The CONTENTS Procedure

Data Set Name	WORK.IMPORT	**Observations**	1979
Member Type	DATA	**Variables**	24
Engine	V9	**Indexes**	0
Created	11/29/2019 00:51:52	**Observation Length**	192
Last Modified	11/29/2019 00:51:52	**Deleted Observations**	0
Protection		**Compressed**	NO
Data Set Type		**Sorted**	NO
Label			
Data Representation	SOLARIS_X86_64, LINUX_X86_64, ALPHA_TRU64, LINUX_IA64		
Encoding	utf-8 Unicode (UTF-8)		

Engine/Host Dependent Information	
Data Set Page Size	65536
Number of Data Set Pages	6
First Data Page	1
Max Obs per Page	340
Obs in First Data Page	315
Number of Data Set Repairs	0
Filename	/tmp/SAS_work8F3900000A78_localhost.localdomain/SAS_work5E7E00000A78_localhost.localdomain/import.sas7bdat
Release Created	9.0401M6
Host Created	Linux
Inode Number	671623
Access Permission	rw-rw-r--
Owner Name	sasdemo
File Size	448KB
File Size (bytes)	458752

Alphabetic List of Variables and Attributes					
#	**Variable**	**Type**	**Len**	**Format**	**Informat**
8	BMI	Num	8	BEST12.	BEST32.
20	ID	Num	8	BEST12.	BEST32.
24	OPTIMAL	Num	8	BEST12.	BEST32.
6	age	Num	8	BEST12.	BEST32.
3	death	Num	8	BEST12.	BEST32.
14	event_season2	Num	8	BEST12.	BEST32.
15	event_season3	Num	8	BEST12.	BEST32.
16	event_season4	Num	8	BEST12.	BEST32.
10	fev1fvcratio	Num	8	BEST12.	BEST32.

The CONTENTS Procedure

Alphabetic List of Variables and Attributes					
#	**Variable**	**Type**	**Len**	**Format**	**Informat**
9	fev1pp	Num	8	BEST12.	BEST32.
1	gaptime	Num	8	BEST12.	BEST32.
21	male	Num	8	BEST12.	BEST32.
22	nowsmk	Num	8	BEST12.	BEST32.
17	num_re1	Num	8	BEST12.	BEST32.
18	num_re2	Num	8	BEST12.	BEST32.
19	num_re3	Num	8	BEST12.	BEST32.
23	oxygen	Num	8	BEST12.	BEST32.
7	packyears	Num	8	BEST12.	BEST32.
11	rand_season2	Num	8	BEST12.	BEST32.
12	rand_season3	Num	8	BEST12.	BEST32.
13	rand_season4	Num	8	BEST12.	BEST32.
2	recurrent_event	Num	8	BEST12.	BEST32.
4	trtSal	Num	8	BEST12.	BEST32.
5	trtSal_Flu	Num	8	BEST12.	BEST32.

The CONTENTS Procedure

Data Set Name	WORK.COPD	**Observations**	1979
Member Type	DATA	**Variables**	24
Engine	V9	**Indexes**	0
Created	11/29/2019 01:13:10	**Observation Length**	192
Last Modified	11/29/2019 01:13:10	**Deleted Observations**	0
Protection		**Compressed**	NO
Data Set Type		**Sorted**	NO
Label			
Data Representation	SOLARIS_X86_64, LINUX_X86_64, ALPHA_TRU64, LINUX_IA64		
Encoding	utf-8 Unicode (UTF-8)		

Engine/Host Dependent Information	
Data Set Page Size	65536
Number of Data Set Pages	6
First Data Page	1
Max Obs per Page	340
Obs in First Data Page	315
Number of Data Set Repairs	0
Filename	/tmp/SAS_work8F3900000A78_localhost.localdomain/SAS_work5E7E00000A78_localhost.localdomain/copd.sas7bdat
Release Created	9.0401M6
Host Created	Linux
Inode Number	671653
Access Permission	rw-rw-r--
Owner Name	sasdemo
File Size	448KB
File Size (bytes)	458752

Alphabetic List of Variables and Attributes					
#	**Variable**	**Type**	**Len**	**Format**	**Informat**
8	BMI	Num	8	BEST12.	BEST32.
20	ID	Num	8	BEST12.	BEST32.
24	OPTIMAL	Num	8	BEST12.	BEST32.
6	age	Num	8	BEST12.	BEST32.
3	death	Num	8	BEST12.	BEST32.
14	event_season2	Num	8	BEST12.	BEST32.
15	event_season3	Num	8	BEST12.	BEST32.
16	event_season4	Num	8	BEST12.	BEST32.
10	fev1fvcratio	Num	8	BEST12.	BEST32.

