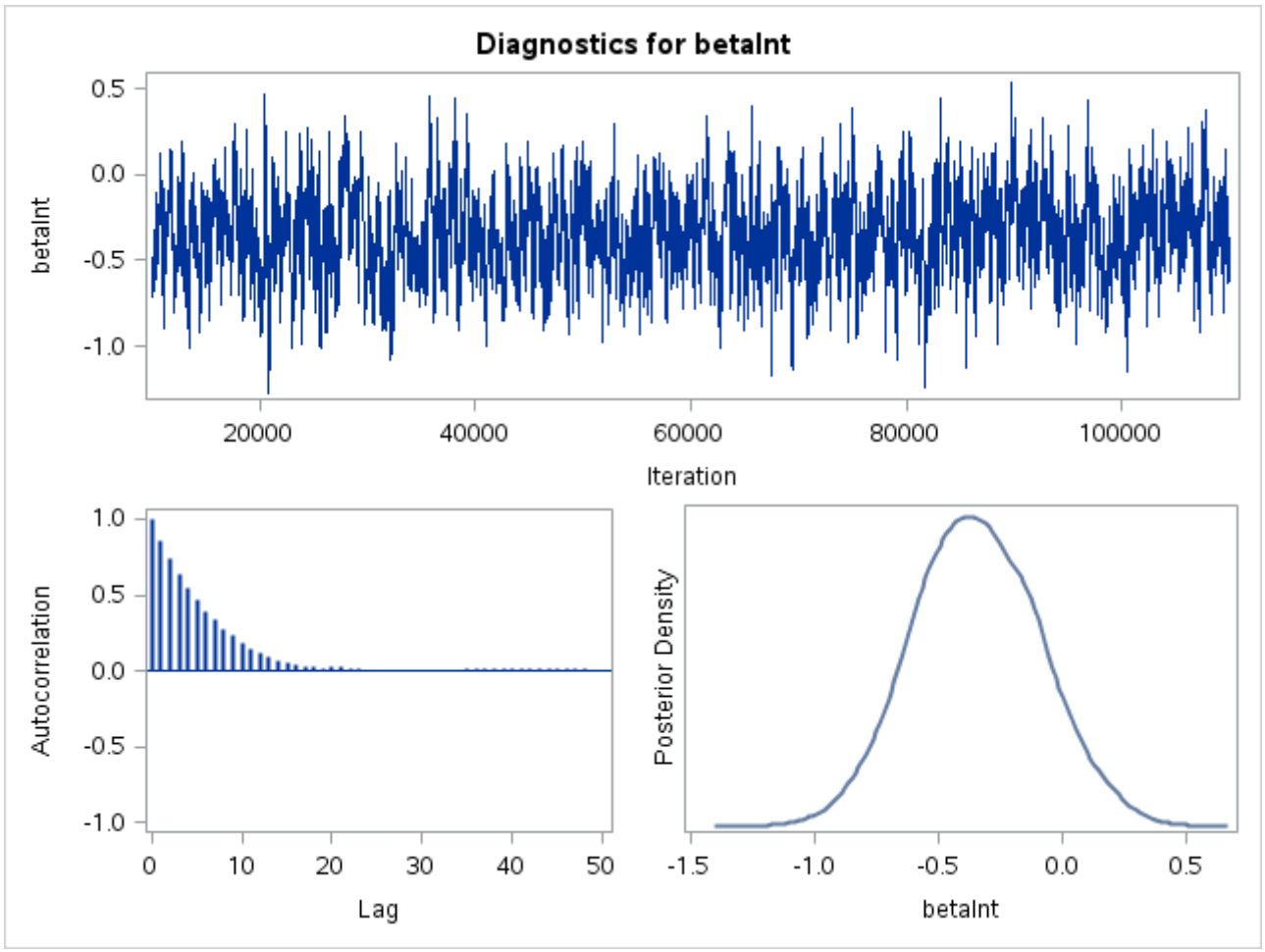
The MCMC Procedure

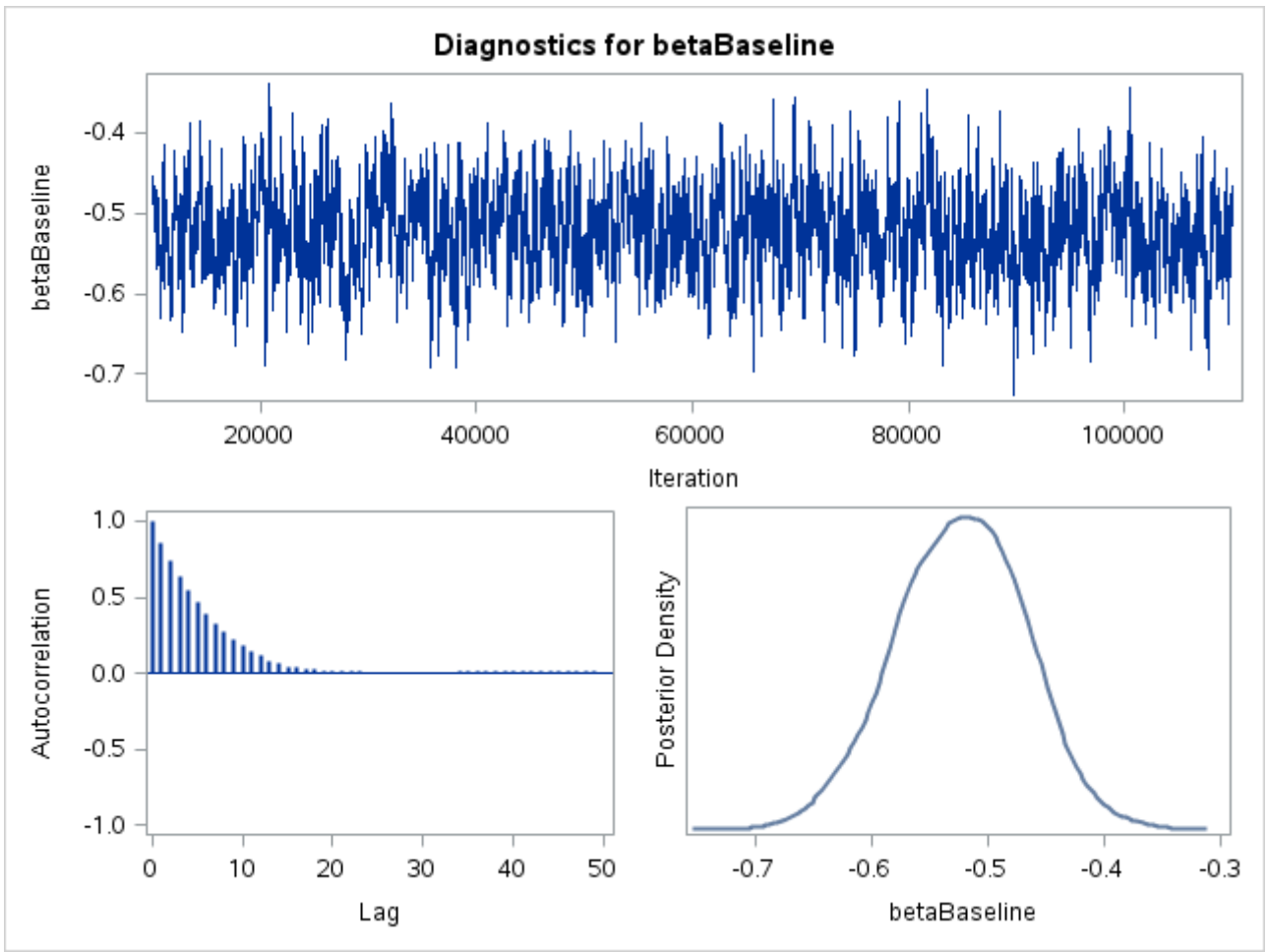
Geweke Diagnostics		
Parameter	z	Pr > |z|
betaInt	-0.0131	0.9895
betaBaseline	0.0806	0.9357
betahard_drugs	-1.0410	0.2979
sigma2	0.0052	0.9959

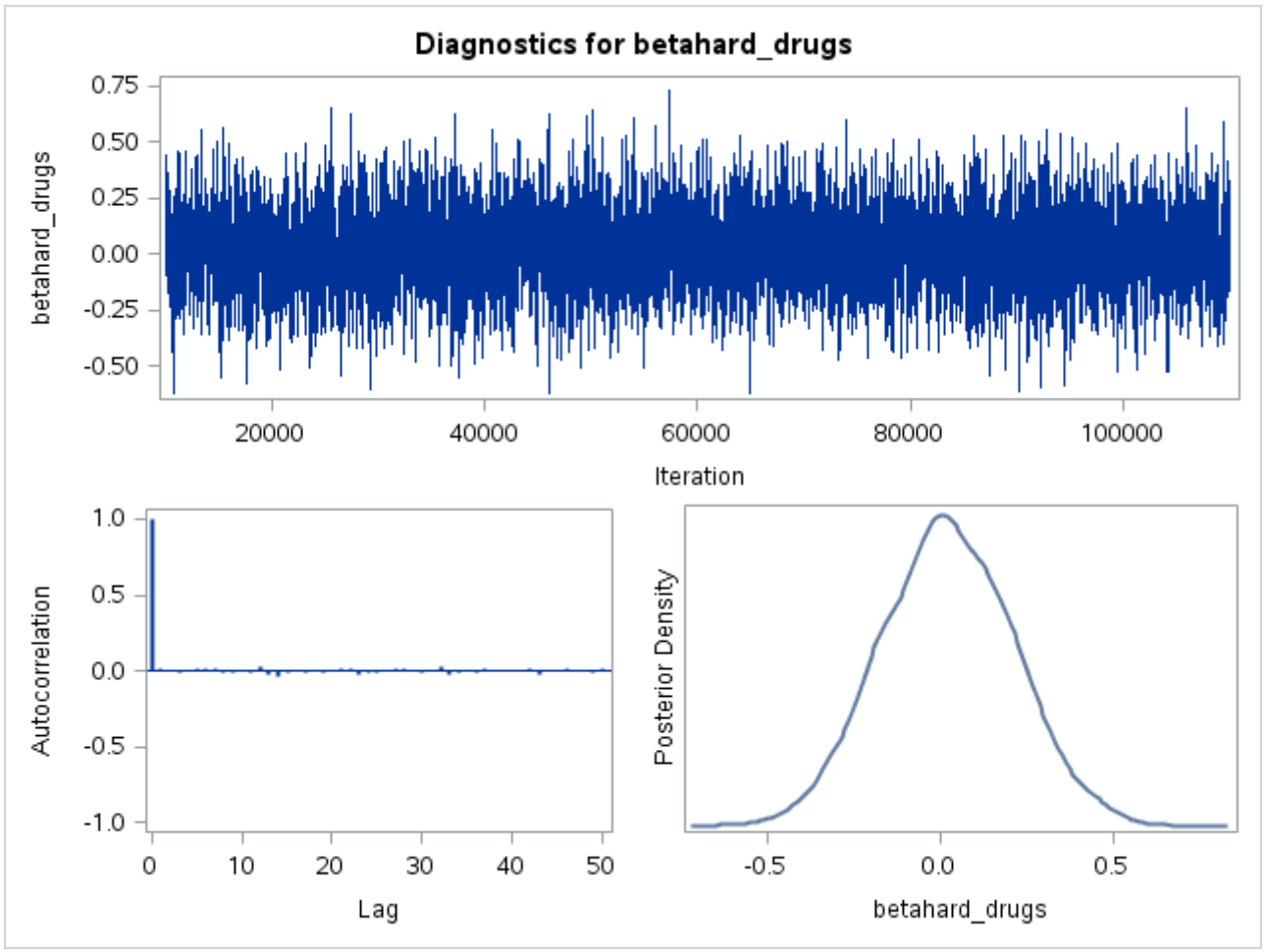
Deviance Information Criterion	
Dbar (posterior mean of deviance)	1508.880
Dmean (deviance evaluated at posterior mean)	1504.863
pD (effective number of parameters)	4.017
DIC (smaller is better)	1512.897

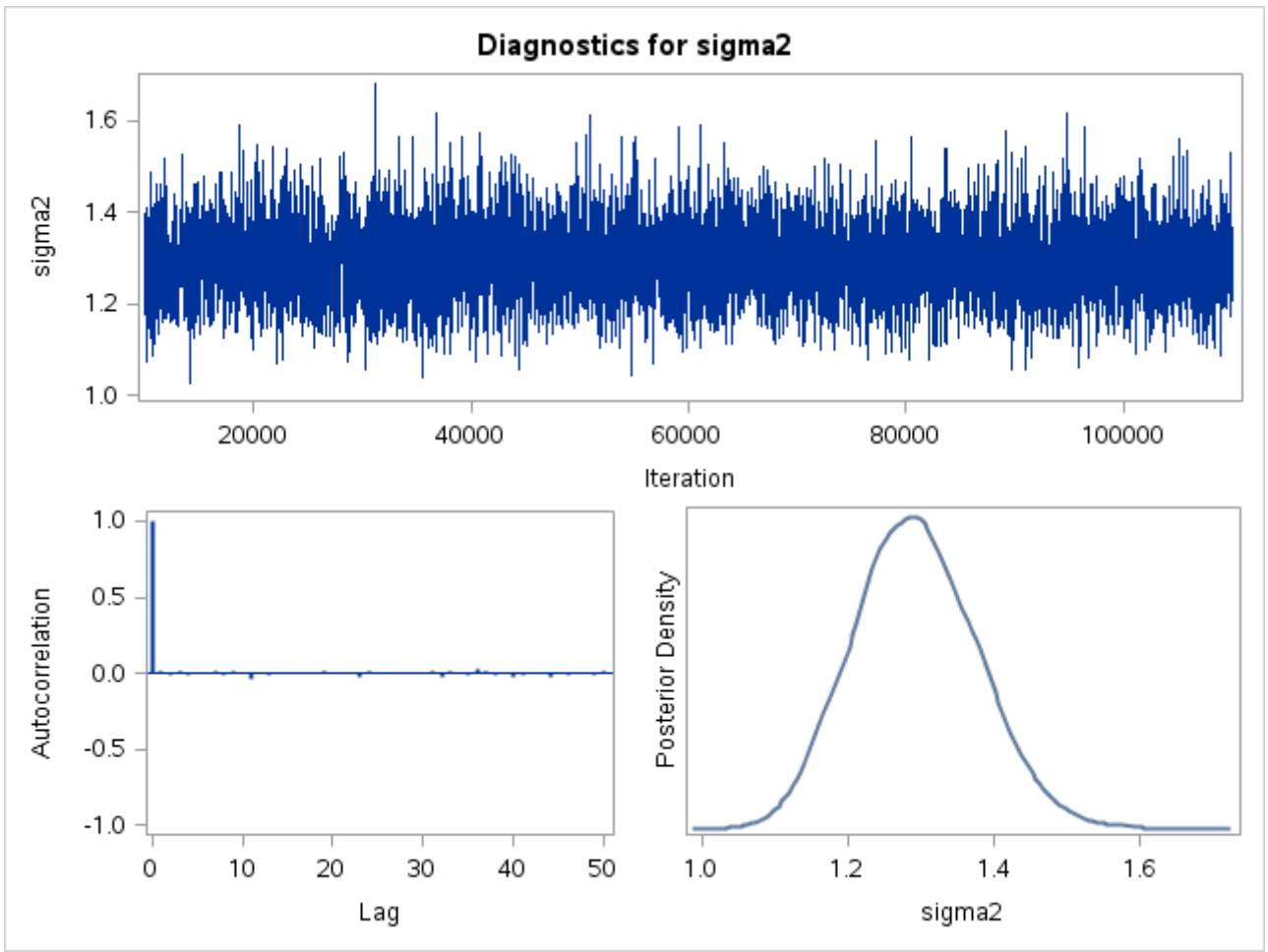
Model 1: Outcome VLOAD Crude

The MCMC Procedure


Diagnostics for betaInt
betaInt
0.5
0.0
-0.5
-1.0
20000
40000
60000
80000
100000
Iteration
Autocorrelation
1.0
0.5
0.0
-0.5
-1.0
0
10
20
30
40
50
Lag
Posterior Density
-1.5
-1.0
-0.5
0.0
0.5
betaInt


Diagnostics for betaBaseline
betaBaseline
-0.4
-0.5
-0.6
-0.7
20000
40000
60000
80000
100000
Iteration
Autocorrelation
1.0
0.5
0.0
-0.5
-1.0
0
10
20
30
40
50
Lag
Posterior Density
-0.7
-0.6
-0.5
-0.4
-0.3
betaBaseline


Diagnostics for betahard_drugs
betahard_drugs
0.75
0.50
0.25
0.00
-0.25
-0.50
20000
40000
60000
80000
100000
Iteration
Autocorrelation
1.0
0.5
0.0
-0.5
-1.0
0
10
20
30
40
50
Lag
Posterior Density
-0.5
0.0
0.5
betahard_drugs


Diagnostics for sigma2
sigma2
1.6
1.4
1.2
1.0
20000
40000
60000
80000
100000
Iteration
Autocorrelation
1.0
0.5
0.0
-0.5
-1.0
0
10
20
30
40
50
Lag
Posterior Density
1.0
1.2
1.4
1.6
sigma2

Model 1: Outcome VLOAD Full

The MCMC Procedure

Number of Observations Read	506
Number of Observations Used	457

Parameters				
Block	Parameter	Sampling Method	Initial Value	Prior Distribution
1	betaInt	N-Metropolis	0	normal(mean = 0, var = 1000)
2	betaBaseline	N-Metropolis	0	normal(mean = 0, var = 1000)
3	betaHASHV	N-Metropolis	0	normal(mean = 0, var = 1000)
4	betaincome	N-Metropolis	0	normal(mean = 0, var = 1000)
5	betaBMI	N-Metropolis	0	normal(mean = 0, var = 10000)
6	betaSMOKE	N-Metropolis	0	normal(mean = 0, var = 1000)
7	betaDKGRP	N-Metropolis	0	normal(mean = 0, var = 1000)
8	betaADH	N-Metropolis	0	normal(mean = 0, var = 1000)
9	betaRACE	N-Metropolis	0	normal(mean = 0, var = 1000)
10	betaEDUCBAS	N-Metropolis	0	normal(mean = 0, var = 1000)
11	betaage	N-Metropolis	0	normal(mean = 0, var = 10000)
12	betahard_drugs	N-Metropolis	0	normal(mean = 0, var = 1000)
13	sigma2	Conjugate	1.0000	igamma(shape=2.001,scale=1.001)

Model 1: Outcome VLOAD Full

The MCMC Procedure

Posterior Summaries and Intervals					
Parameter	N	Mean	Standard Deviation	95% HPD Interval	
betaInt	6667	1.0242	0.6268	-0.1300	2.3422
betaBaseline	6667	-0.5333	0.0608	-0.6514	-0.4178
betaHASHV	6667	-0.1694	0.1090	-0.3868	0.0429
betaincome	6667	-0.2355	0.0919	-0.4134	-0.0570
betaBMI	6667	-0.0223	0.0121	-0.0458	0.00242
betaSMOKE	6667	-0.0977	0.1183	-0.3264	0.1326
betaDKGRP	6667	0.1311	0.1968	-0.2578	0.5107
betaADH	6667	-0.4430	0.1758	-0.7984	-0.1068
betaRACE	6667	0.1253	0.1258	-0.1260	0.3667
betaEDUCBAS	6667	0.00410	0.1477	-0.2782	0.2948
betaage	6667	-0.00024	0.00620	-0.0121	0.0122
betahard_drugs	6667	-0.0358	0.2005	-0.4245	0.3489
sigma2	6667	1.2426	0.0828	1.0833	1.4040

Model 1: Outcome VLOAD Full

The MCMC Procedure

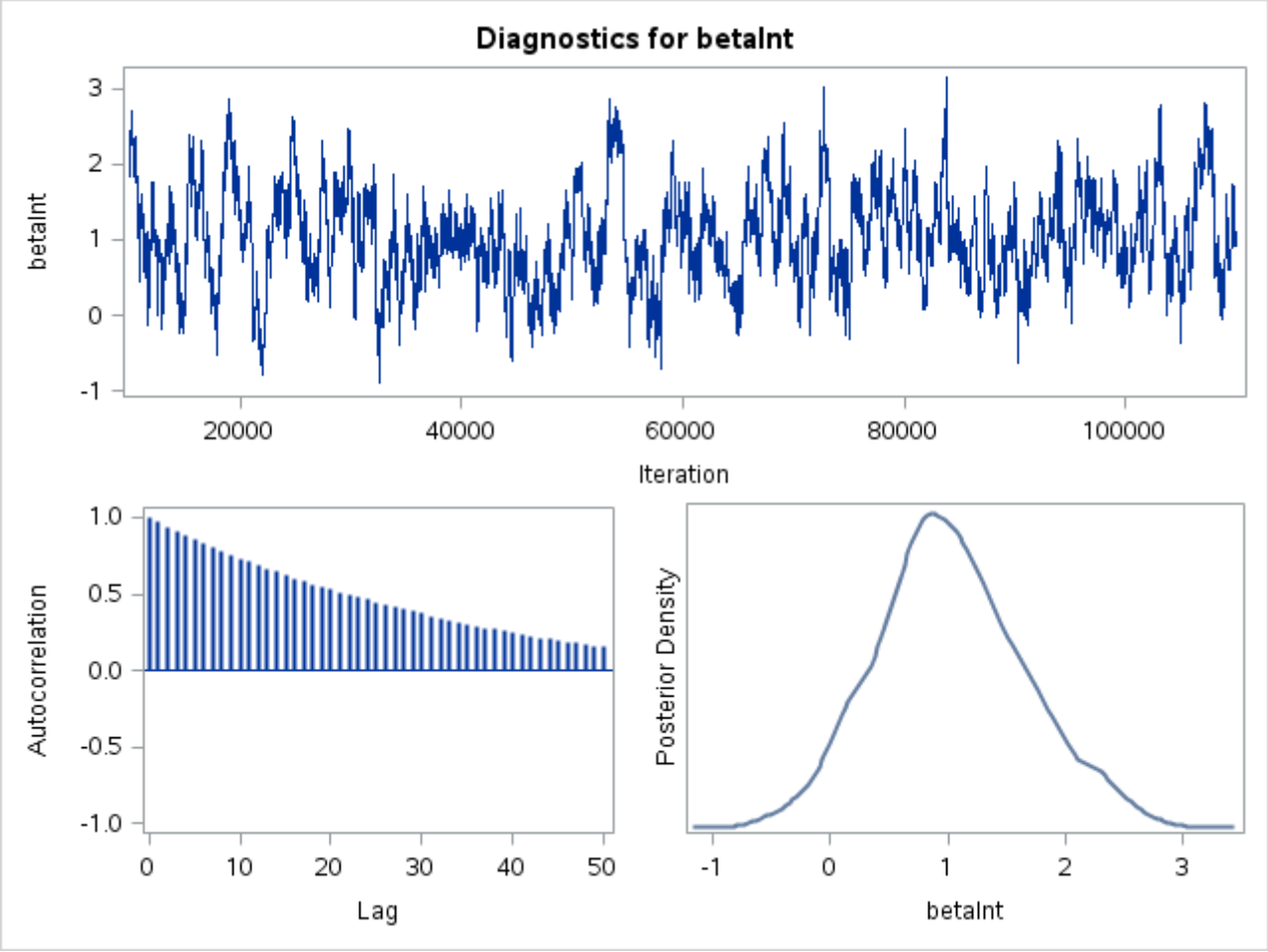
Geweke Diagnostics		
Parameter	z	Pr > |z|
betaInt	0.6282	0.5299

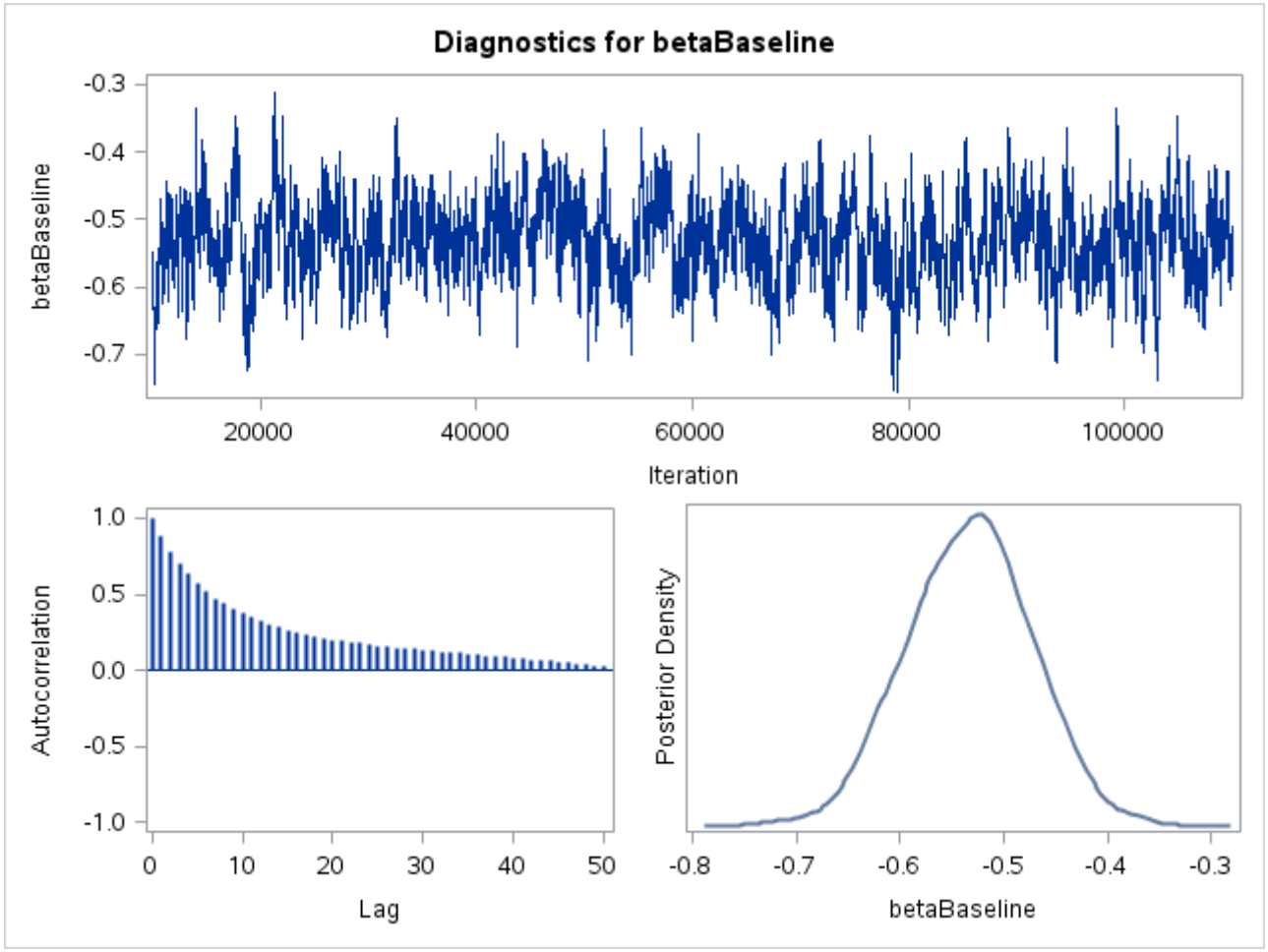
Geweke Diagnostics		
Parameter	z	Pr > |z|
betaBaseline	0.0859	0.9315
betaHASHV	-1.8789	0.0603
betaincome	0.5072	0.6120
betaBMI	-0.9886	0.3228
betaSMOKE	0.0386	0.9692
betaDKGRP	-0.4310	0.6664
betaADH	0.7375	0.4608
betaRACE	0.7205	0.4712
betaEDUCBAS	-0.8325	0.4051
betaage	-1.1008	0.2710
betahard_drugs	-1.2140	0.2248
sigma2	0.9170	0.3591