The CONTENTS Procedure

Alphabetic List of Variables and Attributes					
#	**Variable**	**Type**	**Len**	**Format**	**Informat**
9	fev1pp	Num	8	BEST12.	BEST32.
1	gaptime	Num	8	BEST12.	BEST32.
21	male	Num	8	BEST12.	BEST32.
22	nowsmk	Num	8	BEST12.	BEST32.
17	num_re1	Num	8	BEST12.	BEST32.
18	num_re2	Num	8	BEST12.	BEST32.
19	num_re3	Num	8	BEST12.	BEST32.
23	oxygen	Num	8	BEST12.	BEST32.
7	packyears	Num	8	BEST12.	BEST32.
11	rand_season2	Num	8	BEST12.	BEST32.
12	rand_season3	Num	8	BEST12.	BEST32.
13	rand_season4	Num	8	BEST12.	BEST32.
2	recurrent_event	Num	8	BEST12.	BEST32.
4	trtSal	Num	8	BEST12.	BEST32.
5	trtSal_Flu	Num	8	BEST12.	BEST32.

The NLMIXED Procedure

Specifications	
Data Set	WORK.COPD
Dependent Variable	gaptime
Distribution for Dependent Variable	General
Random Effects	z
Distribution for Random Effects	Normal
Subject Variable	ID
Optimization Technique	Dual Quasi-Newton
Integration Method	Adaptive Gaussian Quadrature

Dimensions	
Observations Used	1979
Observations Not Used	0
Total Observations	1979
Subjects	1521
Max Obs per Subject	9
Parameters	16
Quadrature Points	5

Initial Parameters									
ln_gamma_d	**b_d_0**	**b_d_trtSal**	**b_d_trtSal_Flu**	**b_d_age**	**b_d_packyears**	**b_d_BMI**	**b_d_fev1pp**	**b_d_fev1fvcratio**	**b_d_num_re1**
0.2295	-8	-0.15	-0.5	0.08	0.66	-2.7	-3.3	0.61	0.55

Initial Parameters						
b_d_num_re2	**b_d_num_re3**	**b_d_male**	**b_d_nowsmk**	**b_d_oxygen**	**ln_v**	**Negative Log Likelihood**
1.179	1.413	0.49	0.61	0.47	0	668.550982

Iteration History					
Iteration	**Calls**	**Negative Log Likelihood**	**Difference**	**Maximum Gradient**	**Slope**
1	6	301.9577	366.5933	137.865	-4306.94
2	8	289.6996	12.25815	25.8922	-31.4948
3	10	288.6757	1.023824	7.97698	-1.53516
4	14	287.0662	1.609533	48.7265	-0.91468
5	21	265.1562	21.91001	88.9837	-2.36794
6	26	263.4029	1.753341	92.7073	-20.1524
7	30	252.6246	10.77822	7.68909	-36.5181

The NLMIXED Procedure

Iteration History					
Iteration	Calls	Negative Log Likelihood	Difference	Maximum Gradient	Slope
8	33	252.3479	0.27672	9.09186	-0.31618
9	37	249.8126	2.535272	37.5945	-0.26490
10	41	243.4434	6.369287	20.8530	-3.57376
11	44	242.1126	1.33076	7.91103	-4.59088
12	47	241.7176	0.395038	5.78288	-0.49958
13	51	240.8532	0.864385	19.2987	-0.26851
14	55	234.8626	5.990529	5.73685	-1.79310
15	58	233.7812	1.081484	5.84456	-3.50886
16	61	233.4606	0.320559	5.91264	-0.77219
17	64	233.2856	0.174951	2.37282	-0.20166
18	67	233.2355	0.050118	2.02383	-0.08024
19	69	233.2150	0.020554	1.76553	-0.03615
20	73	233.0469	0.168091	2.10479	-0.11431
21	77	231.9952	1.051656	2.15513	-0.20498
22	80	231.9406	0.054654	1.52845	-0.08925
23	84	231.7895	0.151106	2.01711	-0.03744
24	88	231.1291	0.660382	1.56848	-0.22042
25	91	231.1079	0.021165	1.70762	-0.02416
26	95	230.7625	0.34541	1.19350	-0.01962
27	98	230.6070	0.155501	0.80375	-0.26207
28	101	230.6001	0.006944	0.58224	-0.00904
29	105	230.5258	0.074299	1.56861	-0.00465
30	107	230.5046	0.021204	1.68940	-0.06008
31	109	230.4718	0.03279	0.98162	-0.06255
32	112	230.4645	0.007273	0.71111	-0.00756
33	118	230.3195	0.144993	3.44348	-0.00738
34	121	230.2603	0.059168	0.39875	-0.09662
35	124	230.2503	0.010064	0.54874	-0.01498
36	126	230.2469	0.0034	0.56241	-0.00960
37	128	230.2413	0.005583	0.48284	-0.01026
38	130	230.2366	0.004731	0.37562	-0.00418
39	134	230.2194	0.017199	1.24011	-0.00798
40	138	230.1565	0.062822	0.55599	-0.02276
41	141	230.1495	0.007038	0.55967	-0.01309