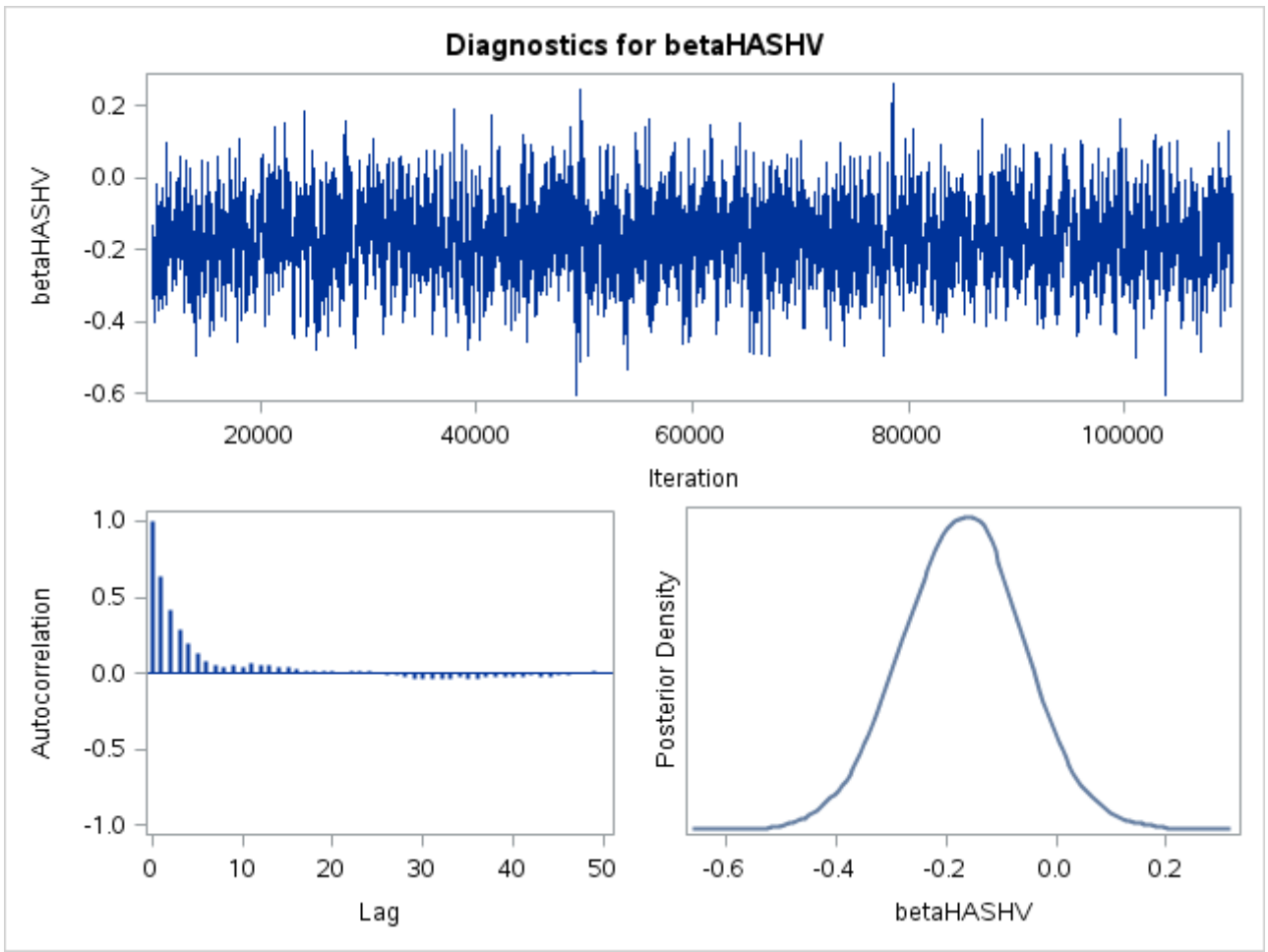
Deviance Information Criterion	
Dbar (posterior mean of deviance)	1397.377
Dmean (deviance evaluated at posterior mean)	1384.501
pD (effective number of parameters)	12.876
DIC (smaller is better)	1410.253

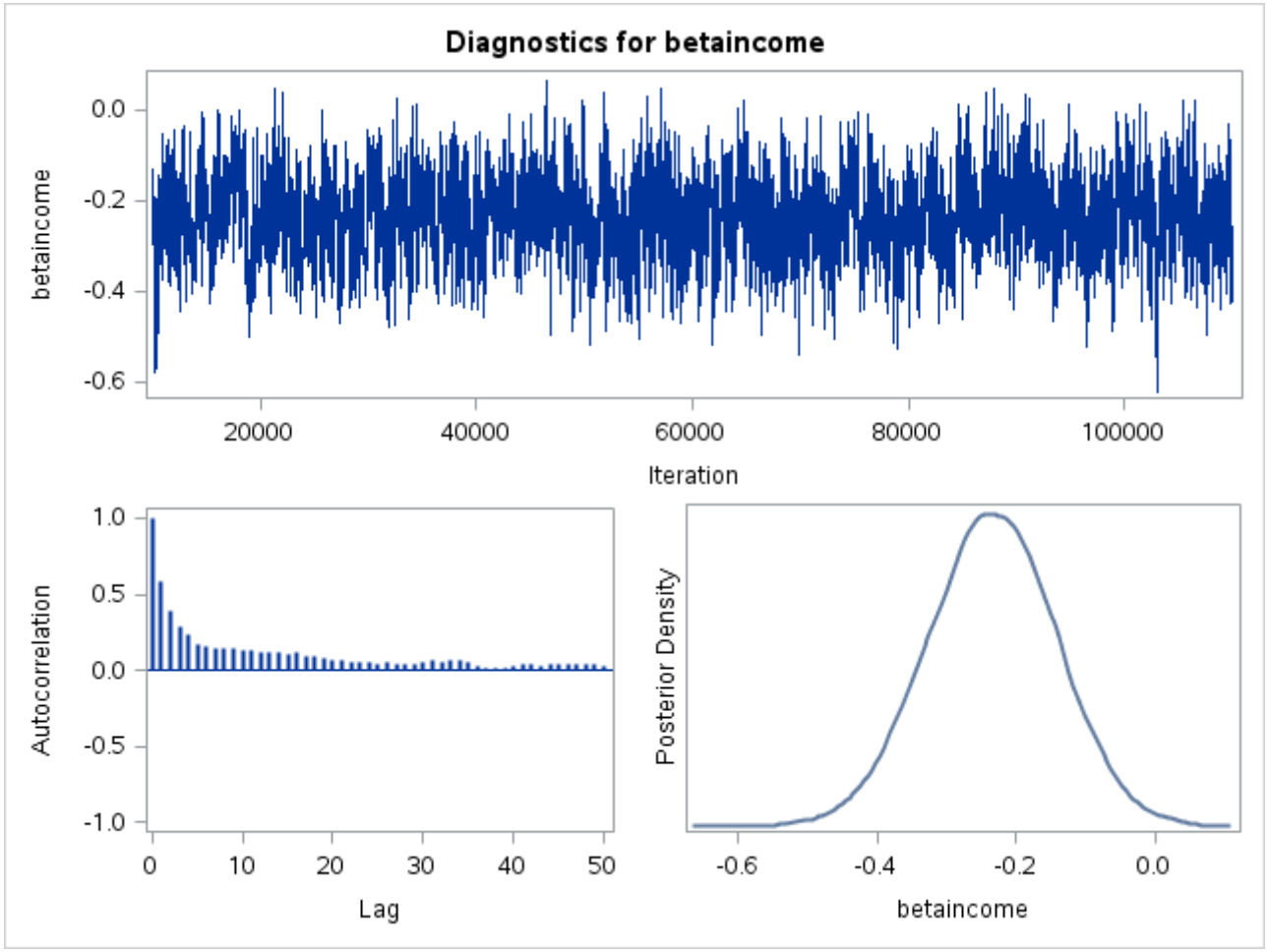
Model 1: Outcome VLOAD Full

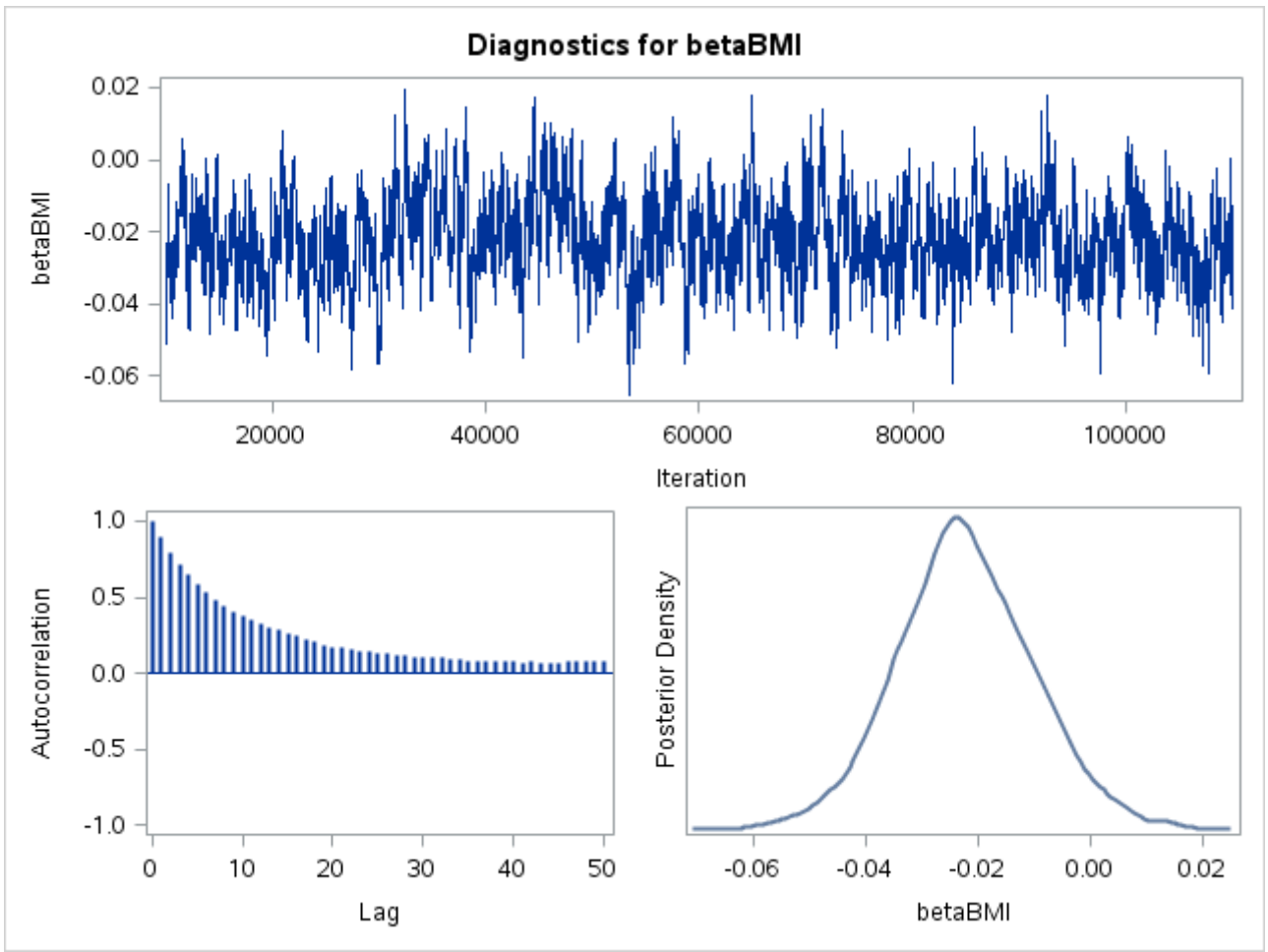
The MCMC Procedure

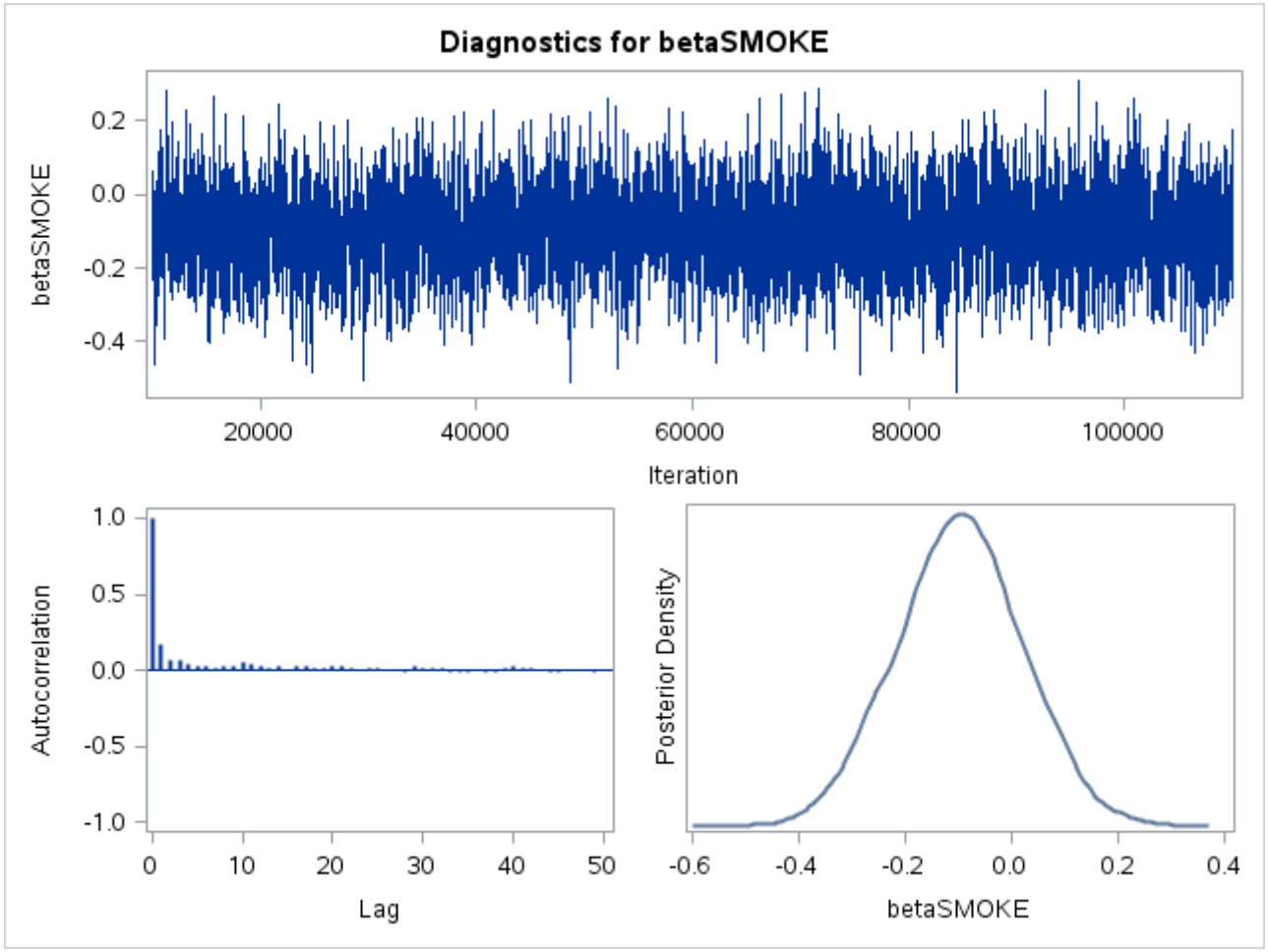


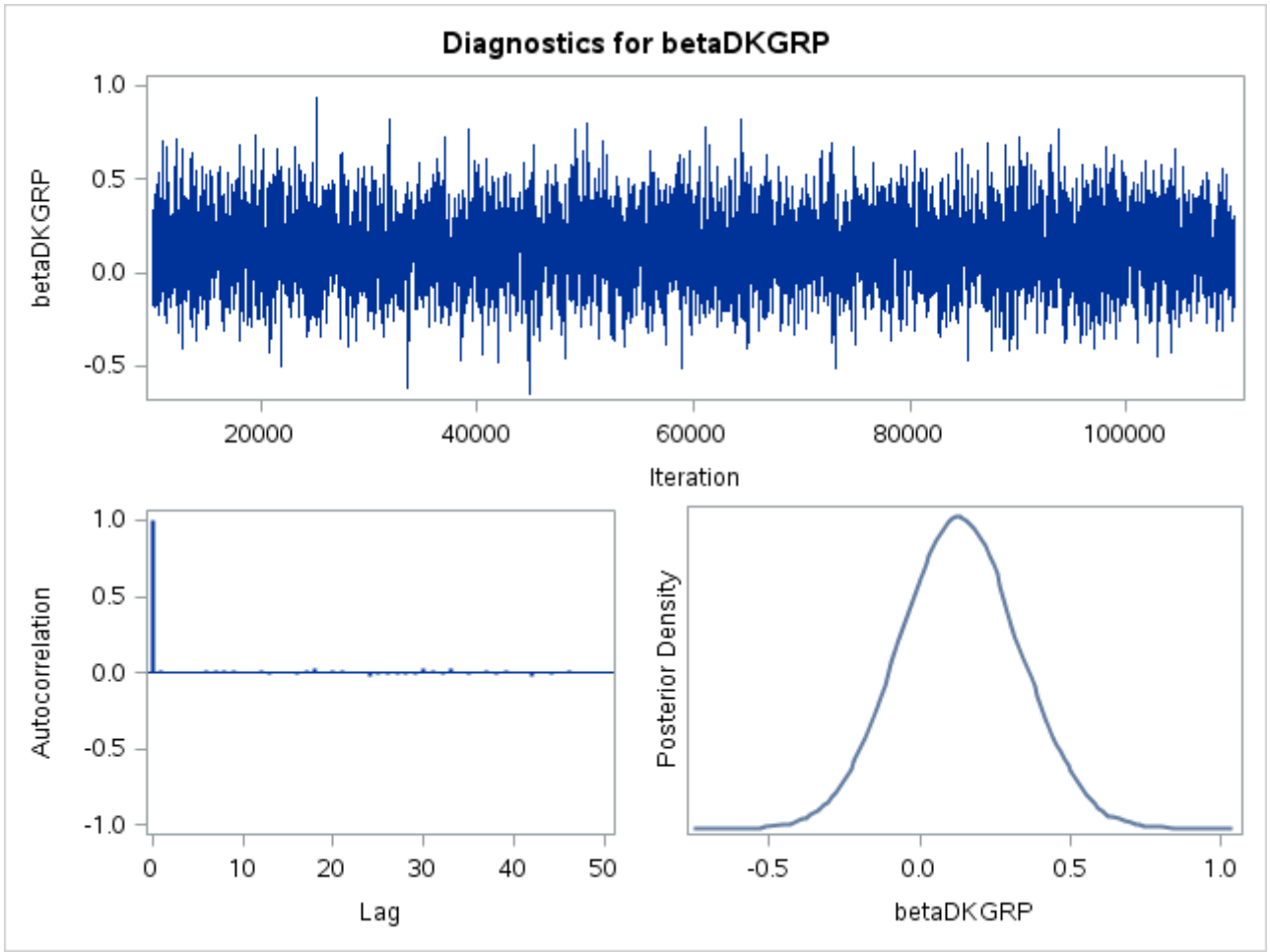

Diagnostics for betaBaseline
betaBaseline
-0.3
-0.4
-0.5
-0.6
-0.7
20000
40000
60000
80000
100000
Iteration
Autocorrelation
1.0
0.5
0.0
-0.5
-1.0
0
10
20
30
40
50
Lag
Posterior Density
-0.8
-0.7
-0.6
-0.5
-0.4
-0.3
betaBaseline

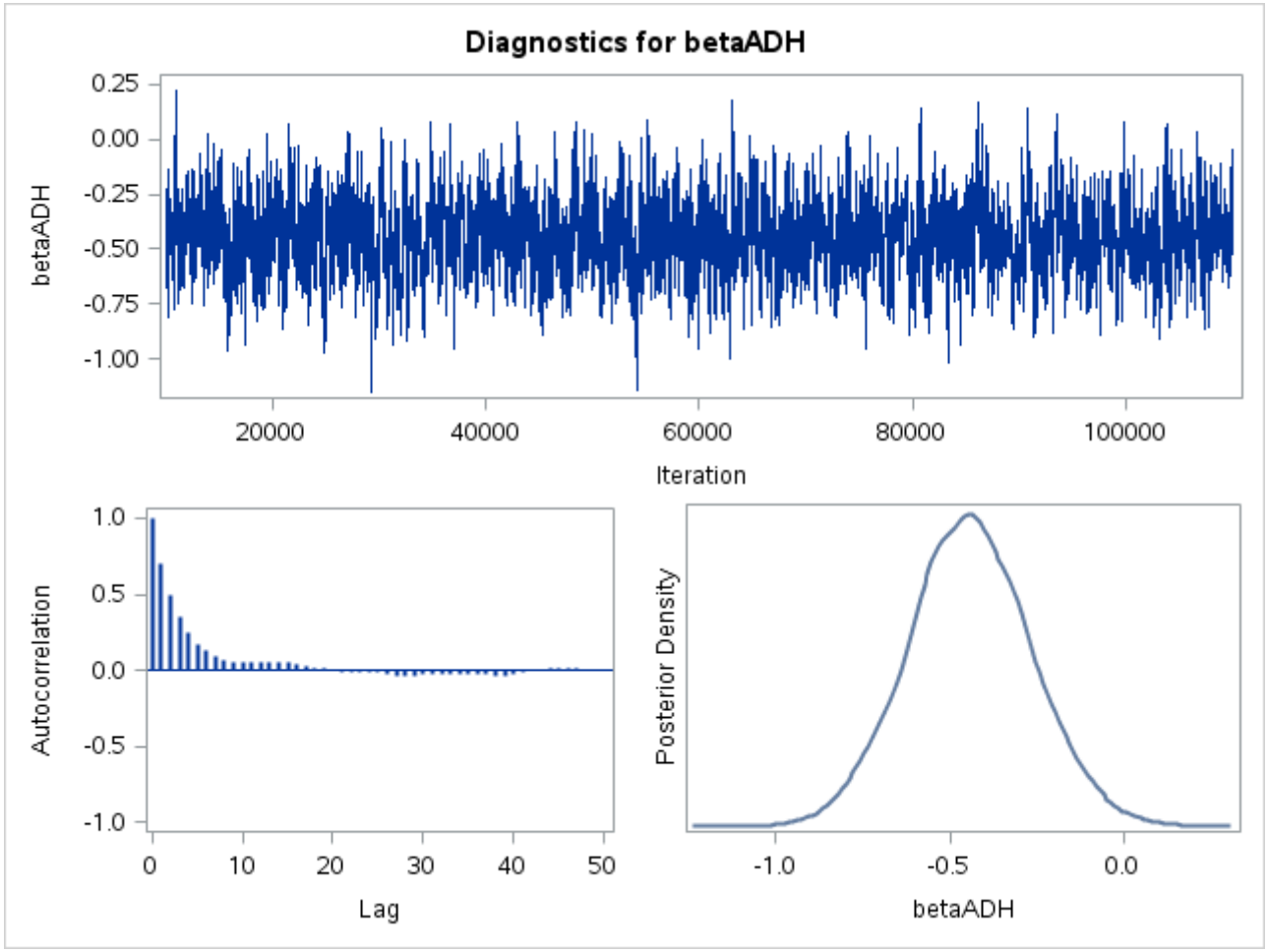

Diagnostics for betaHASHV
betaHASHV
0.2
0.0
-0.2
-0.4
-0.6
20000
40000
60000
80000
100000
Iteration
Autocorrelation
1.0
0.5
0.0
-0.5
-1.0
0
10
20
30
40
50
Lag
Posterior Density
-0.6
-0.4
-0.2
0.0
0.2
betaHASHV

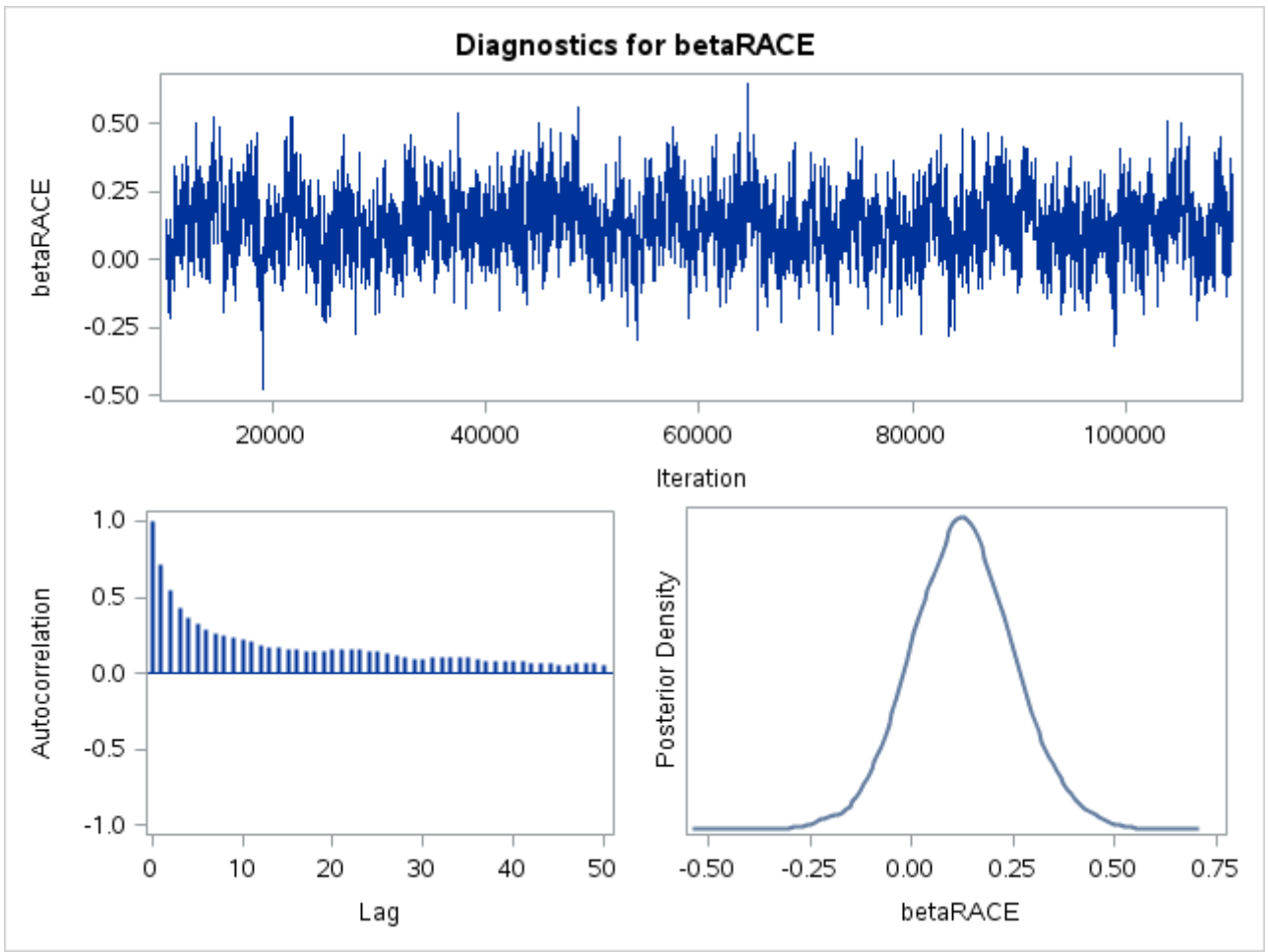

Diagnostics for betaincome
betaincome
0.0
-0.2
-0.4
-0.6
20000
40000
60000
80000
100000
Iteration
Autocorrelation
1.0
0.5
0.0
-0.5
-1.0
0
10
20
30
40
50
Lag
Posterior Density
-0.6
-0.4
-0.2
0.0
betaincome

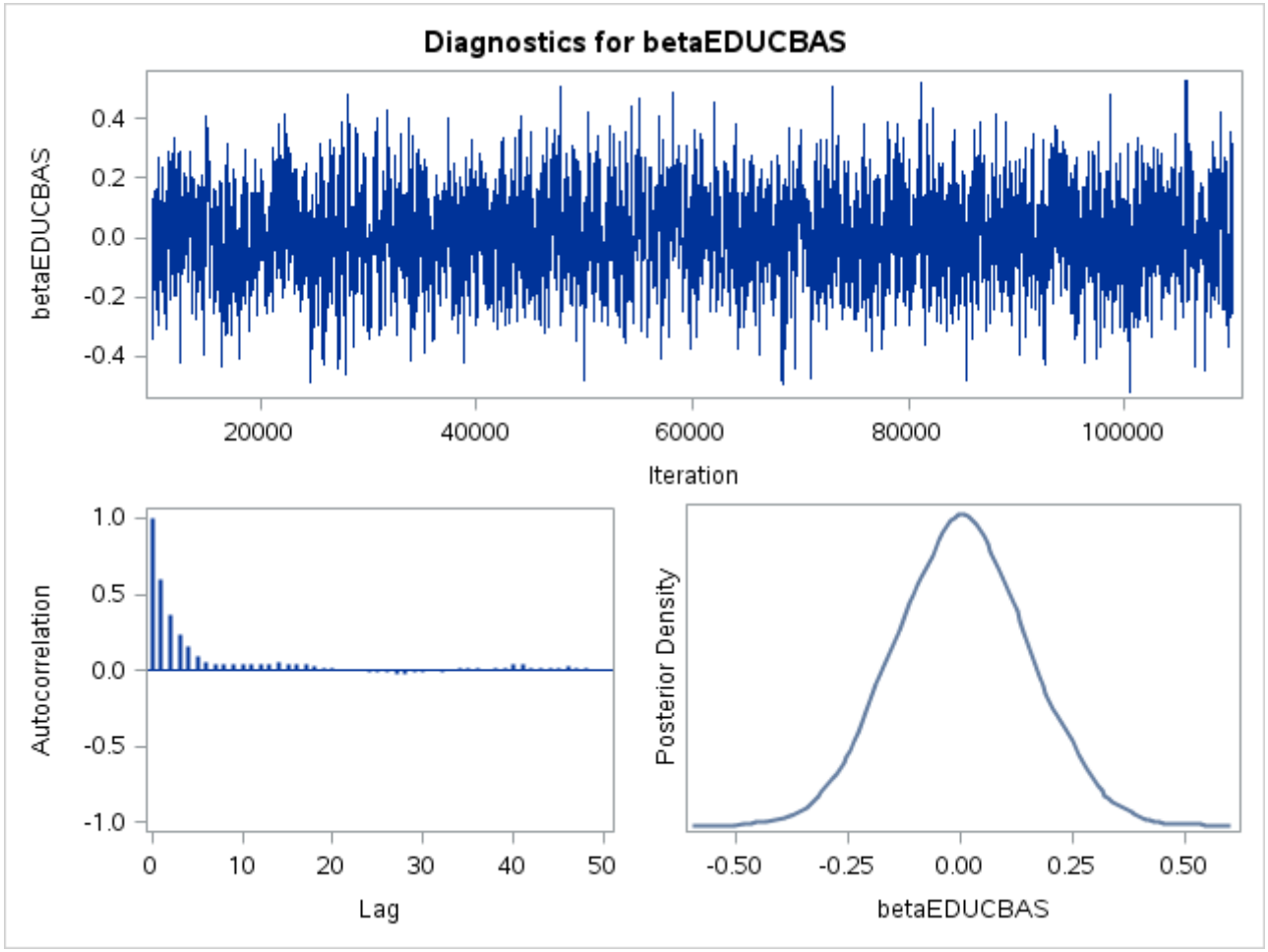

Diagnostics for betaBMI
betaBMI
0.02
0.00
-0.02
-0.04
-0.06
20000
40000
60000
80000
100000
Iteration
Autocorrelation
1.0
0.5
0.0
-0.5
-1.0
0
10
20
30
40
50
Lag
Posterior Density
-0.06
-0.04
-0.02
0.00
0.02
betaBMI

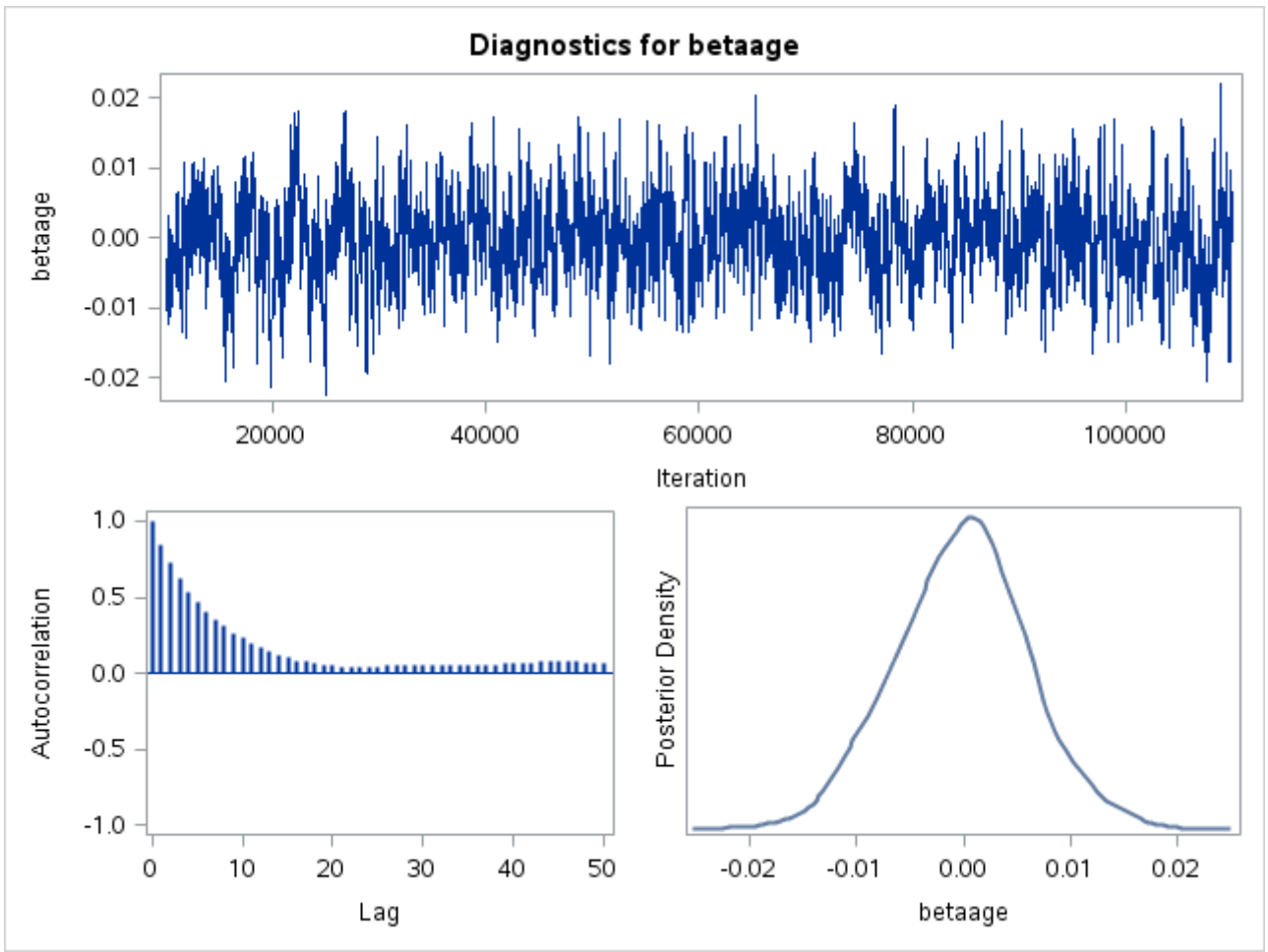

Diagnostics for betaSMOKE
betaSMOKE
0.2
0.0
-0.2
-0.4
20000
40000
60000
80000
100000
Iteration
Autocorrelation
1.0
0.5
0.0
-0.5
-1.0
0
10
20
30
40
50
Lag
Posterior Density
-0.6
-0.4
-0.2
0.0
0.2
0.4
betaSMOKE

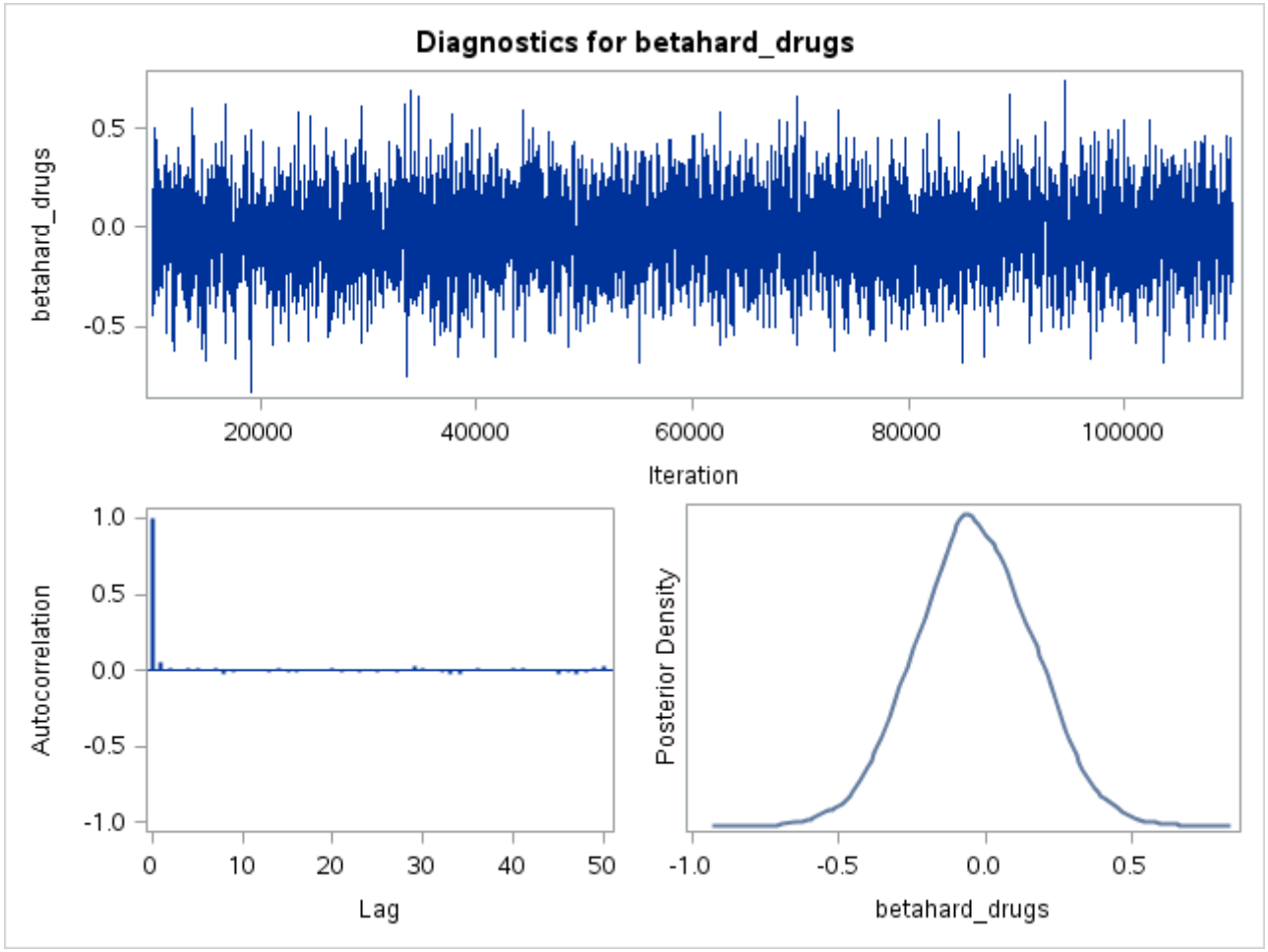

Diagnostics for betaDKGRP
betaDKGRP
1.0
0.5
0.0
-0.5
20000
40000
60000
80000
100000
Iteration
Autocorrelation
1.0
0.5
0.0
-0.5
-1.0
0
10
20
30
40
50
Lag
Posterior Density
-0.5
0.0
0.5
1.0
betaDKGRP

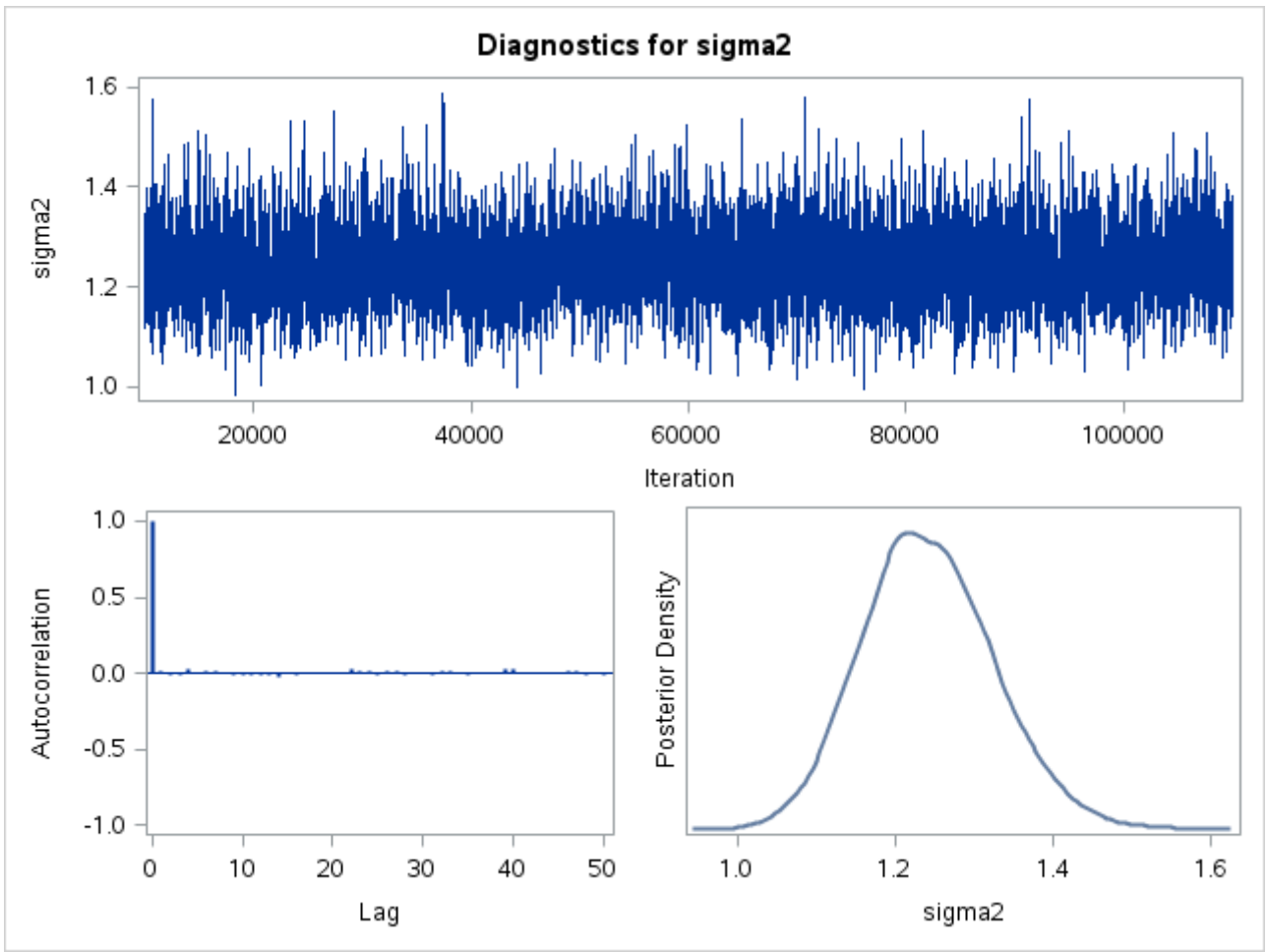

Diagnostics for betaADH
betaADH
0.25
0.00
-0.25
-0.50
-0.75
-1.00
20000
40000
60000
80000
100000
Iteration
Autocorrelation
1.0
0.5
0.0
-0.5
-1.0
0
10
20
30
40
50
Lag
Posterior Density
-1.0
-0.5
0.0
betaADH


Diagnostics for betaRACE
betaRACE
0.50
0.25
0.00
-0.25
-0.50
20000
40000
60000
80000
100000
Iteration
Autocorrelation
1.0
0.5
0.0
-0.5
-1.0
0
10
20
30
40
50
Lag
Posterior Density
-0.50
-0.25
0.00
0.25
0.50
0.75
betaRACE


Diagnostics for betaEDUCBAS
betaEDUCBAS
0.4
0.2
0.0
-0.2
-0.4
20000
40000
60000
80000
100000
Iteration
Autocorrelation
1.0
0.5
0.0
-0.5
-1.0
0
10
20
30
40
50
Lag
Posterior Density
-0.50
-0.25
0.00
0.25
0.50
betaEDUCBAS


Diagnostics for betaage
betaage
0.02
0.01
0.00
-0.01
-0.02
20000
40000
60000
80000
100000
Iteration
Autocorrelation
1.0
0.5
0.0
-0.5
-1.0
0
10
20
30
40
50
Lag
Posterior Density
-0.02
-0.01
0.00
0.01
0.02
betaage


Diagnostics for betahard_drugs
betahard_drugs
0.5
0.0
-0.5
20000
40000
60000
80000
100000
Iteration
Autocorrelation
1.0
0.5
0.0
-0.5
-1.0
0
10
20
30
40
50
Lag
Posterior Density
-1.0
-0.5
0.0
0.5
betahard_drugs


Diagnostics for sigma2
sigma2
1.6
1.4
1.2
1.0
20000
40000
60000
80000
100000
Iteration
Autocorrelation
1.0
0.5
0.0
-0.5
-1.0
0
10
20
30
40
50
Lag
Posterior Density
1.0
1.2
1.4
1.6
sigma2

Model 1: Outcome AGG_MENT Crude

The MCMC Procedure

Number of Observations Read	506
Number of Observations Used	499

Parameters				
Block	Parameter	Sampling Method	Initial Value	Prior Distribution
1	betaInt	N-Metropolis	0	normal(mean = 0, var = 1000)
2	betaBaseline	N-Metropolis	0	normal(mean = 0, var = 1000)
3	betahard_drugs	N-Metropolis	0	normal(mean = 0, var = 1000)
4	sigma2	Conjugate	1.0000	igamma(shape=2.001,scale=1.001)

Model 1: Outcome AGG_MENT Crude

The MCMC Procedure

Posterior Summaries and Intervals					
Parameter	N	Mean	Standard Deviation	95% HPD Interval	
betaInt	6667	24.9533	1.5360	22.1867	28.1207
betaBaseline	6667	-0.5026	0.0321	-0.5654	-0.4407
betahard_drugs	6667	-0.1292	1.6304	-3.4375	2.9102
sigma2	6667	97.6864	6.1197	85.7543	109.4

Model 1: Outcome AGG_MENT Crude

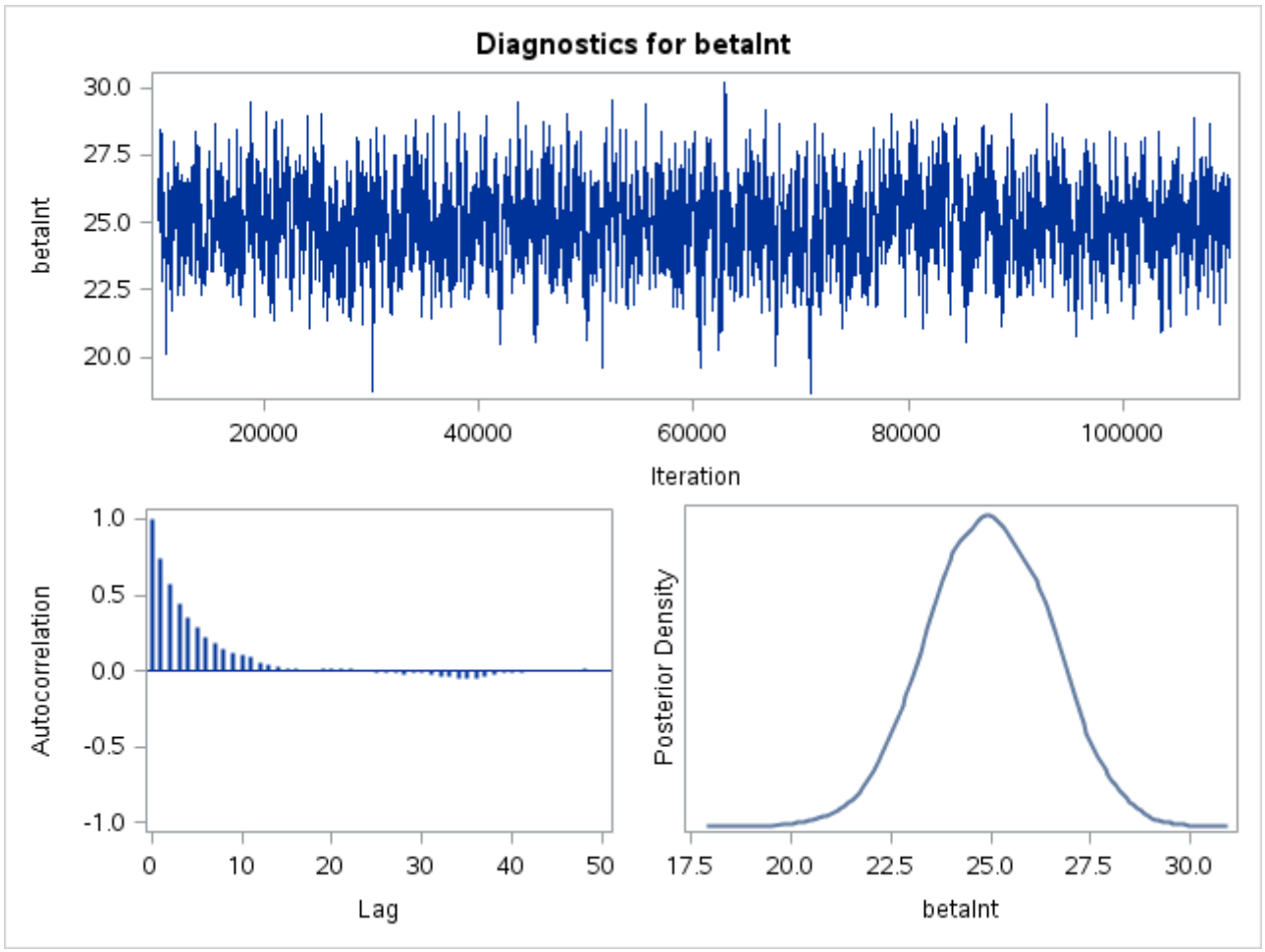
The MCMC Procedure

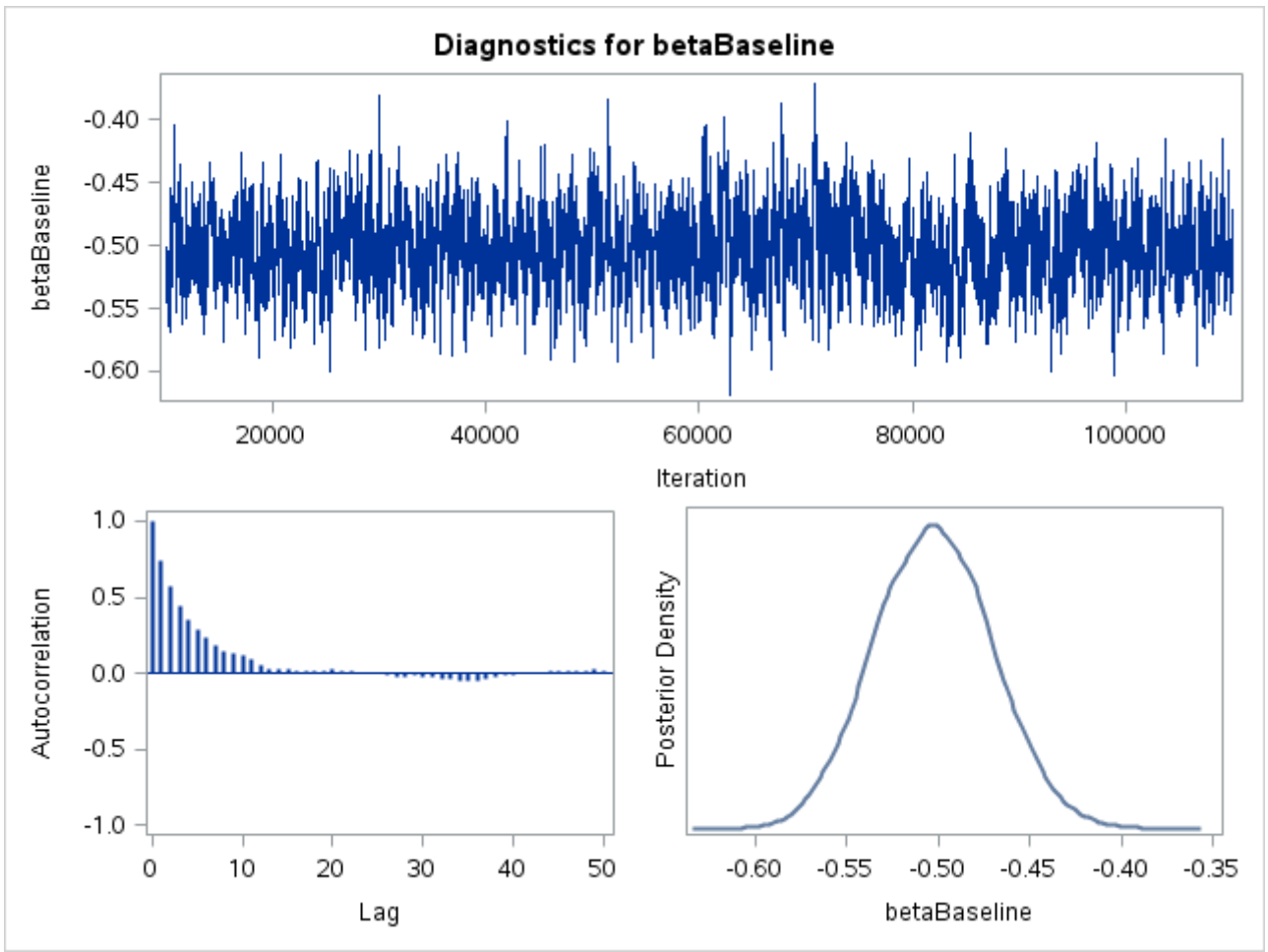
Geweke Diagnostics		
Parameter	z	Pr > |z|
betaInt	0.3414	0.7328
betaBaseline	-0.1552	0.8767
betahard_drugs	-0.4745	0.6352
sigma2	0.1999	0.8416

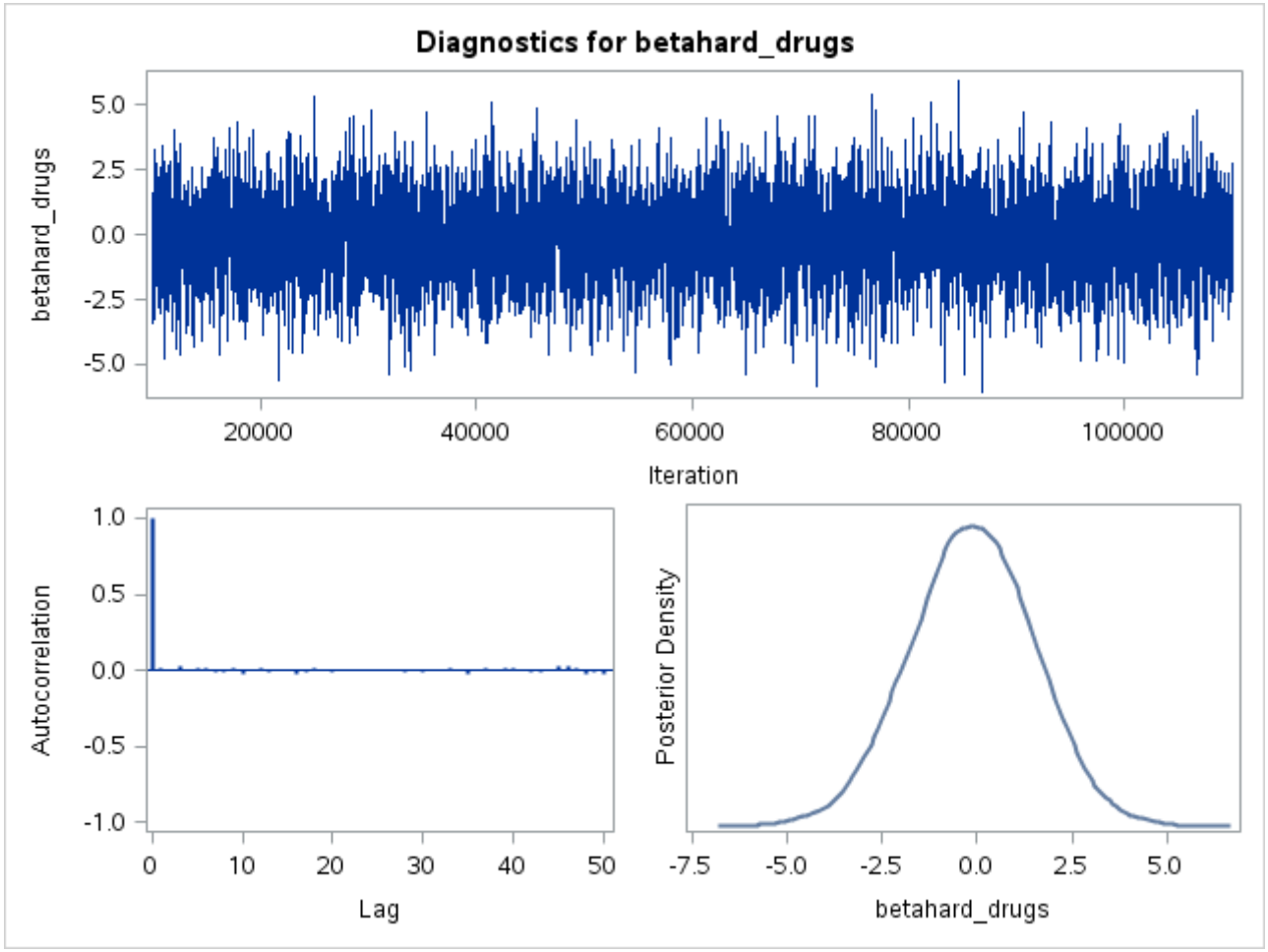
Deviance Information Criterion	
Dbar (posterior mean of deviance)	3705.828
Dmean (deviance evaluated at posterior mean)	3701.894
pD (effective number of parameters)	3.934
DIC (smaller is better)	3709.762

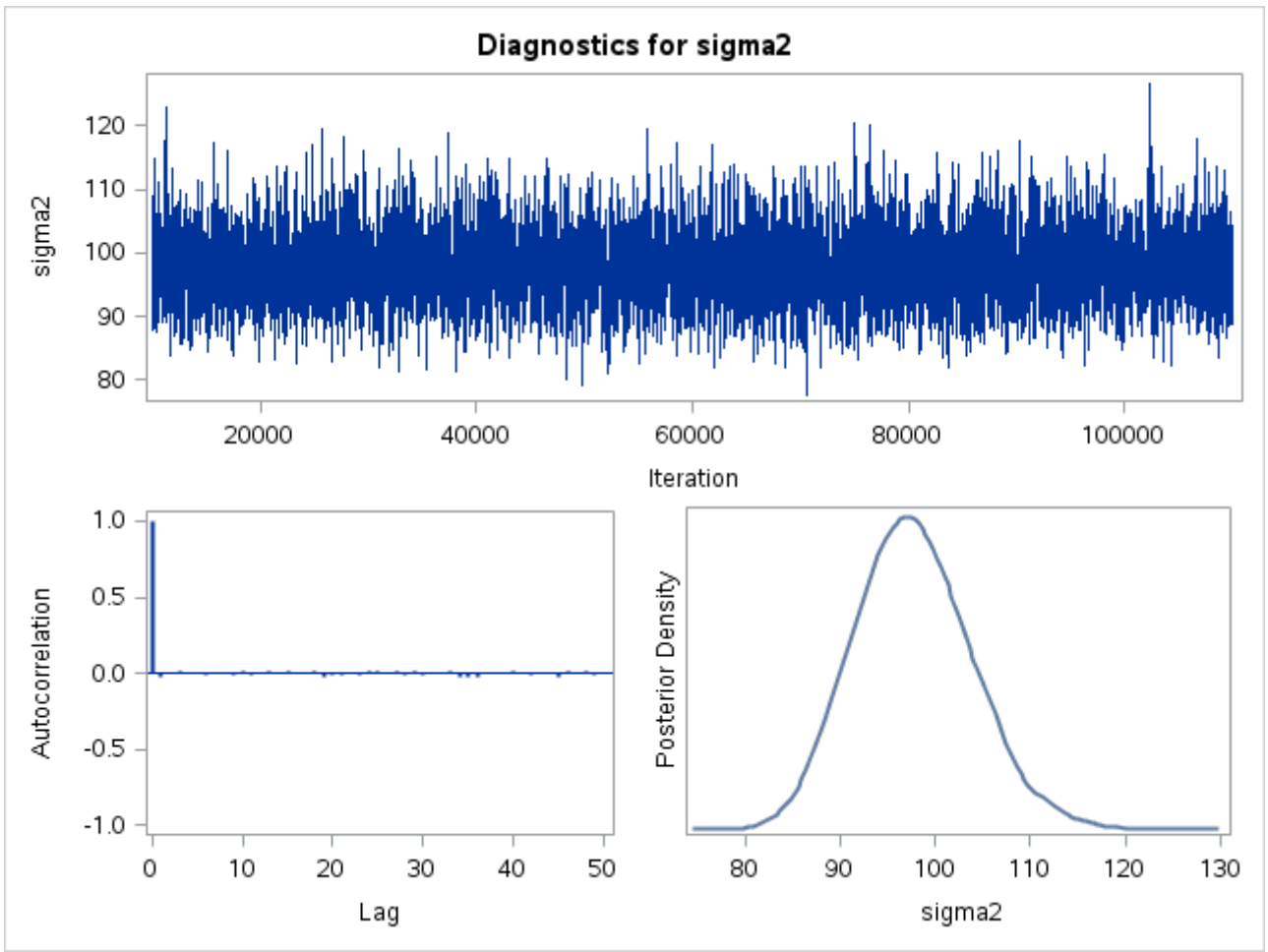
Model 1: Outcome AGG_MENT Crude

The MCMC Procedure


Diagnostics for betaInt
betaInt
30.0
27.5
25.0
22.5
20.0
20000
40000
60000
80000
100000
Iteration
Autocorrelation
1.0
0.5
0.0
-0.5
-1.0
0
10
20
30
40
50
Lag
Posterior Density
17.5
20.0
22.5
25.0
27.5
30.0
betaInt


Diagnostics for betaBaseline
betaBaseline
-0.40
-0.45
-0.50
-0.55
-0.60
20000
40000
60000
80000
100000
Iteration
Autocorrelation
1.0
0.5
0.0
-0.5
-1.0
0
10
20
30
40
50
Lag
Posterior Density
-0.60
-0.55
-0.50
-0.45
-0.40
-0.35
betaBaseline


Diagnostics for betahard_drugs
betahard_drugs
5.0
2.5
0.0
-2.5
-5.0
20000
40000
60000
80000
100000
Iteration
Autocorrelation
1.0
0.5
0.0
-0.5
-1.0
0
10
20
30
40
50
Lag
Posterior Density
-7.5
-5.0
-2.5
0.0
2.5
5.0
betahard_drugs


Diagnostics for sigma2
sigma2
120
110
100
90
80
20000
40000
60000
80000
100000
Iteration
Autocorrelation
1.0
0.5
0.0
-0.5
-1.0
0
10
20
30
40
50
Lag
Posterior Density
80
90
100
110
120
130
sigma2

Model 1: Outcome AGG_MENT Full

The MCMC Procedure

Number of Observations Read	506
Number of Observations Used	464

Parameters				
Block	Parameter	Sampling Method	Initial Value	Prior Distribution
1	betaInt	N-Metropolis	0	normal(mean = 0, var = 1000)
2	betaBaseline	N-Metropolis	0	normal(mean = 0, var = 1000)
3	betaHASHV	N-Metropolis	0	normal(mean = 0, var = 1000)
4	betaincome	N-Metropolis	0	normal(mean = 0, var = 1000)
5	betaBMI	N-Metropolis	0	normal(mean = 0, var = 10000)
6	betaSMOKE	N-Metropolis	0	normal(mean = 0, var = 1000)
7	betaDKGRP	N-Metropolis	0	normal(mean = 0, var = 1000)
8	betaADH	N-Metropolis	0	normal(mean = 0, var = 1000)
9	betaRACE	N-Metropolis	0	normal(mean = 0, var = 1000)
10	betaEDUCBAS	N-Metropolis	0	normal(mean = 0, var = 1000)
11	betaage	N-Metropolis	0	normal(mean = 0, var = 10000)
12	betahard_drugs	N-Metropolis	0	normal(mean = 0, var = 1000)
13	sigma2	Conjugate	1.0000	igamma(shape=2.001,scale=1.001)

Model 1: Outcome AGG_MENT Full

The MCMC Procedure

Posterior Summaries and Intervals					
Parameter	N	Mean	Standard Deviation	95% HPD Interval	
betaInt	6667	15.0854	4.5774	6.1383	24.0028
betaBaseline	6667	-0.5237	0.0336	-0.5887	-0.4554
betaHASHV	6667	1.1791	0.9629	-0.6795	3.0433
betaincome	6667	1.5794	0.7731	0.0139	3.0598
betaBMI	6667	0.0427	0.1071	-0.1507	0.2565
betaSMOKE	6667	1.8205	1.0575	-0.1613	3.9475
betaDKGRP	6667	-0.0717	1.7933	-3.5839	3.3784
betaADH	6667	2.3123	1.5761	-0.7699	5.3234
betaRACE	6667	0.3547	1.1151	-1.8202	2.4807
betaEDUCBAS	6667	0.7812	1.2937	-1.6815	3.3645
betaage	6667	0.0607	0.0534	-0.0435	0.1626
betahard_drugs	6667	-0.4129	1.7785	-3.8754	3.1079
sigma2	6667	96.7696	6.3198	84.8747	109.3

Model 1: Outcome AGG_MENT Full

The MCMC Procedure

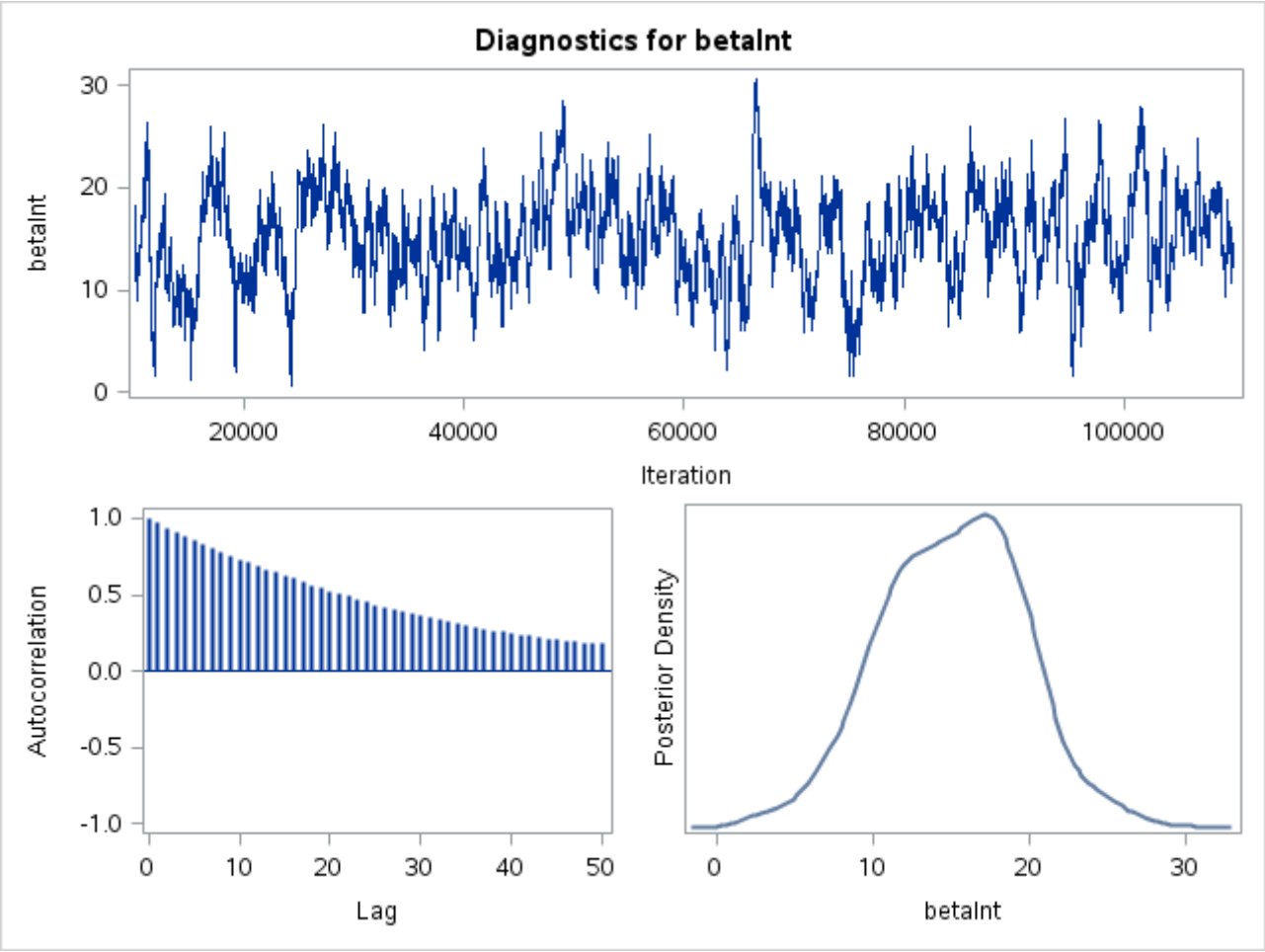
Geweke Diagnostics		
Parameter	z	Pr > |z|
betaInt	-1.5953	0.1107

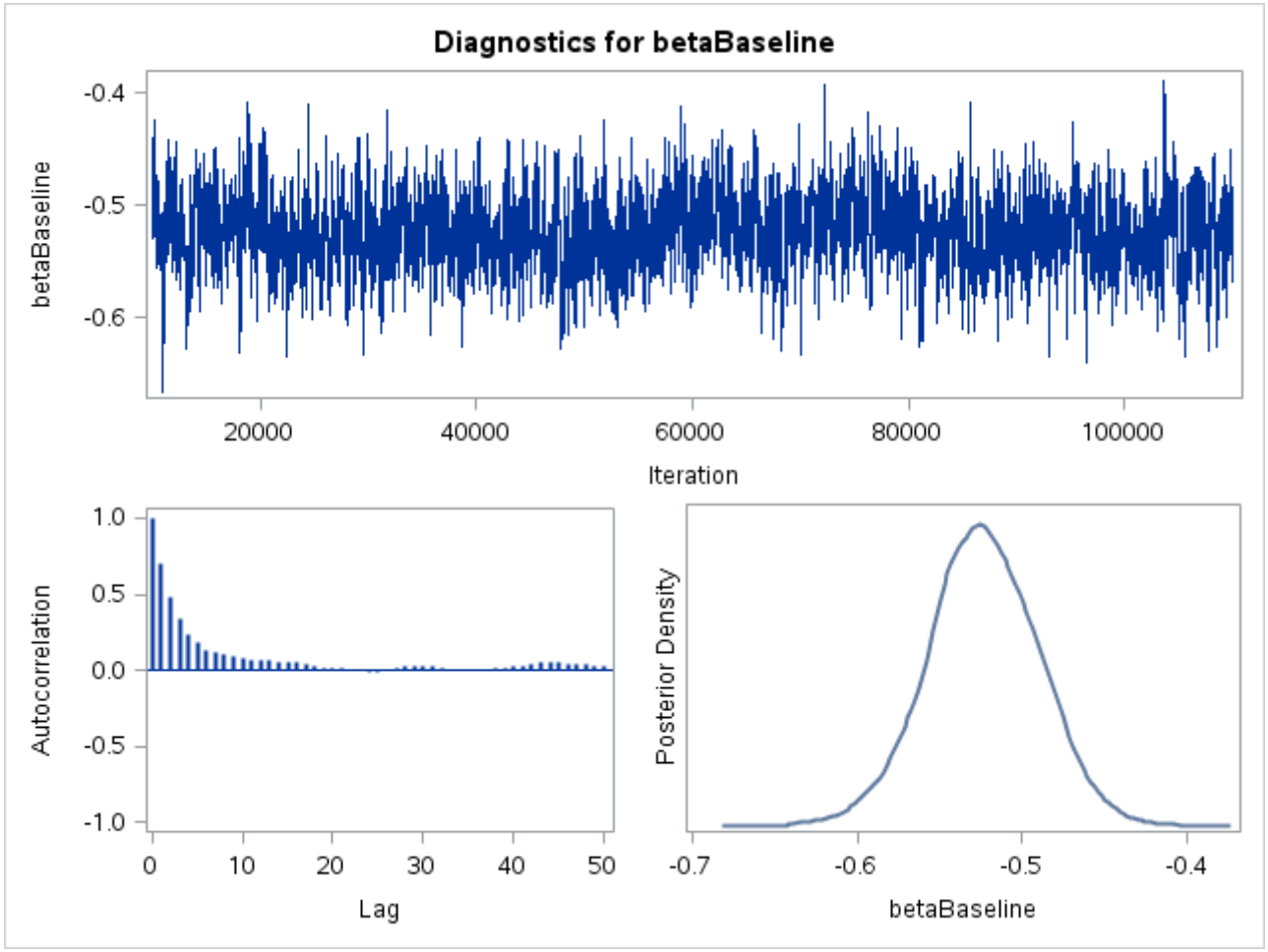
Geweke Diagnostics		
Parameter	z	Pr > |z|
betaBaseline	1.0714	0.2840
betaHASHV	1.3463	0.1782
betaincome	-0.2005	0.8411
betaBMI	0.6033	0.5463
betaSMOKE	0.7558	0.4498
betaDKGRP	-1.4564	0.1453
betaADH	1.4821	0.1383
betaRACE	0.9549	0.3396
betaEDUCBAS	1.1135	0.2655
betaage	0.9039	0.3660
betahard_drugs	1.7351	0.0827
sigma2	0.6862	0.4926

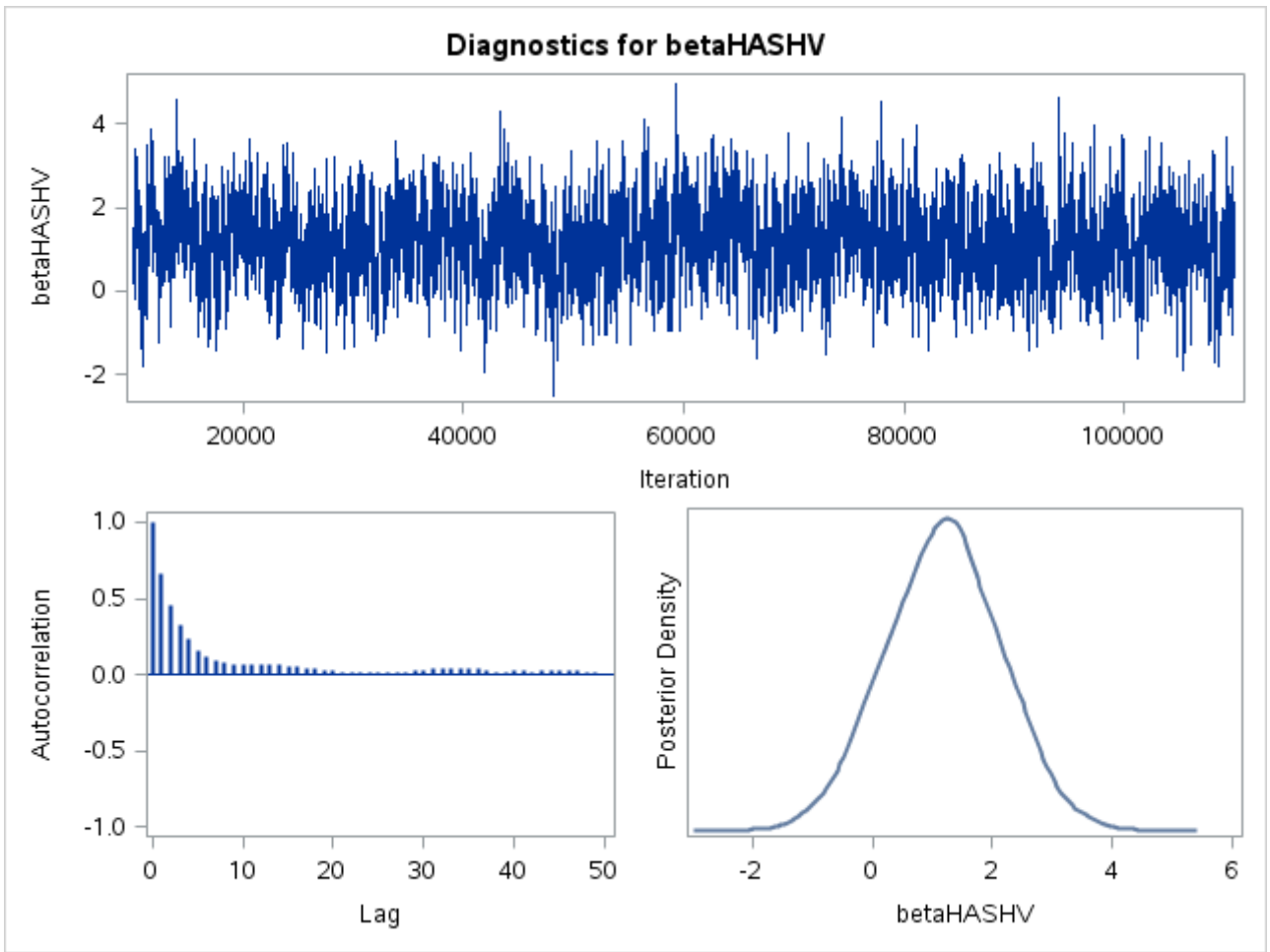
Deviance Information Criterion	
Dbar (posterior mean of deviance)	3442.603
Dmean (deviance evaluated at posterior mean)	3429.611
pD (effective number of parameters)	12.993
DIC (smaller is better)	3455.596

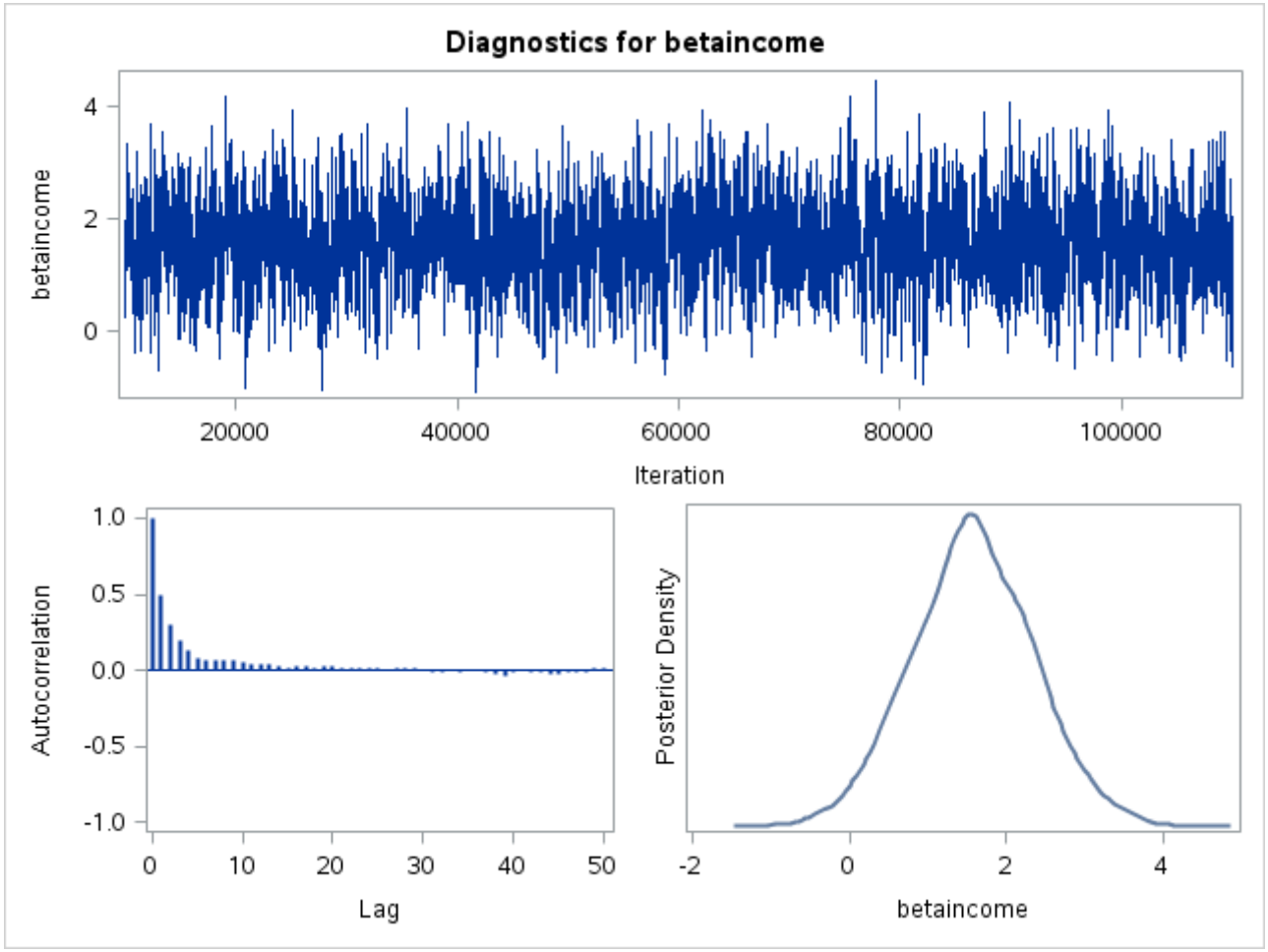
Model 1: Outcome AGG_MENT Full

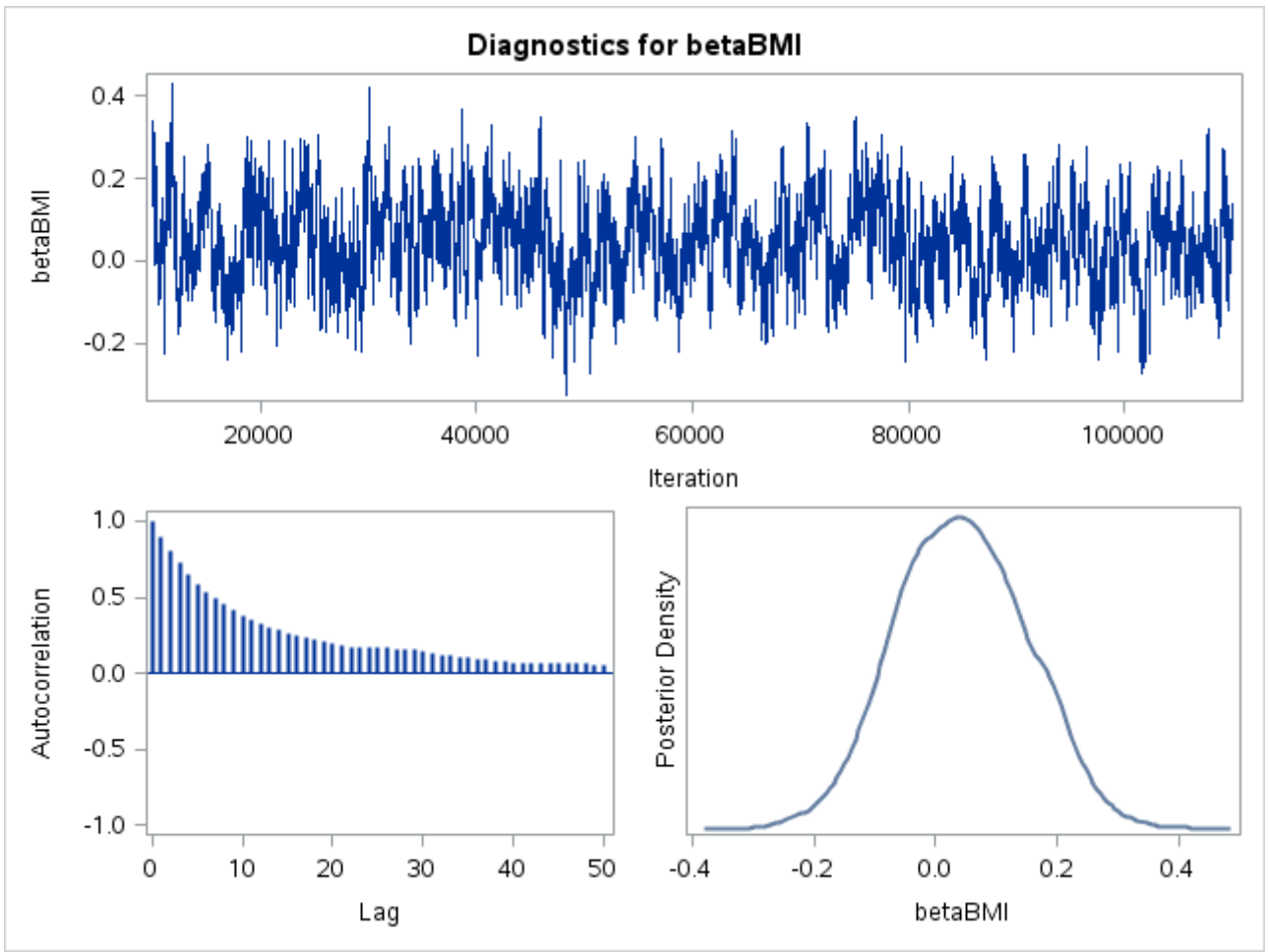
The MCMC Procedure

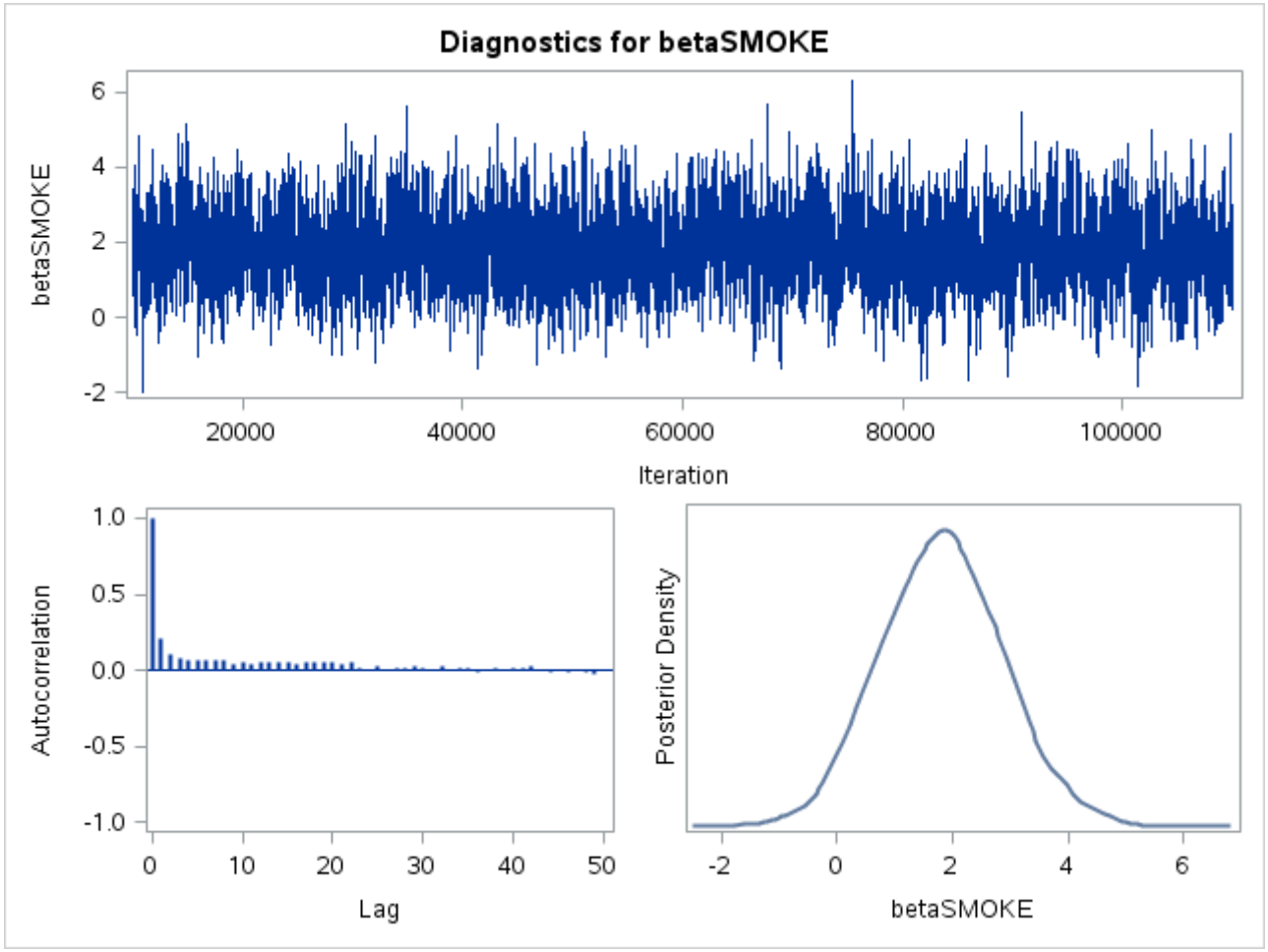


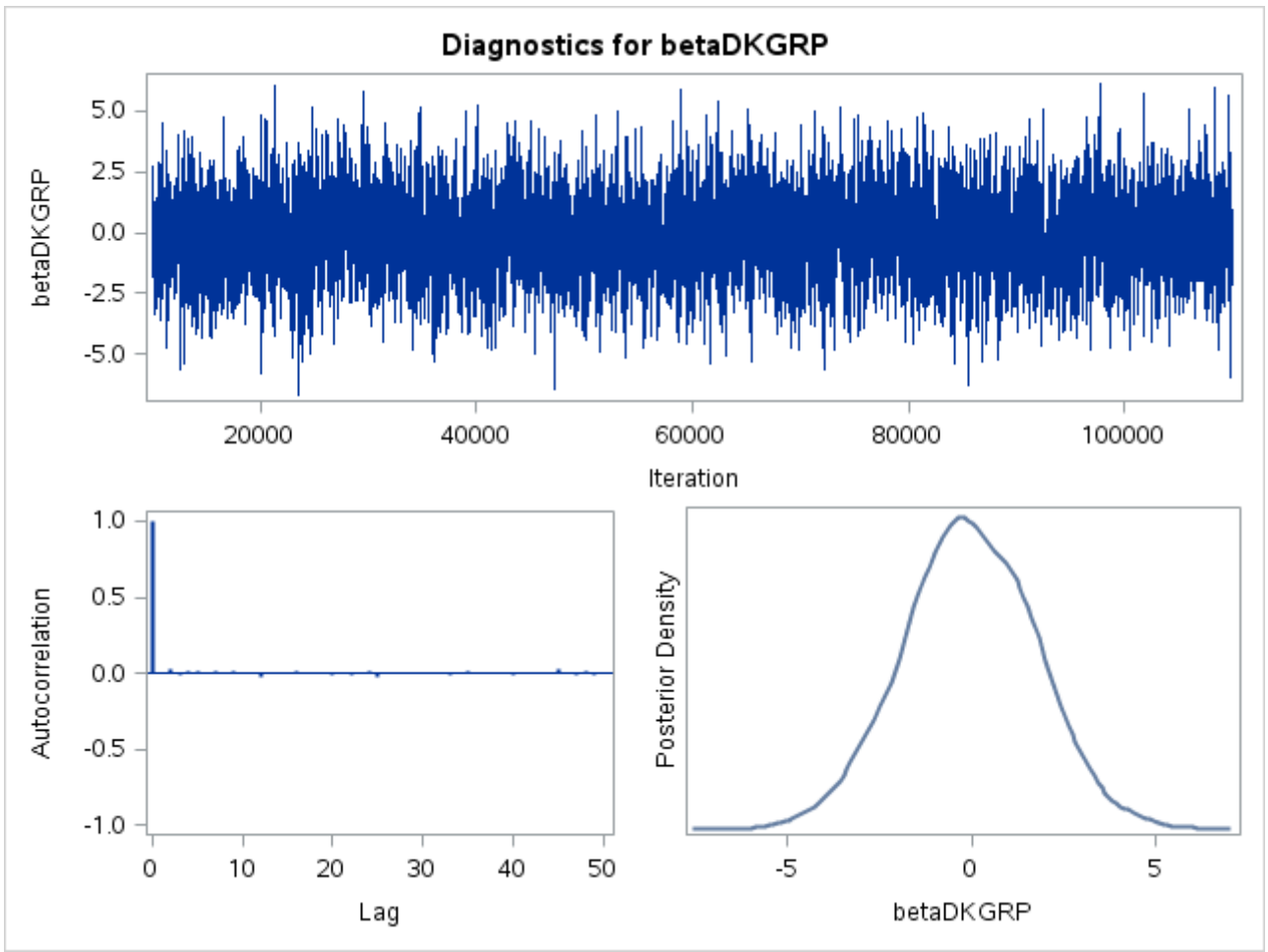

Diagnostics for betaBaseline
betaBaseline
-0.4
-0.5
-0.6
20000
40000
60000
80000
100000
Iteration
Autocorrelation
1.0
0.5
0.0
-0.5
-1.0
0
10
20
30
40
50
Lag
Posterior Density
-0.7
-0.6
-0.5
-0.4
betaBaseline

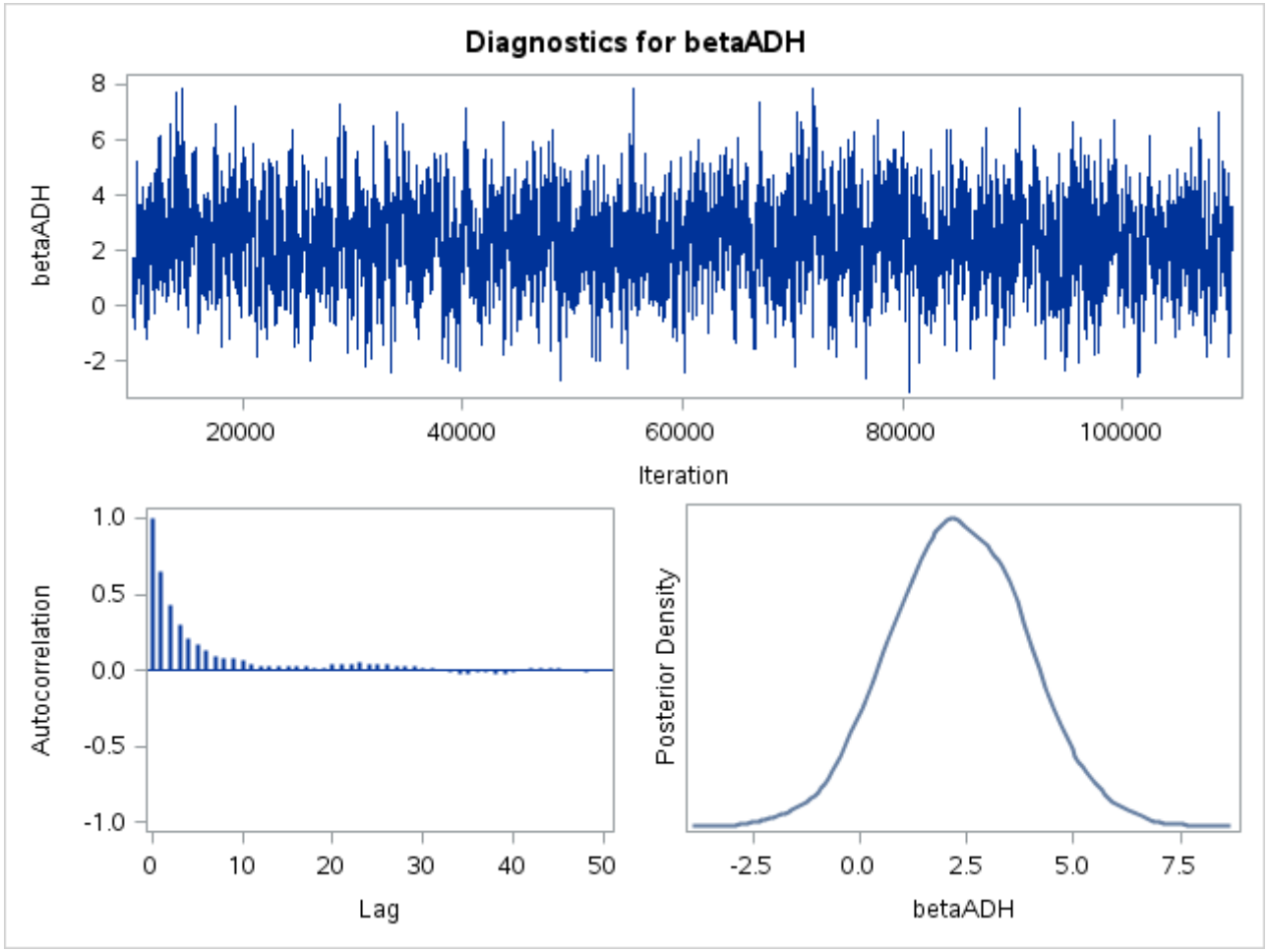

Diagnostics for betaHASHV
betaHASHV
4
2
0
-2
20000
40000
60000
80000
100000
Iteration
Autocorrelation
1.0
0.5
0.0
-0.5
-1.0
0
10
20
30
40
50
Lag
Posterior Density
-2
0
2
4
6
betaHASHV

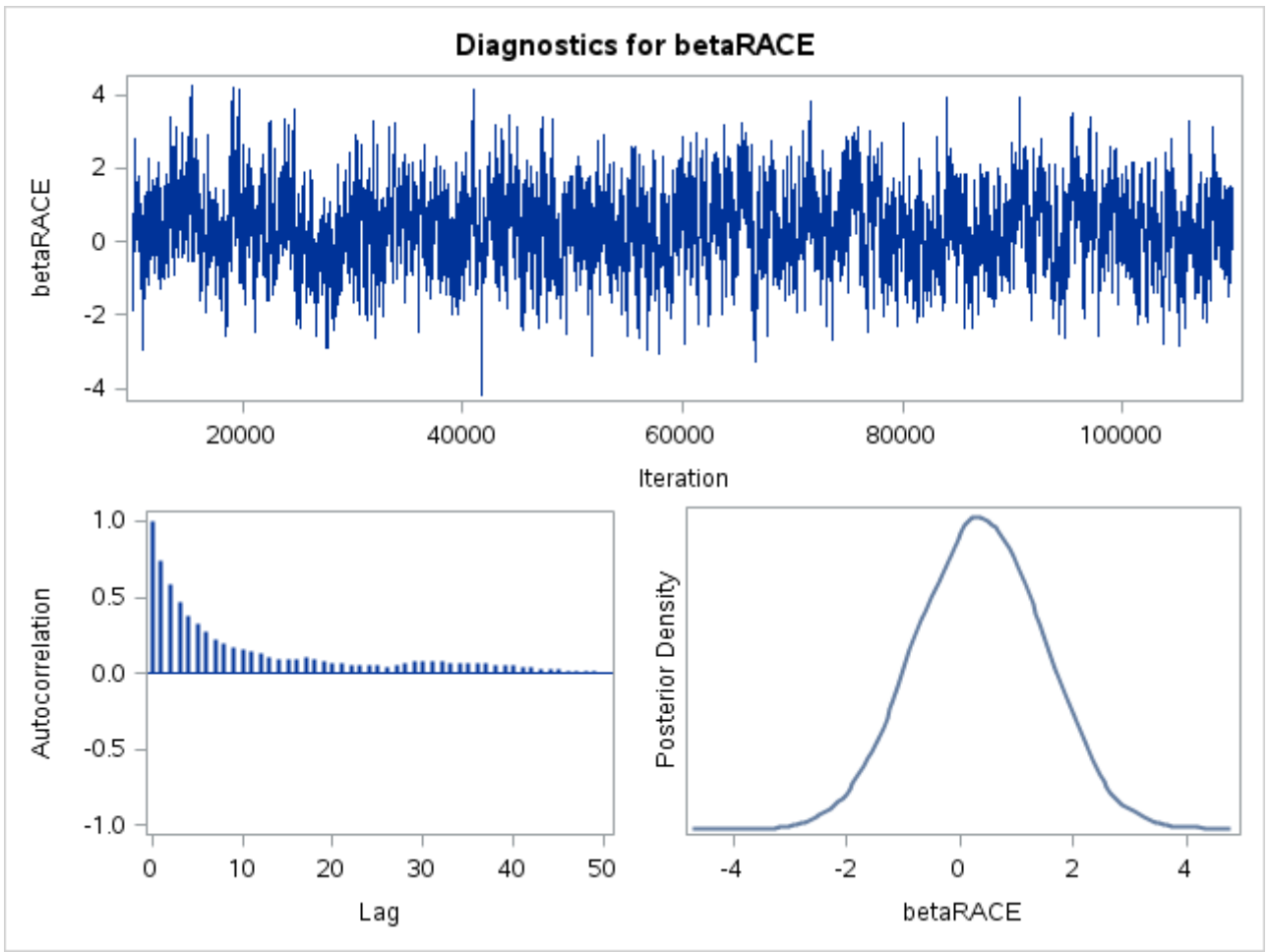

Diagnostics for betaincome
betaincome
4
2
0
20000
40000
60000
80000
100000
Iteration
Autocorrelation
1.0
0.5
0.0
-0.5
-1.0
0
10
20
30
40
50
Lag
Posterior Density
-2
0
2
4
betaincome

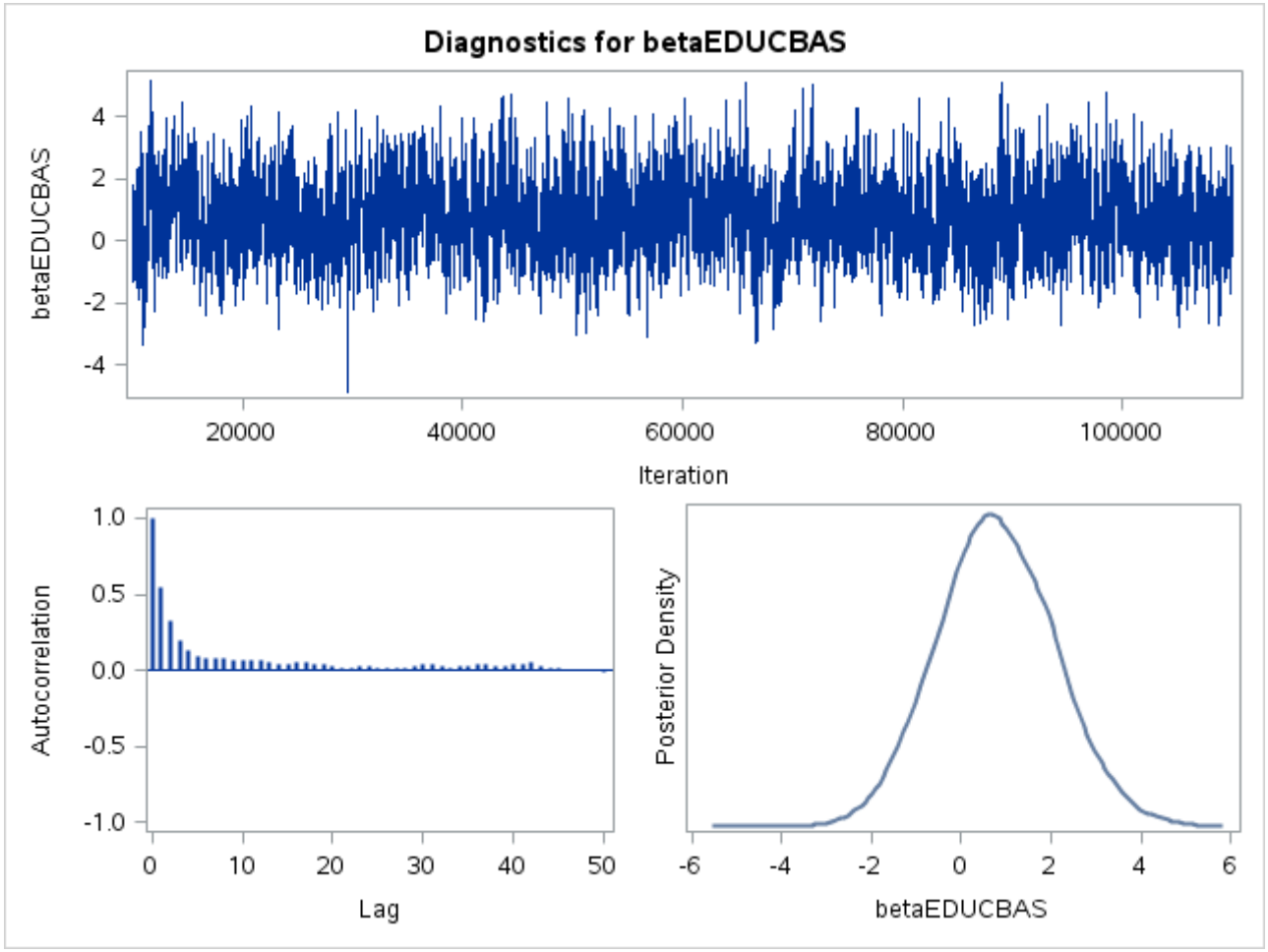

Diagnostics for betaBMI
betaBMI
0.4
0.2
0.0
-0.2
20000
40000
60000
80000
100000
Iteration
Autocorrelation
1.0
0.5
0.0
-0.5
-1.0
0
10
20
30
40
50
Lag
Posterior Density
-0.4
-0.2
0.0
0.2
0.4
betaBMI

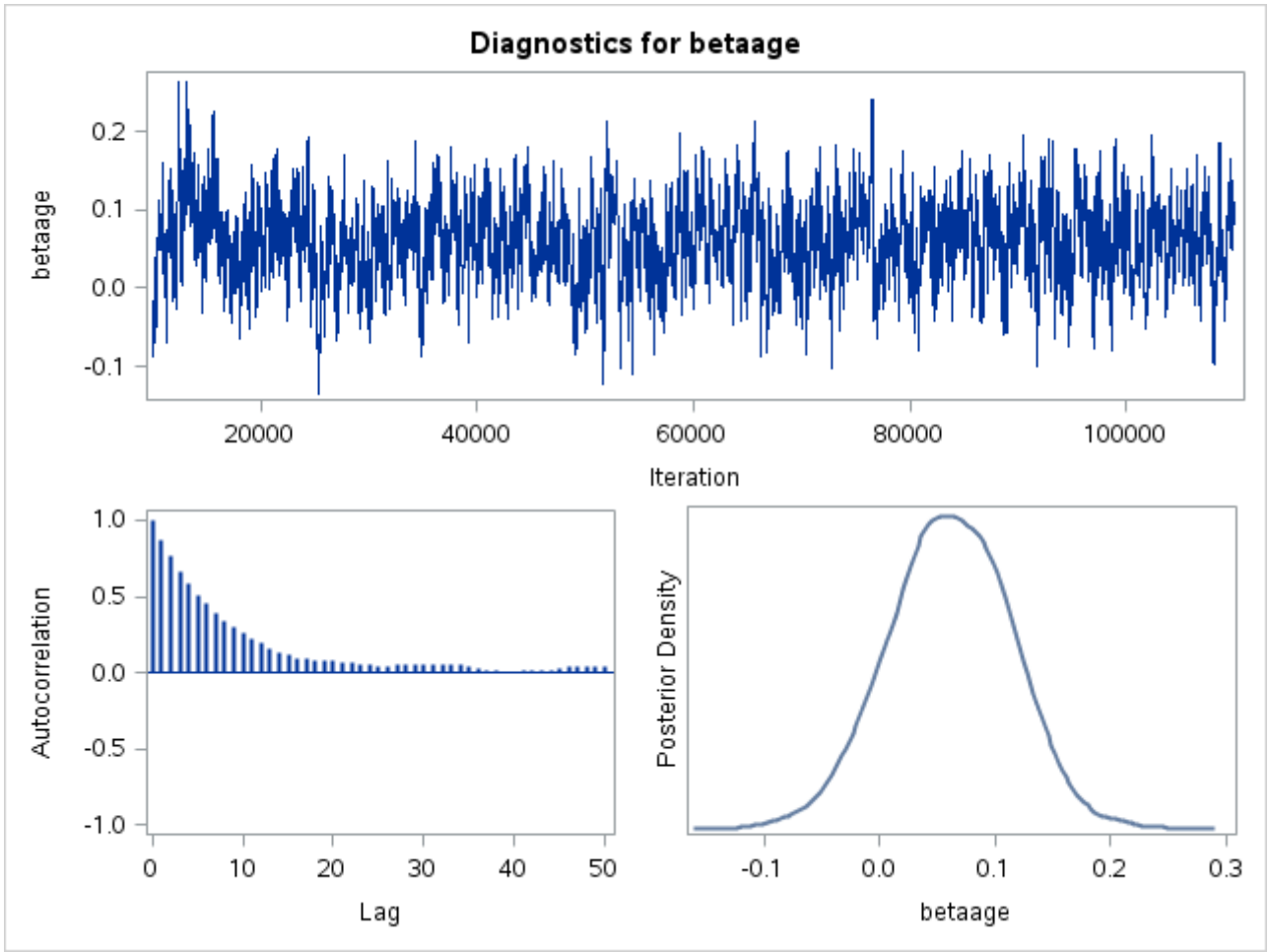

Diagnostics for betaSMOKE
betaSMOKE
6
4
2
0
-2
20000
40000
60000
80000
100000
Iteration
Autocorrelation
1.0
0.5
0.0
-0.5
-1.0
0
10
20
30
40
50
Lag
Posterior Density
-2
0
2
4
6
betaSMOKE

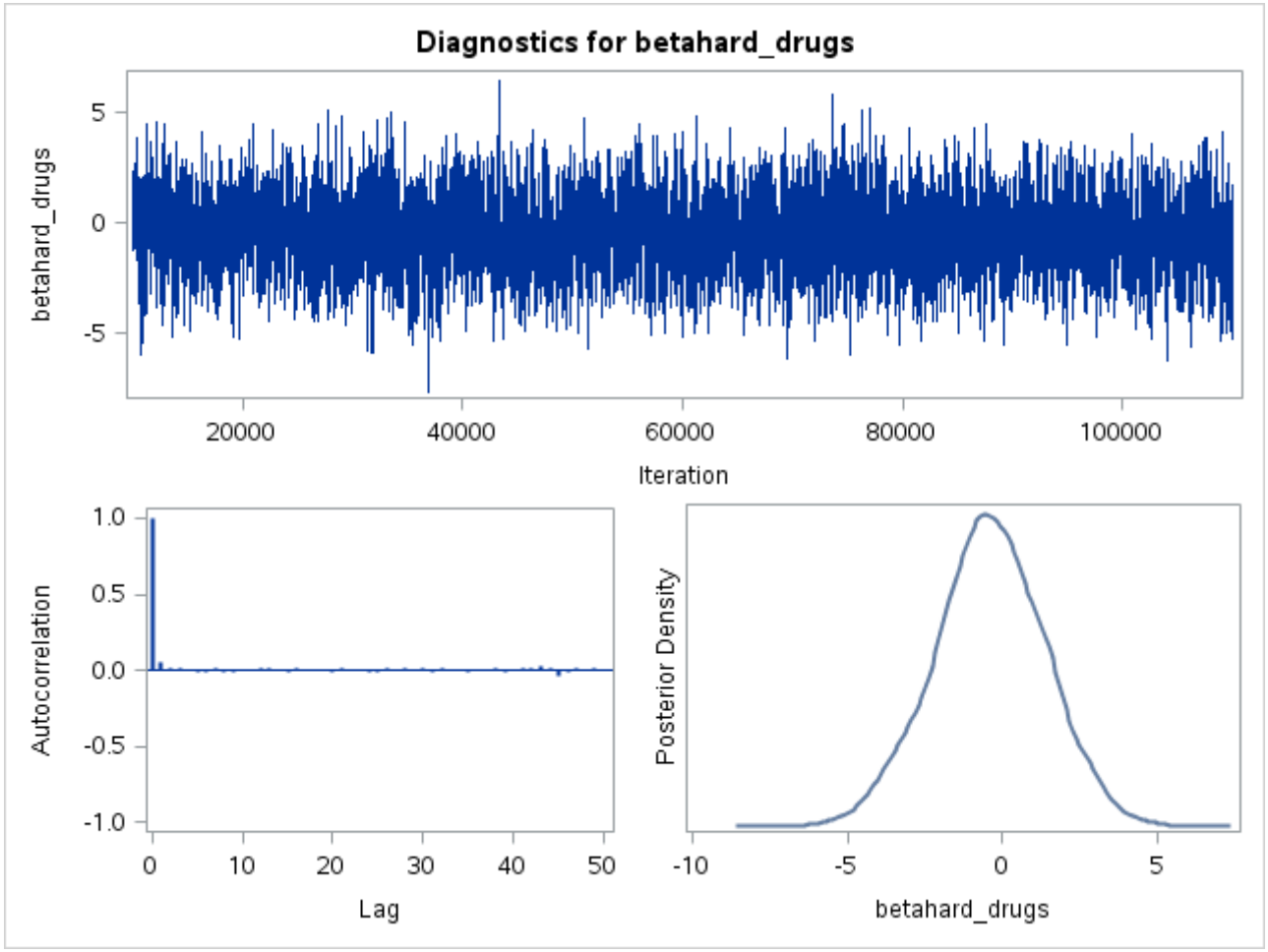

Diagnostics for betaDKGRP
betaDKGRP
5.0
2.5
0.0
-2.5
-5.0
20000
40000
60000
80000
100000
Iteration
Autocorrelation
1.0
0.5
0.0
-0.5
-1.0
0
10
20
30
40
50
Lag
Posterior Density
-5
0
5
betaDKGRP

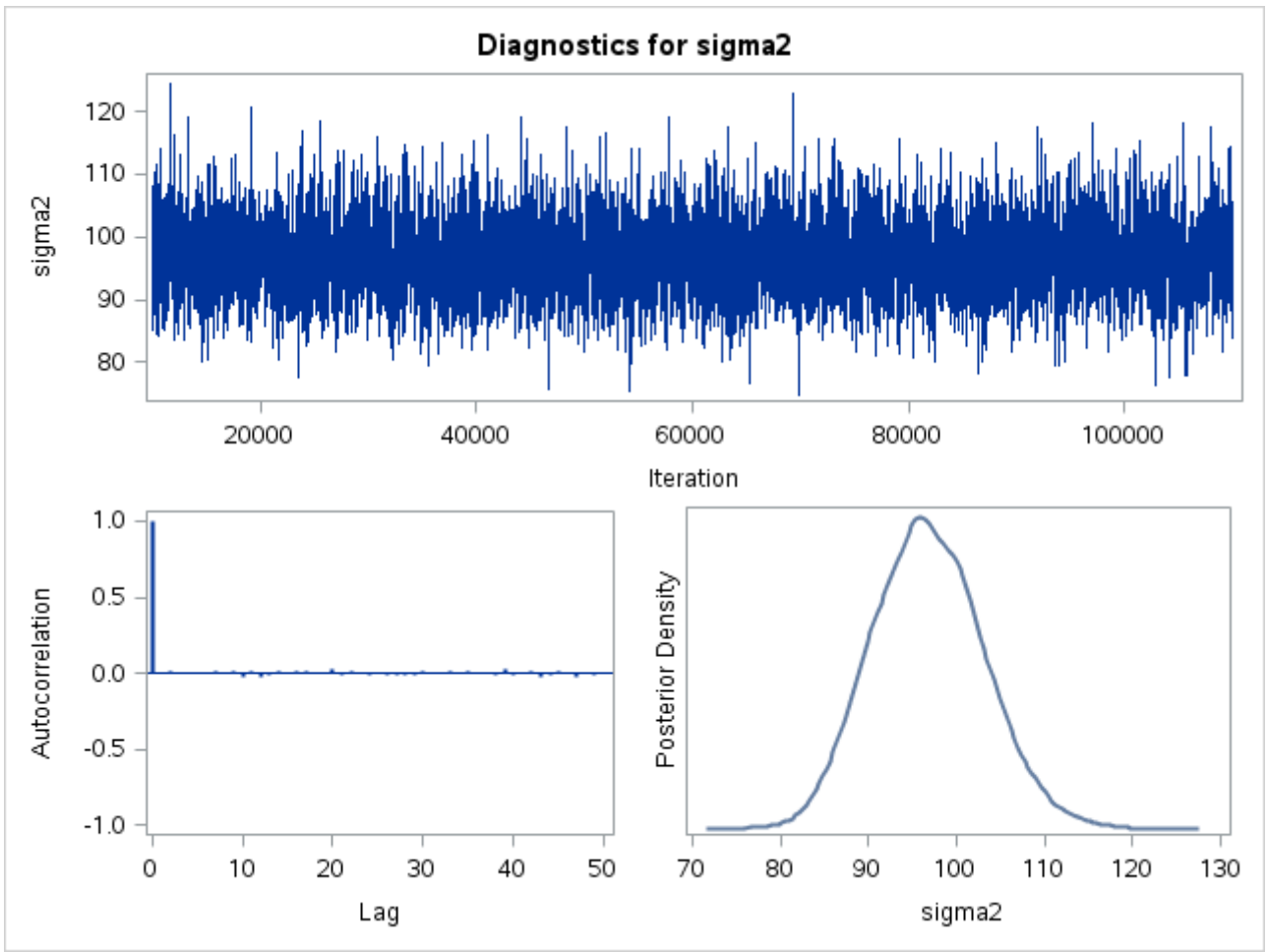

Diagnostics for betaADH
betaADH
8
6
4
2
0
-2
20000
40000
60000
80000
100000
Iteration
Autocorrelation
1.0
0.5
0.0
-0.5
-1.0
0
10
20
30
40
50
Lag
Posterior Density
-2.5
0.0
2.5
5.0
7.5
betaADH


Diagnostics for betaRACE
betaRACE
4
2
0
-2
-4
20000
40000
60000
80000
100000
Iteration
Autocorrelation
1.0
0.5
0.0
-0.5
-1.0
0
10
20
30
40
50
Lag
Posterior Density
-4
-2
0
2
4
betaRACE


Diagnostics for betaEDUCBAS
betaEDUCBAS
4
2
0
-2
-4
20000
40000
60000
80000
100000
Iteration
Autocorrelation
1.0
0.5
0.0
-0.5
-1.0
0
10
20
30
40
50
Lag
Posterior Density
-6
-4
-2
0
2
4
6
betaEDUCBAS


Diagnostics for betaage
betaage
0.2
0.1
0.0
-0.1
20000
40000
60000
80000
100000
Iteration
Autocorrelation
1.0
0.5
0.0
-0.5
-1.0
0
10
20
30
40
50
Lag
Posterior Density
-0.1
0.0
0.1
0.2
0.3
betaage


Diagnostics for betahard_drugs
betahard_drugs
5
0
-5
20000
40000
60000
80000
100000
Iteration
Autocorrelation
1.0
0.5
0.0
-0.5
-1.0
0
10
20
30
40
50
Lag
Posterior Density
-10
-5
0
5
betahard_drugs


Diagnostics for sigma2
sigma2
120
110
100
90
80
20000
40000
60000
80000
100000
Iteration
Autocorrelation
1.0
0.5
0.0
-0.5
-1.0
0
10
20
30
40
50
Lag
Posterior Density
70
80
90
100
110
120
130
sigma2

Model 1: Outcome AGG_PHYS Crude

The MCMC Procedure

Number of Observations Read	506
Number of Observations Used	499

Parameters				
Block	Parameter	Sampling Method	Initial Value	Prior Distribution
1	betaInt	N-Metropolis	0	normal(mean = 0, var = 1000)
2	betaBaseline	N-Metropolis	0	normal(mean = 0, var = 1000)
3	betahard_drugs	N-Metropolis	0	normal(mean = 0, var = 1000)
4	sigma2	Conjugate	1.0000	igamma(shape=2.001,scale=1.001)

Model 1: Outcome AGG_PHYS Crude

The MCMC Procedure

Posterior Summaries and Intervals					
Parameter	N	Mean	Standard Deviation	95% HPD Interval	
betaInt	6667	14.2683	2.0150	10.3834	18.0993
betaBaseline	6667	-0.3064	0.0387	-0.3796	-0.2306
betahard_drugs	6667	-3.5037	1.3329	-6.1300	-0.9406
sigma2	6667	63.1894	3.9662	55.1079	70.4914

Model 1: Outcome AGG_PHYS Crude

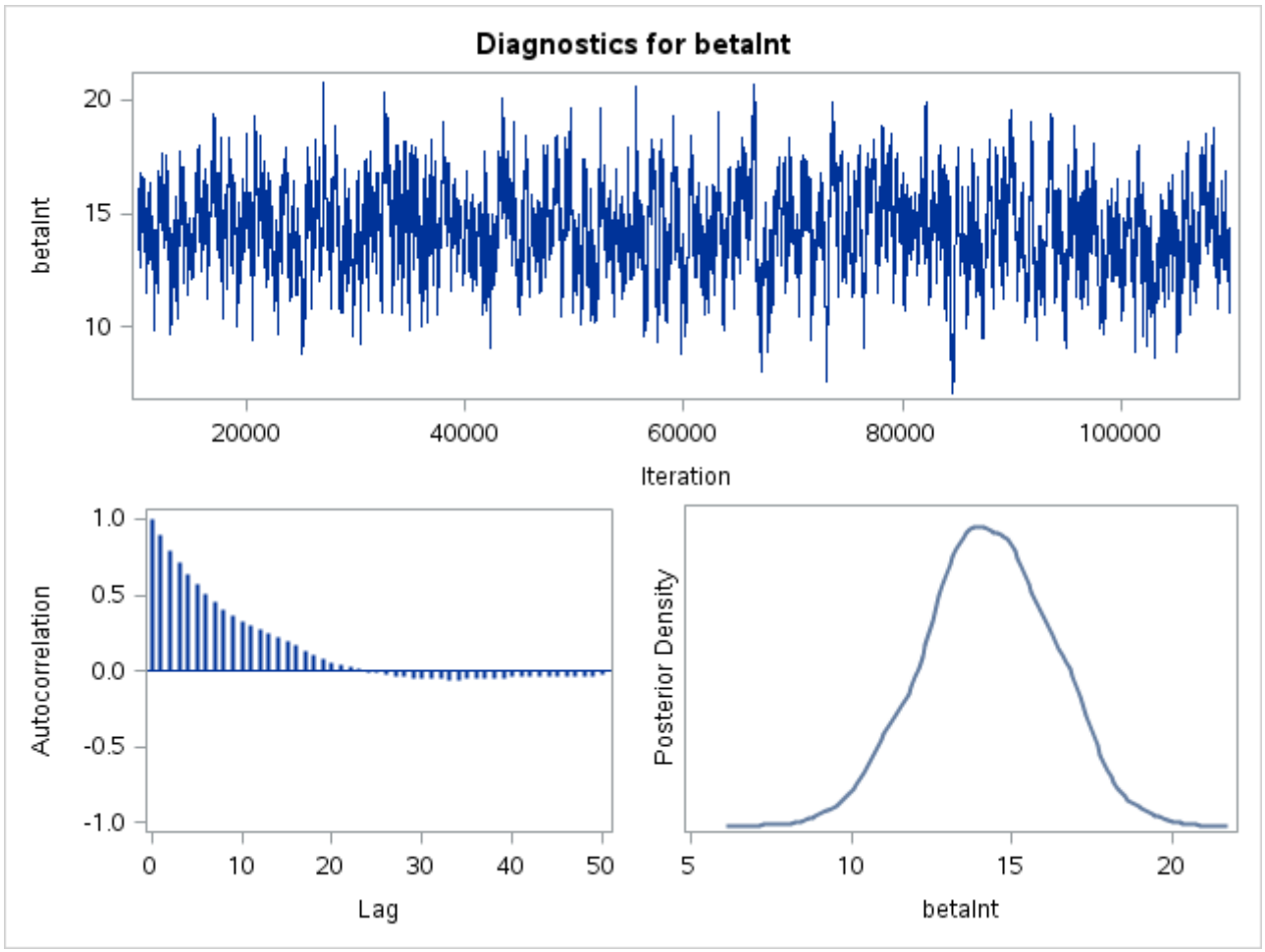
The MCMC Procedure

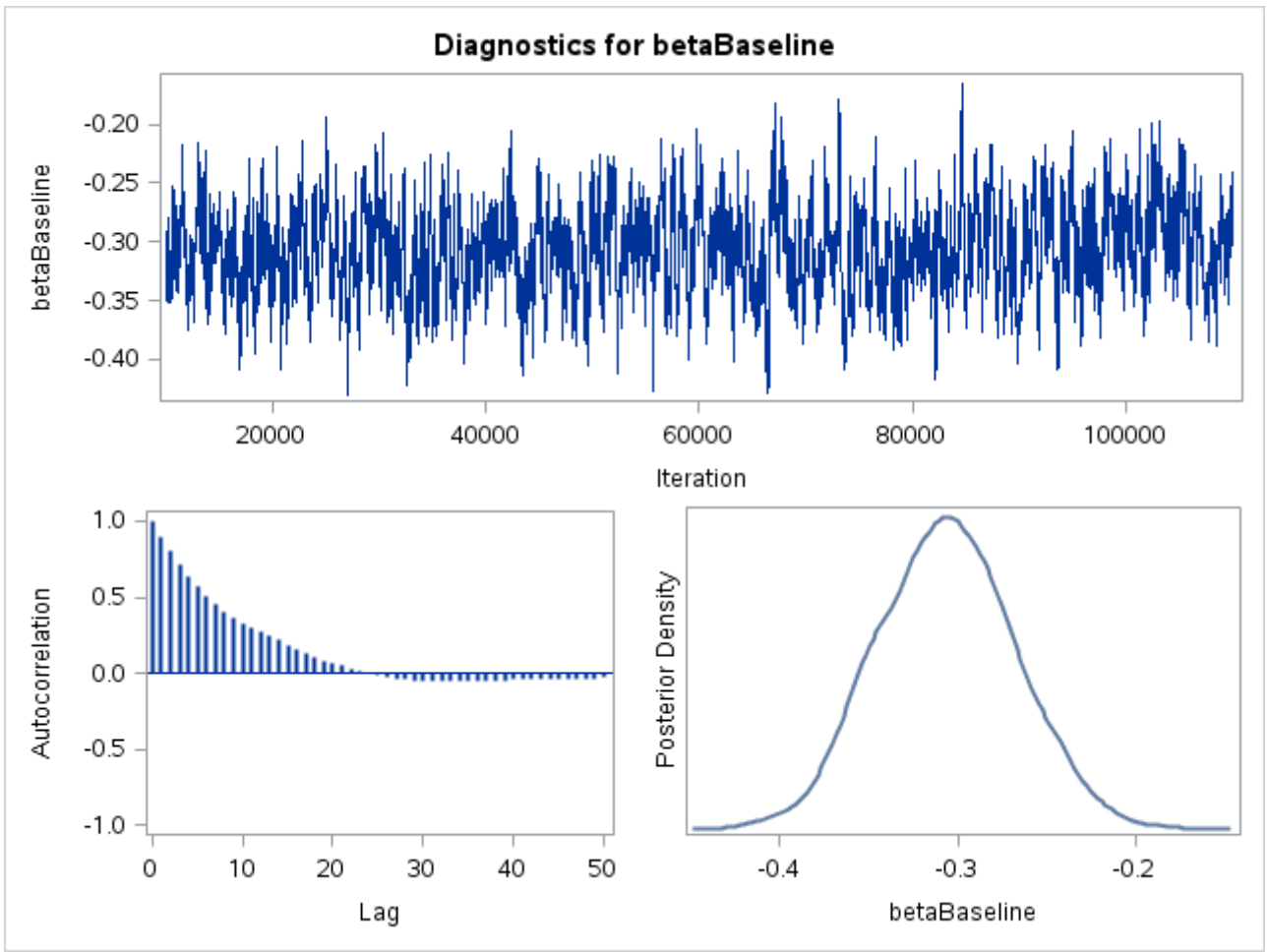
Geweke Diagnostics		
Parameter	z	Pr > |z|
betaInt	1.0562	0.2909
betaBaseline	-1.0844	0.2782
betahard_drugs	-0.0887	0.9293
sigma2	-1.5904	0.1118

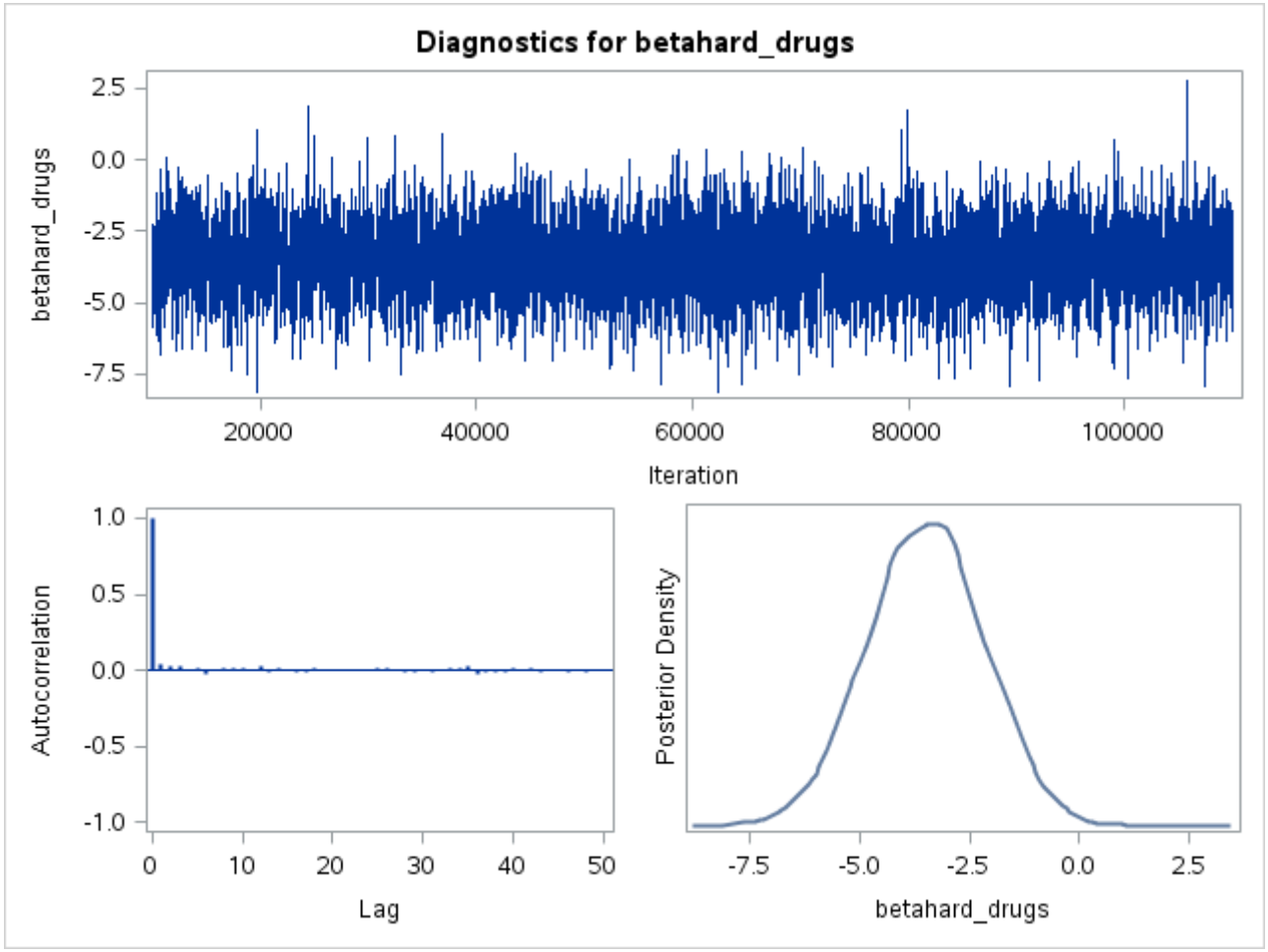
Deviance Information Criterion	
Dbar (posterior mean of deviance)	3487.904
Dmean (deviance evaluated at posterior mean)	3483.974
pD (effective number of parameters)	3.930
DIC (smaller is better)	3491.834

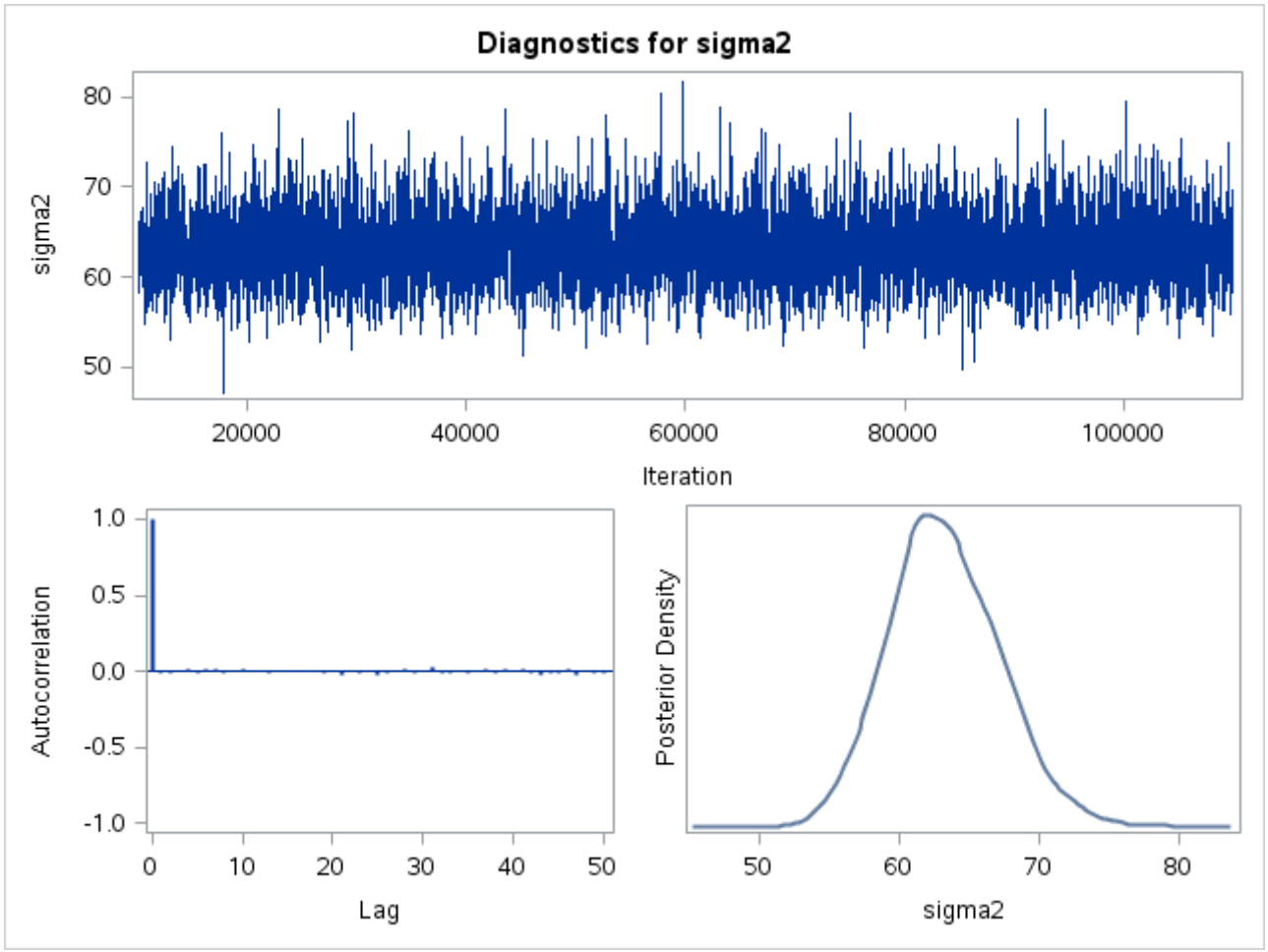
Model 1: Outcome AGG_PHYS Crude

The MCMC Procedure


Diagnostics for betaInt
betaInt
20
15
10
20000
40000
60000
80000
100000
Iteration
Autocorrelation
1.0
0.5
0.0
-0.5
-1.0
0
10
20
30
40
50
Lag
Posterior Density
5
10
15
20
betaInt


Diagnostics for betaBaseline
betaBaseline
-0.20
-0.25
-0.30
-0.35
-0.40
20000
40000
60000
80000
100000
Iteration
Autocorrelation
1.0
0.5
0.0
-0.5
-1.0
0
10
20
30
40
50
Lag
Posterior Density
-0.4
-0.3
-0.2
betaBaseline


Diagnostics for betahard_drugs
betahard_drugs
2.5
0.0
-2.5
-5.0
-7.5
20000
40000
60000
80000
100000
Iteration
Autocorrelation
1.0
0.5
0.0
-0.5
-1.0
0
10
20
30
40
50
Lag
Posterior Density
-7.5
-5.0
-2.5
0.0
2.5
betahard_drugs


Diagnostics for sigma2
sigma2
80
70
60
50
20000
40000
60000
80000
100000
Iteration
Autocorrelation
1.0
0.5
0.0
-0.5
-1.0
0
10
20
30
40
50
Lag
Posterior Density
50
60
70
80
sigma2

Model 1: Outcome AGG_PHYS Full

The MCMC Procedure

Number of Observations Read	506
Number of Observations Used	464

Parameters				
Block	Parameter	Sampling Method	Initial Value	Prior Distribution
1	betaInt	N-Metropolis	0	normal(mean = 0, var = 1000)
2	betaBaseline	N-Metropolis	0	normal(mean = 0, var = 1000)
3	betaHASHV	N-Metropolis	0	normal(mean = 0, var = 1000)
4	betaincome	N-Metropolis	0	normal(mean = 0, var = 1000)
5	betaBMI	N-Metropolis	0	normal(mean = 0, var = 10000)
6	betaSMOKE	N-Metropolis	0	normal(mean = 0, var = 1000)
7	betaDKGRP	N-Metropolis	0	normal(mean = 0, var = 1000)
8	betaADH	N-Metropolis	0	normal(mean = 0, var = 1000)
9	betaRACE	N-Metropolis	0	normal(mean = 0, var = 1000)
10	betaEDUCBAS	N-Metropolis	0	normal(mean = 0, var = 1000)
11	betaage	N-Metropolis	0	normal(mean = 0, var = 10000)
12	betahard_drugs	N-Metropolis	0	normal(mean = 0, var = 1000)
13	sigma2	Conjugate	1.0000	igamma(shape=2.001,scale=1.001)

Model 1: Outcome AGG_PHYS Full

The MCMC Procedure

Posterior Summaries and Intervals					
Parameter	N	Mean	Standard Deviation	95% HPD Interval	
betaInt	6667	11.8720	4.3223	3.6872	20.7491
betaBaseline	6667	-0.3137	0.0455	-0.3991	-0.2209
betaHASHV	6667	0.3583	0.7479	-1.0885	1.8139
betaincome	6667	1.2267	0.6118	0.0599	2.4411
betaBMI	6667	0.0573	0.0841	-0.1064	0.2207
betaSMOKE	6667	-0.7675	0.8273	-2.3297	0.9131
betaDKGRP	6667	-0.8176	1.4074	-3.6785	1.8413
betaADH	6667	1.6945	1.2670	-0.7716	4.1584
betaRACE	6667	1.2948	0.8535	-0.4461	2.9076
betaEDUCBAS	6667	1.3326	1.0246	-0.6951	3.3153
betaage	6667	-0.1071	0.0433	-0.1941	-0.0226
betahard_drugs	6667	-3.2426	1.3923	-5.9715	-0.5149
sigma2	6667	60.2560	3.9991	52.8538	68.4168

Model 1: Outcome AGG_PHYS Full

The MCMC Procedure

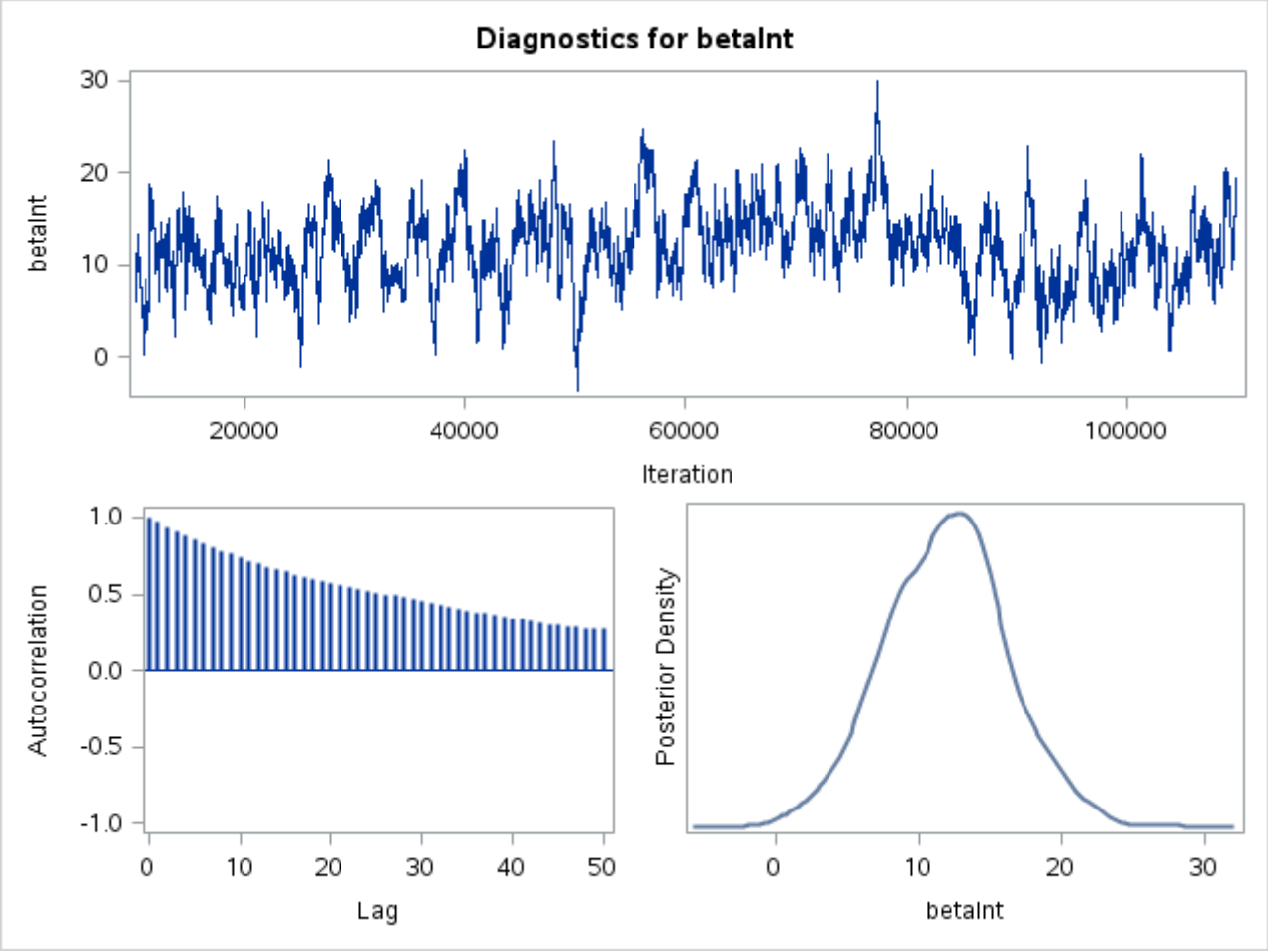
Geweke Diagnostics		
Parameter	z	Pr > |z|
betaInt	-2.6921	0.0071

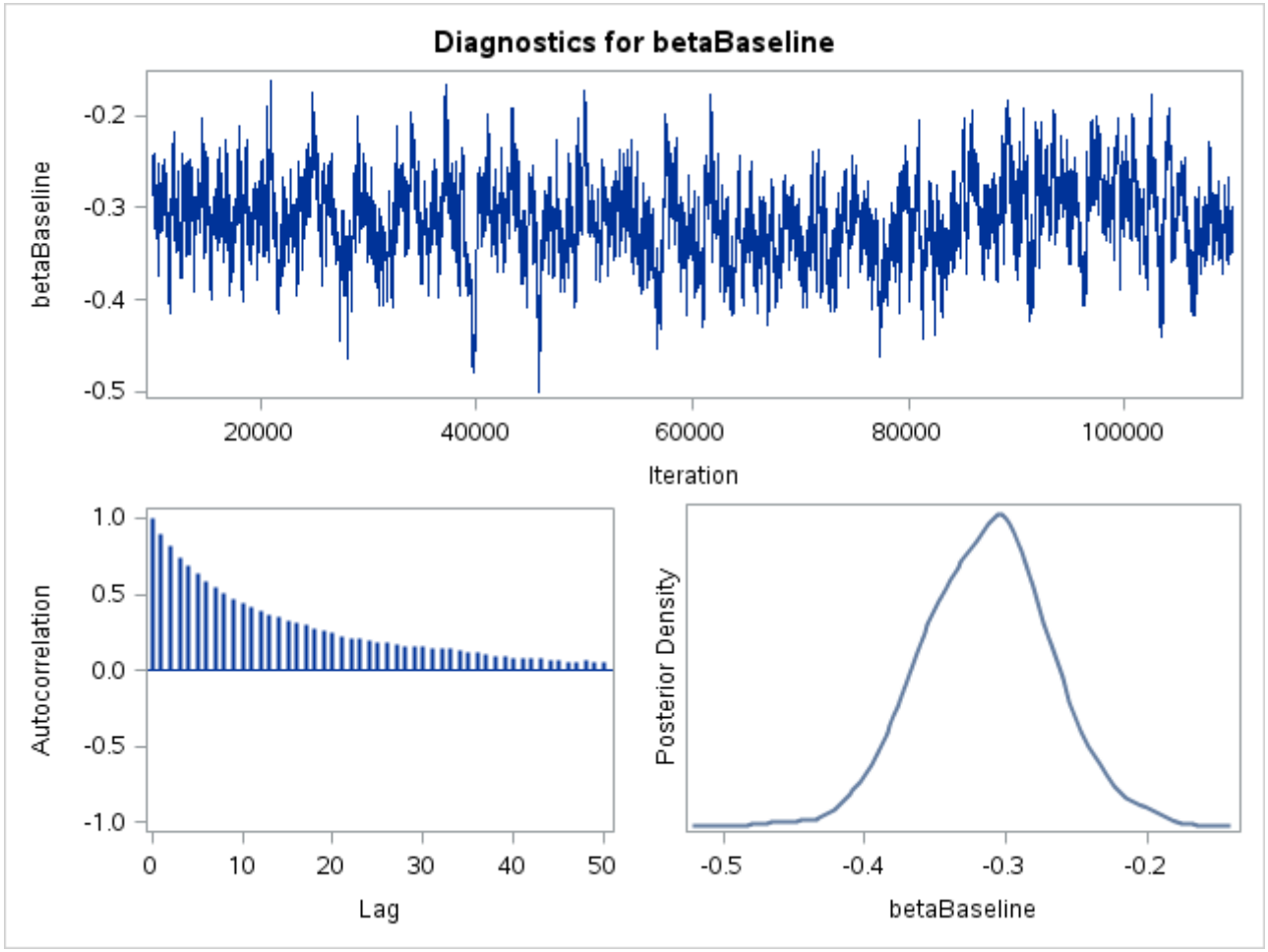
Geweke Diagnostics		
Parameter	z	Pr > |z|
betaBaseline	1.7100	0.0873
betaHASHV	0.5882	0.5564
betaincome	0.1931	0.8469
betaBMI	2.7308	0.0063
betaSMOKE	1.5596	0.1189
betaDKGRP	-0.1697	0.8652
betaADH	-0.8125	0.4165
betaRACE	1.3924	0.1638
betaEDUCBAS	1.4423	0.1492
betaage	0.5674	0.5705
betahard_drugs	1.9557	0.0505
sigma2	0.1472	0.8830

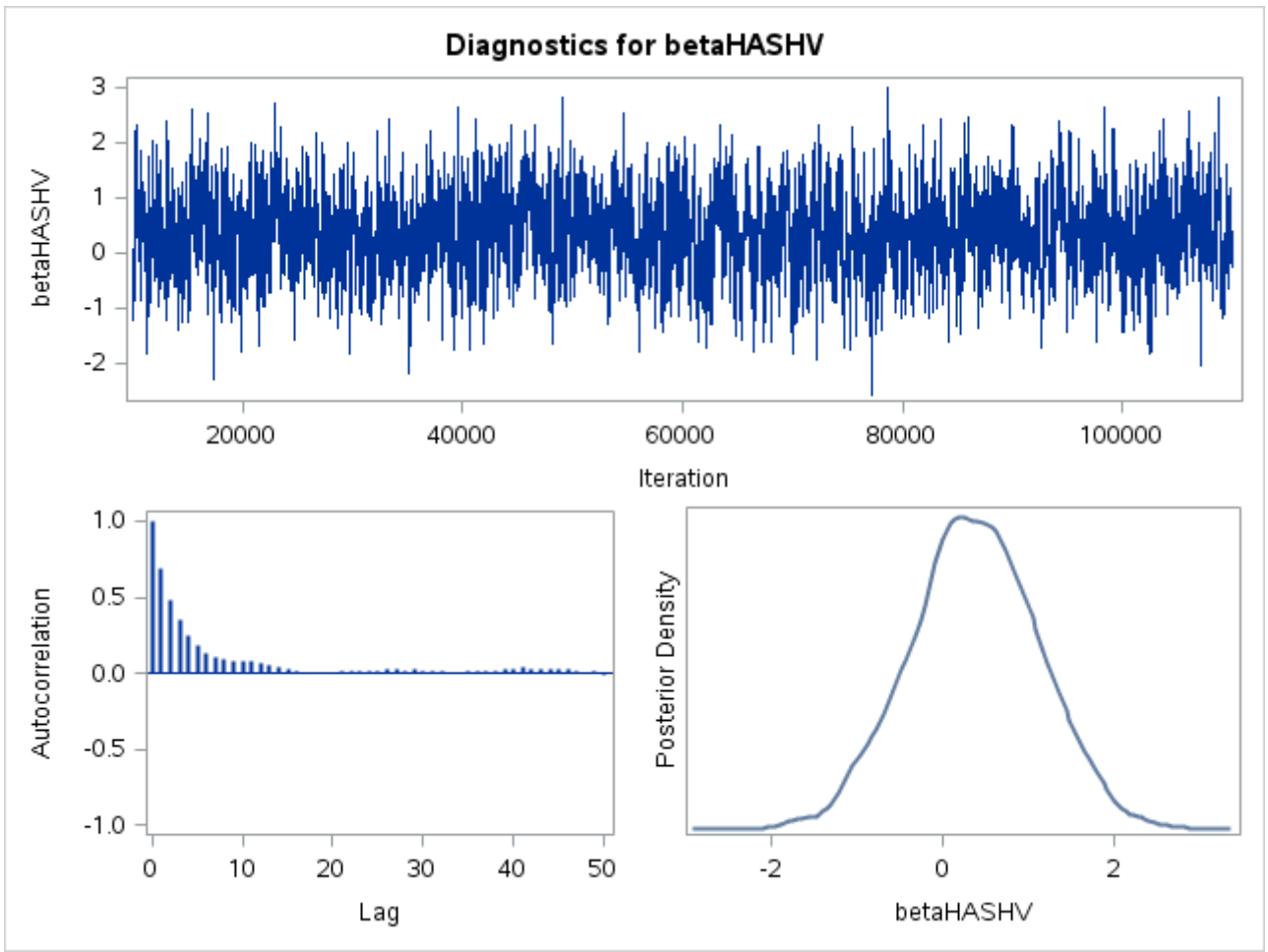
Deviance Information Criterion	
Dbar (posterior mean of deviance)	3220.997
Dmean (deviance evaluated at posterior mean)	3208.093
pD (effective number of parameters)	12.904
DIC (smaller is better)	3233.901

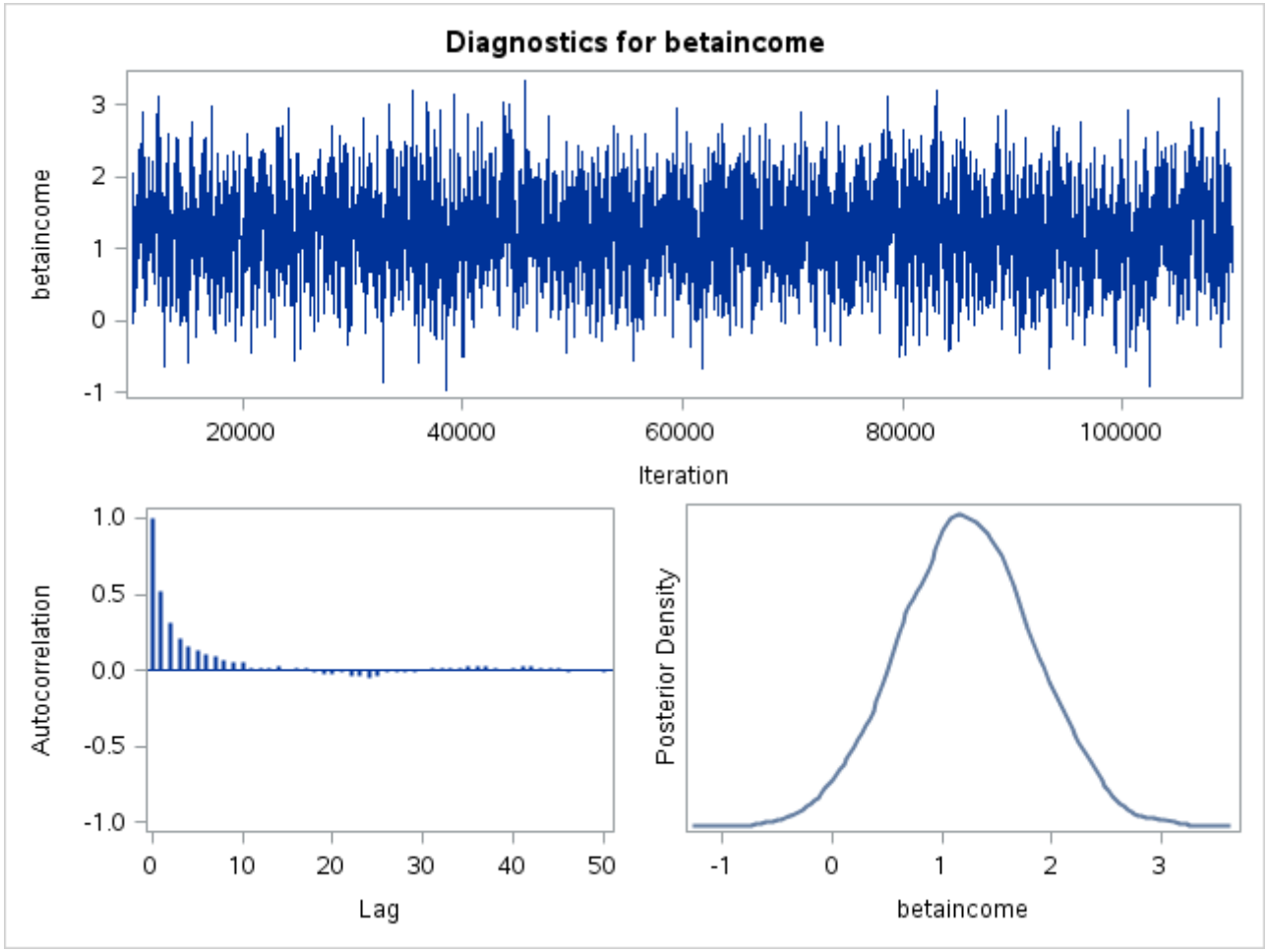
Model 1: Outcome AGG_PHYS Full

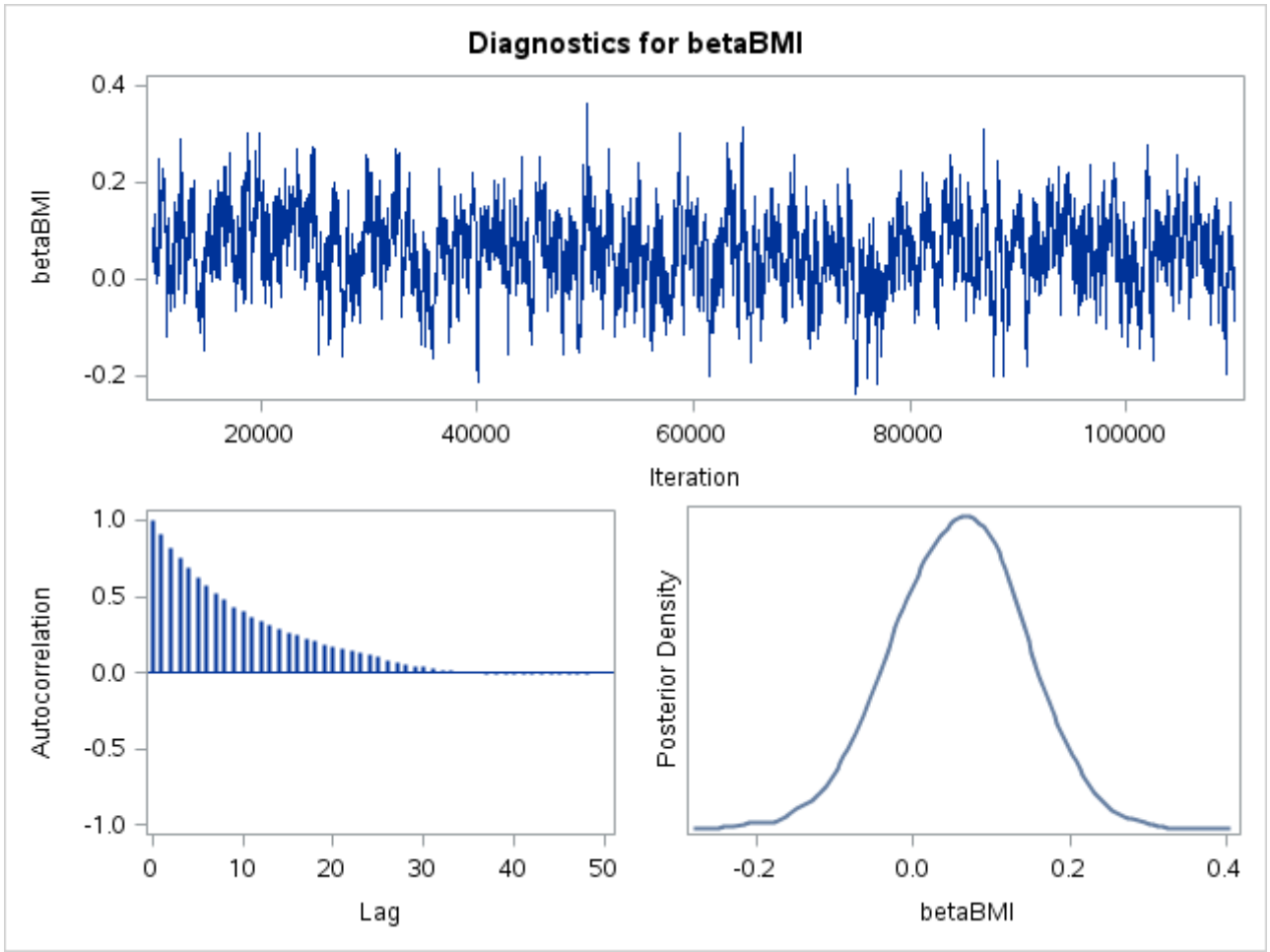
The MCMC Procedure

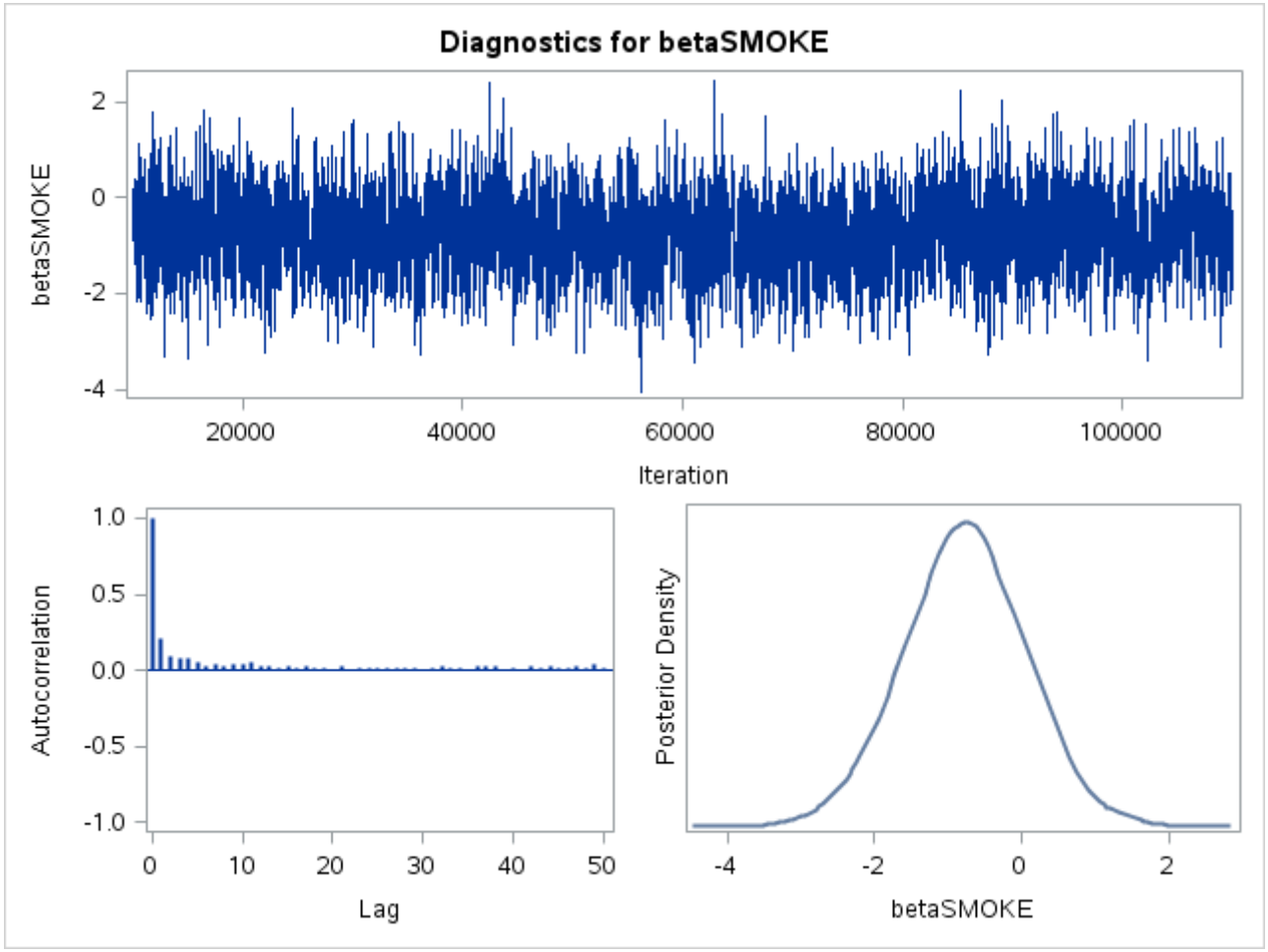


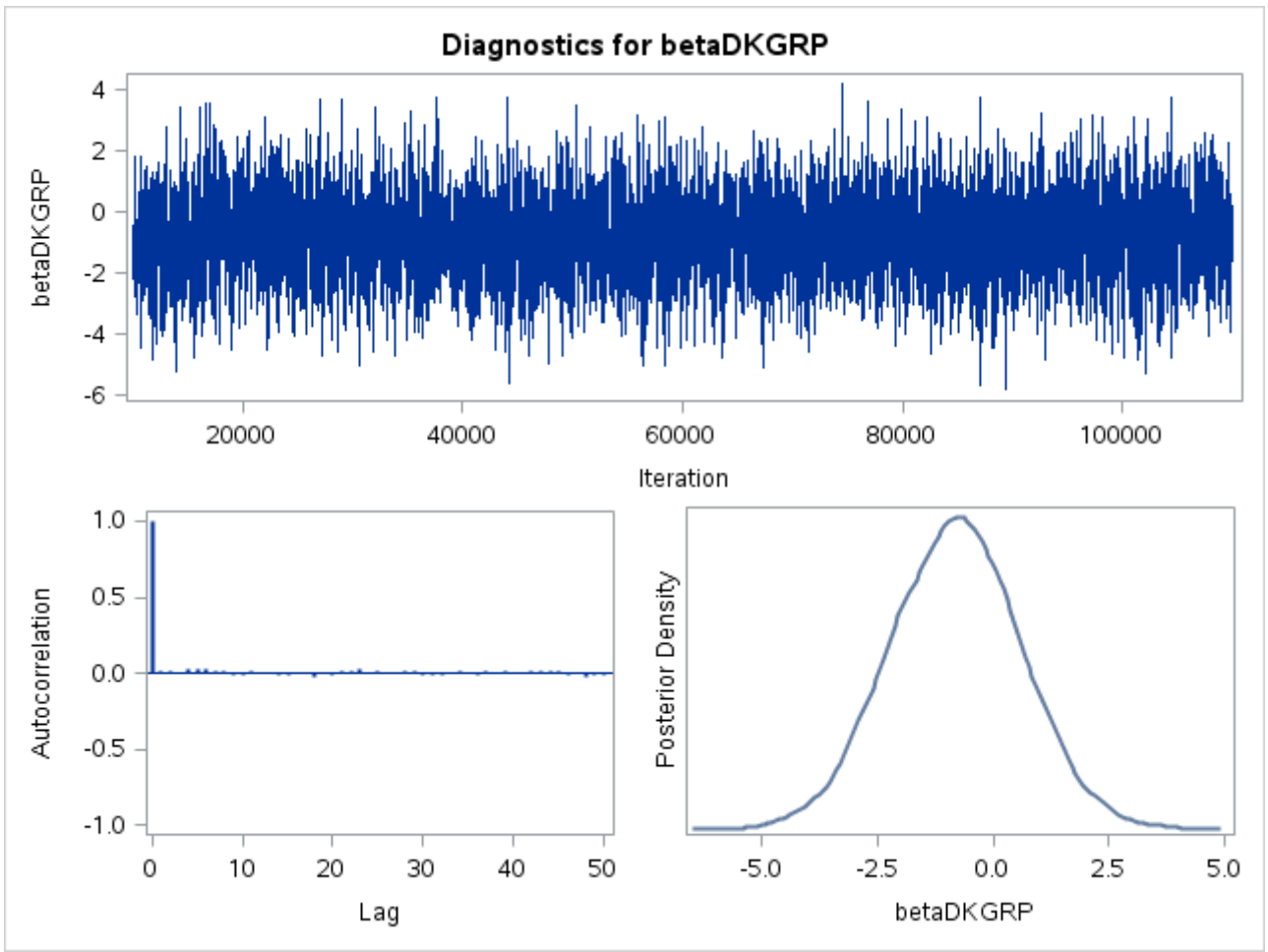

Diagnostics for betaBaseline
betaBaseline
-0.2
-0.3
-0.4
-0.5
20000
40000
60000
80000
100000
Iteration
Autocorrelation
1.0
0.5
0.0
-0.5
-1.0
0
10
20
30
40
50
Lag
Posterior Density
-0.5
-0.4
-0.3
-0.2
betaBaseline

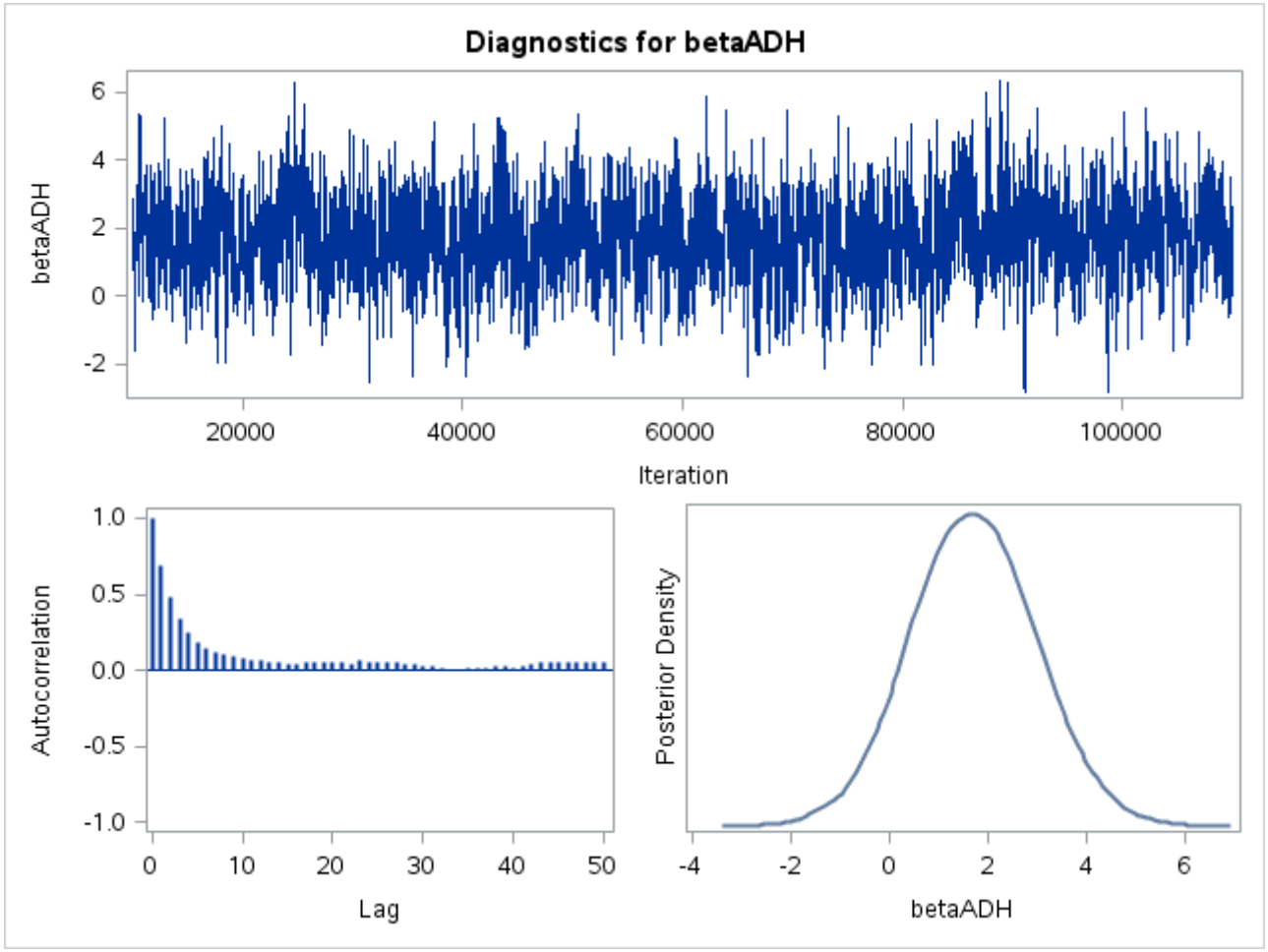

Diagnostics for betaHASHV
betaHASHV
3
2
1
0
-1
-2
20000
40000
60000
80000
100000
Iteration
Autocorrelation
1.0
0.5
0.0
-0.5
-1.0
0
10
20
30
40
50
Lag
Posterior Density
-2
0
2
betaHASHV

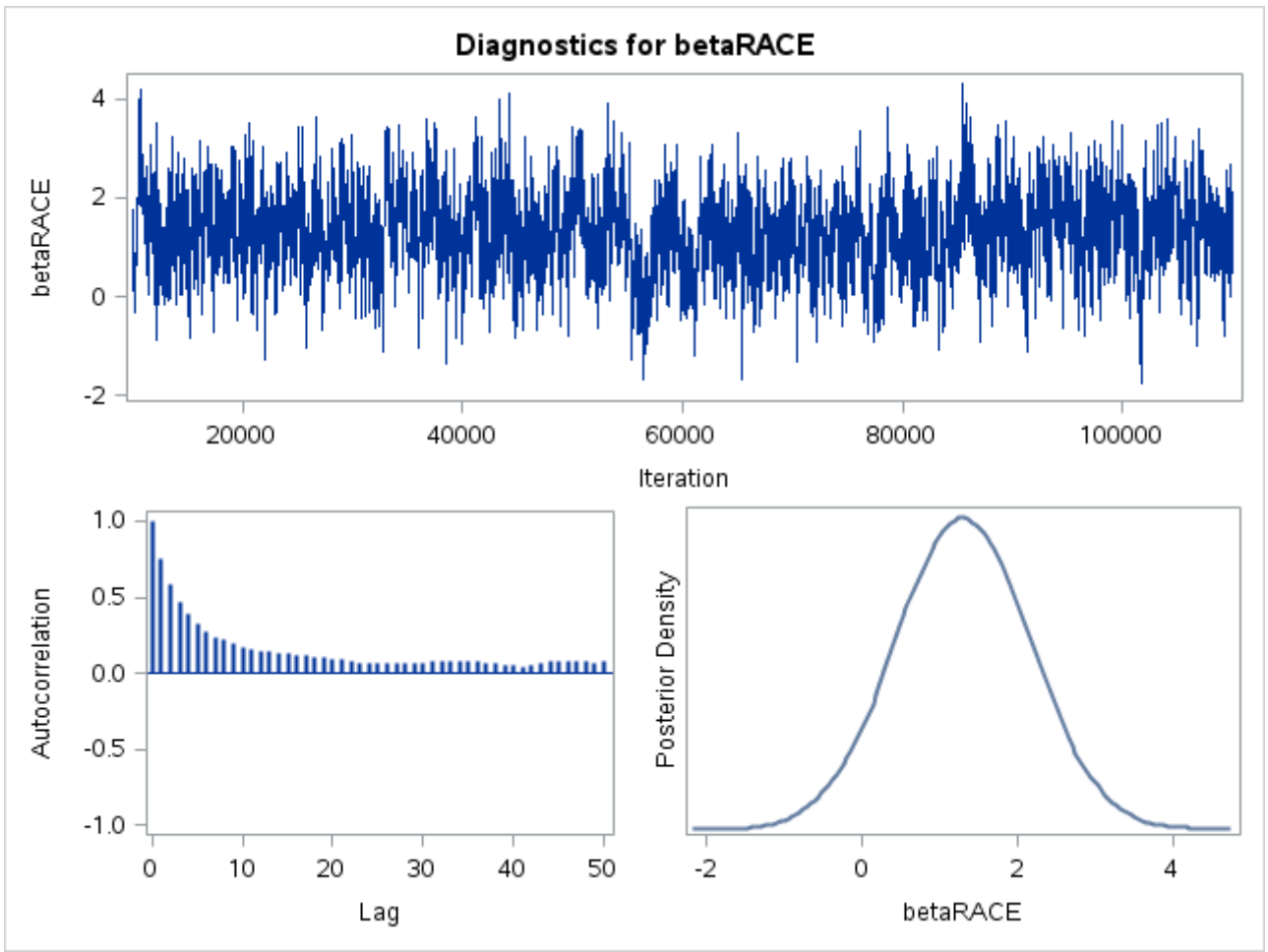

Diagnostics for betaincome
betaincome
Iteration
Autocorrelation
Lag
Posterior Density
betaincome

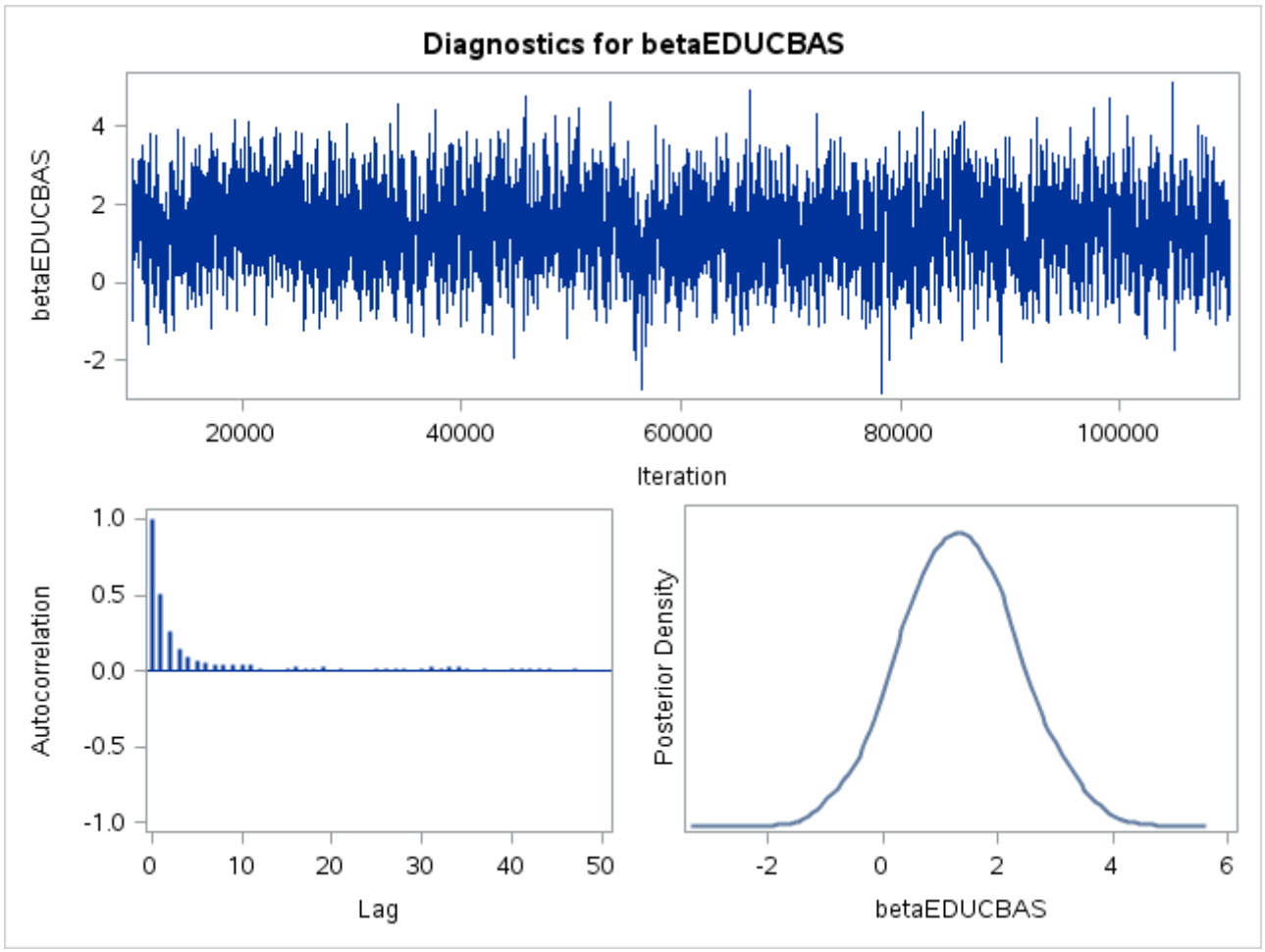

Diagnostics for betaBMI
betaBMI
Iteration
Autocorrelation
Lag
Posterior Density
betaBMI

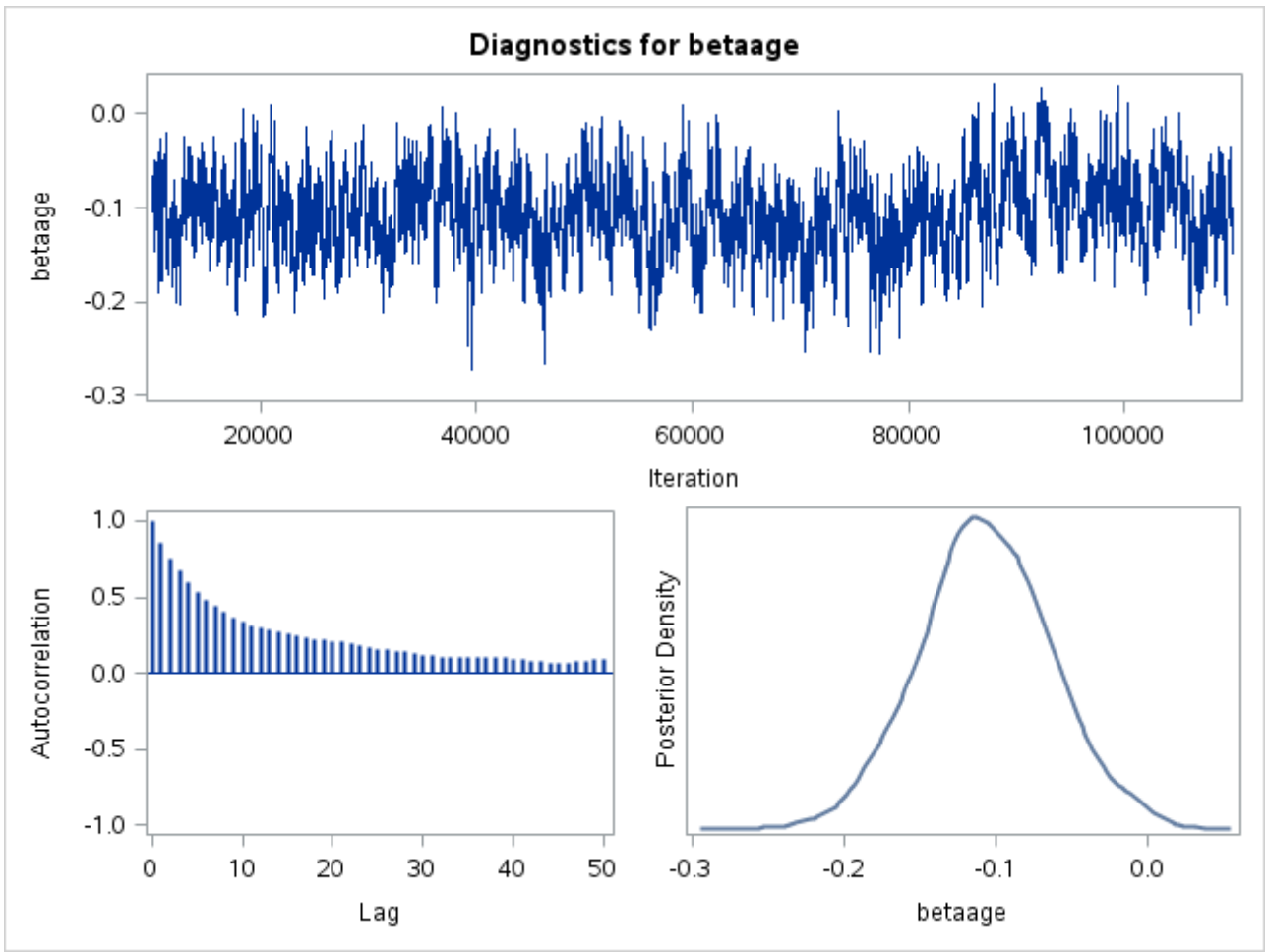

Diagnostics for betaSMOKE
betaSMOKE
2
0
-2
-4
20000
40000
60000
80000
100000
Iteration
Autocorrelation
1.0
0.5
0.0
-0.5
-1.0
0
10
20
30
40
50
Lag
Posterior Density
-4
-2
0
2
betaSMOKE

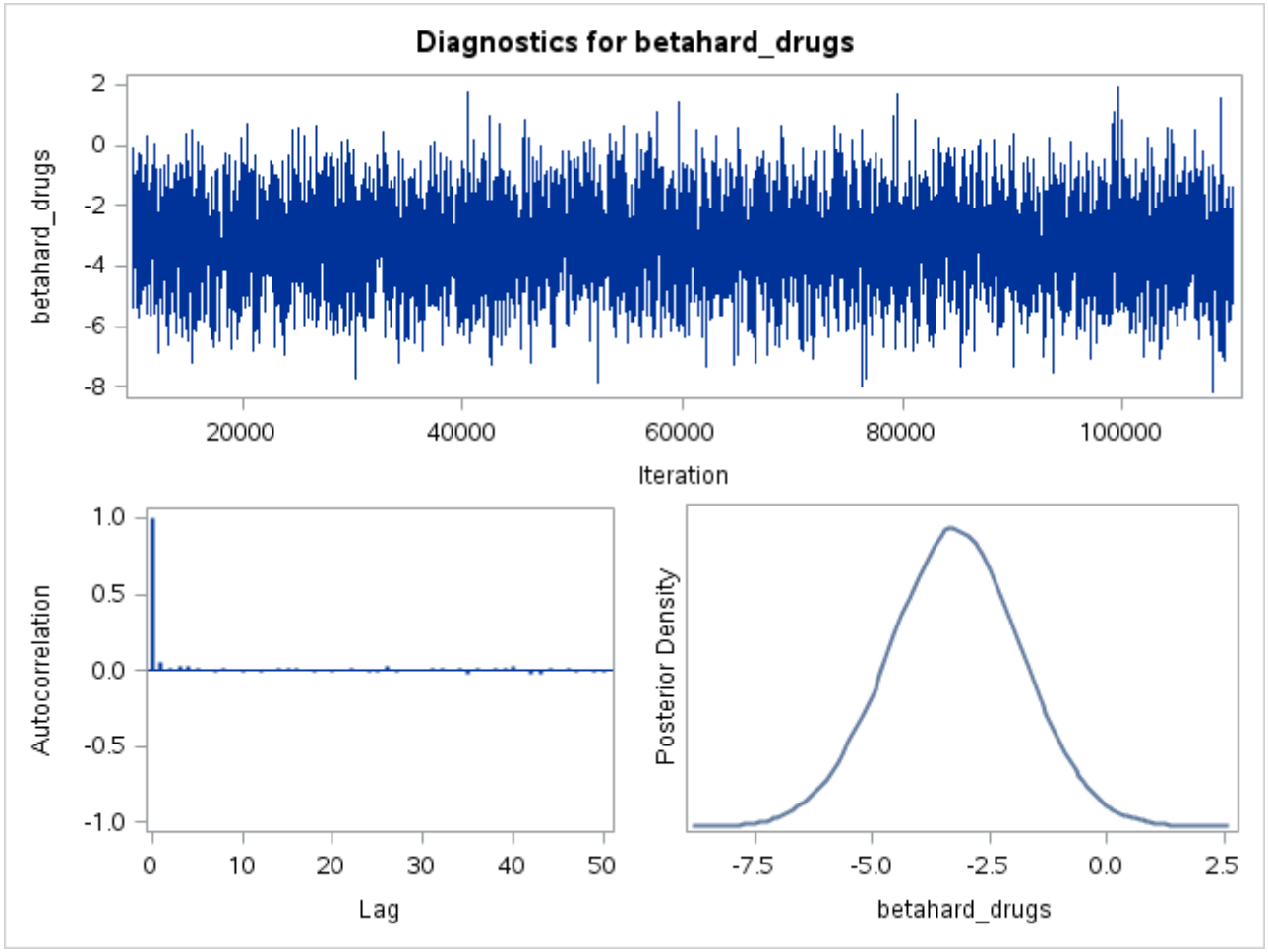

Diagnostics for betaDKGRP
betaDKGRP
4
2
0
-2
-4
-6
20000
40000
60000
80000
100000
Iteration
Autocorrelation
1.0
0.5
0.0
-0.5
-1.0
0
10
20
30
40
50
Lag
Posterior Density
-5.0
-2.5
0.0
2.5
5.0
betaDKGRP

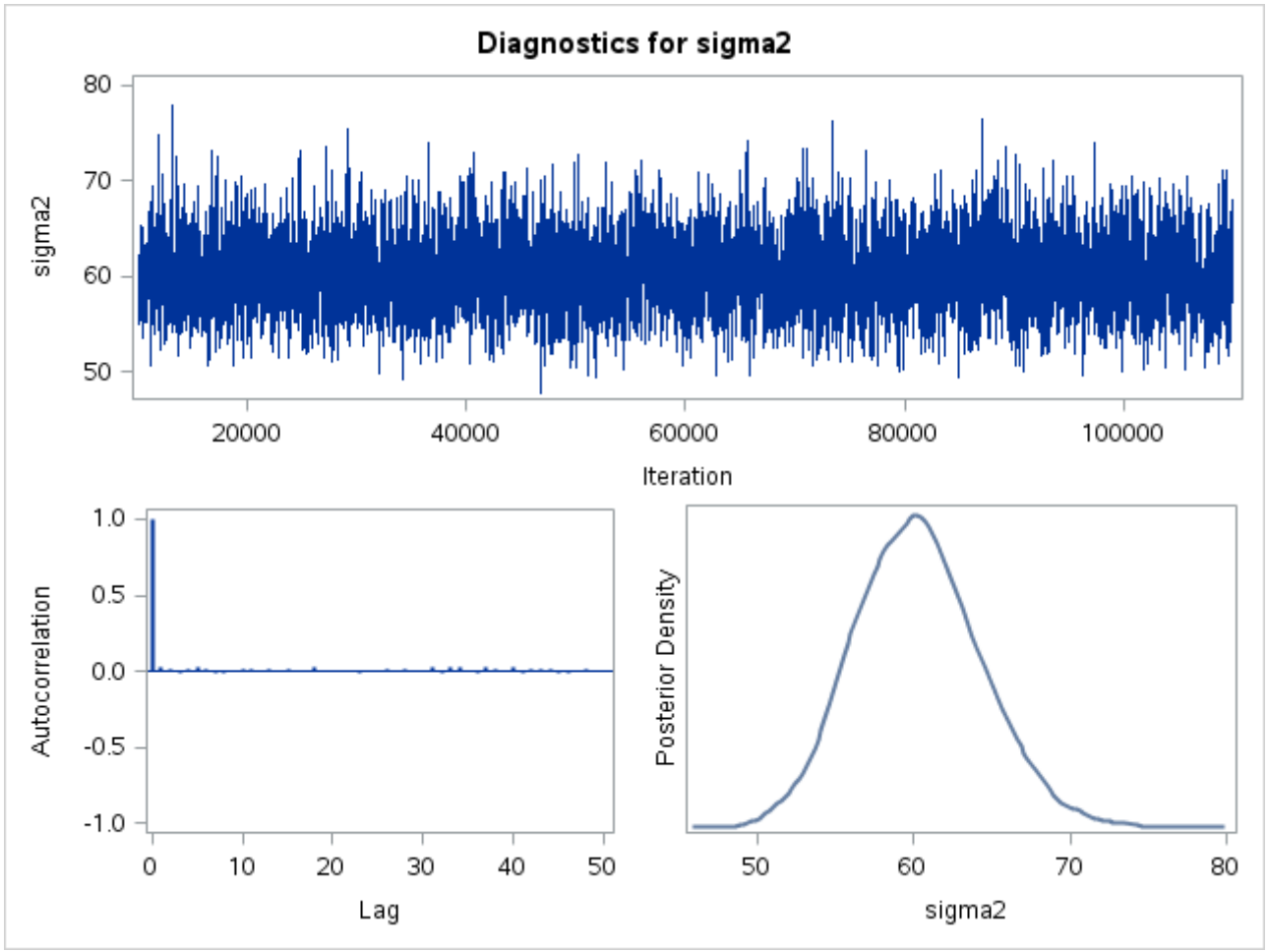

Diagnostics for betaADH
betaADH
Iteration
Autocorrelation
Lag
Posterior Density
betaADH


Diagnostics for betaRACE
betaRACE
Iteration
Autocorrelation
Lag
Posterior Density
betaRACE


Diagnostics for betaEDUCBAS
betaEDUCBAS
4
2
0
-2
20000
40000
60000
80000
100000
Iteration
Autocorrelation
1.0
0.5
0.0
-0.5
-1.0
0
10
20
30
40
50
Lag
Posterior Density
-2
0
2
4
6
betaEDUCBAS


Diagnostics for betaage
betaage
0.0
-0.1
-0.2
-0.3
20000
40000
60000
80000
100000
Iteration
Autocorrelation
1.0
0.5
0.0
-0.5
-1.0
0
10
20
30
40
50
Lag
Posterior Density
-0.3
-0.2
-0.1
0.0
betaage


Diagnostics for betahard_drugs
betahard_drugs
2
0
-2
-4
-6
-8
20000
40000
60000
80000
100000
Iteration
Autocorrelation
1.0
0.5
0.0
-0.5
-1.0
0
10
20
30
40
50
Lag
Posterior Density
-7.5
-5.0
-2.5
0.0
2.5
betahard_drugs


Diagnostics for sigma2
sigma2
80
70
60
50
20000
40000
60000
80000
100000
Iteration
Autocorrelation
1.0
0.5
0.0
-0.5
-1.0
0
10
20
30
40
50
Lag
Posterior Density
50
60
70
80
sigma2