The NLMIXED Procedure

Iteration History					
Iteration	Calls	Negative Log Likelihood	Difference	Maximum Gradient	Slope
42	144	230.1444	0.005063	0.70548	-0.00350
43	148	230.0833	0.061096	3.71205	-0.00681
44	150	230.0510	0.032313	1.60492	-0.05839
45	153	230.0356	0.015381	0.51199	-0.02511
46	156	230.0340	0.00165	0.53517	-0.00165
47	160	230.0209	0.013095	0.59618	-0.00213
48	164	229.9738	0.047139	2.32551	-0.02009
49	167	229.9625	0.011306	0.25140	-0.01880
50	170	229.9616	0.000822	0.19207	-0.00114
51	172	229.9607	0.000977	0.23842	-0.00036
52	178	229.9249	0.035785	1.25243	-0.00180
53	183	229.9100	0.014858	0.49179	-0.03284
54	186	229.9075	0.002551	0.20406	-0.00803
55	189	229.9072	0.000228	0.13428	-0.00032
56	193	229.9064	0.000845	0.55682	-0.00012
57	197	229.9007	0.005698	0.87405	-0.00143
58	199	229.8933	0.007353	0.10776	-0.00486
59	202	229.8928	0.000591	0.026816	-0.00118
60	205	229.8927	4.177E-6	0.028595	-5.86E-6

NOTE: GCONV convergence criterion satisfied.

Fit Statistics	
-2 Log Likelihood	459.8
AIC (smaller is better)	491.8
AICC (smaller is better)	492.1
BIC (smaller is better)	577.0

Parameter Estimates								
Parameter	Estimate	Standard Error	DF	t Value	Pr > |t|	95% Confidence Limits		Gradient
ln_gamma_d	0.4244	0.1900	1520	2.23	0.0256	0.05177	0.7970	0.000704
b_d_0	-2.8631	1.1389	1520	-2.51	0.0120	-5.0970	-0.6292	-0.00612
b_d_trtSal	-0.1936	0.2083	1520	-0.93	0.3530	-0.6022	0.2151	0.000963
b_d_trtSal_Flu	-0.5261	0.4986	1520	-1.06	0.2916	-1.5042	0.4520	0.001097

The NLMIXED Procedure

Parameter Estimates

Parameter	Estimate	Standard Error	DF	t Value	Pr > |t|	95% Confidence Limits		Gradient
b_d_age	0.6857	1.3275	1520	0.52	0.6056	-1.9183	3.2897	-0.00288
b_d_packyears	0.6217	0.6666	1520	0.93	0.3512	-0.6859	1.9294	0.009424
b_d_BMI	-1.3761	1.8290	1520	-0.75	0.4519	-4.9636	2.2115	0.028595
b_d_fev1pp	-3.3872	1.1913	1520	-2.84	0.0045	-5.7239	-1.0505	-0.01028
b_d_fev1fvcratio	0.3278	1.1348	1520	0.29	0.7727	-1.8982	2.5538	-0.00183
b_d_num_re1	1.4011	0.2556	1520	5.48	<.0001	0.8997	1.9024	0.001070
b_d_num_re2	1.9034	0.4400	1520	4.33	<.0001	1.0403	2.7665	0.002792
b_d_num_re3	2.7130	0.5903	1520	4.60	<.0001	1.5551	3.8709	0.006773
b_d_male	0.4670	0.2318	1520	2.01	0.0441	0.01230	0.9218	0.004599
b_d_nowsmk	0.5941	0.2636	1520	2.25	0.0244	0.07703	1.1112	0.002529
b_d_oxygen	0.3953	0.2350	1520	1.68	0.0927	-0.06556	0.8562	0.002098
ln_v	0.3058	0.8321	1520	0.37	0.7133	-1.3265	1.9381	0.011835

Additional Estimates

Label	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper
v_d	1.3577	1.1298	1520	1.20	0.2297	0.05	-0.8584	3.5738
gamma_d	1.5286	0.2904	1520	5.26	<.0001	0.05	0.9591	2.0982
d_trtSal	-0.2959	0.3226	1520	-0.92	0.3592	0.05	-0.9288	0.3370
d_trtSal_Flu	-0.8042	0.7876	1520	-1.02	0.3074	0.05	-2.3491	0.7407
d_age	1.0482	2.0159	1520	0.52	0.6032	0.05	-2.9060	5.0024
d_packyears	0.9504	1.0492	1520	0.91	0.3652	0.05	-1.1076	3.0083
d_BMI	-2.1035	2.7579	1520	-0.76	0.4458	0.05	-7.5132	3.3063
d_fev1pp	-5.1778	2.1133	1520	-2.45	0.0144	0.05	-9.3231	-1.0325
d_fev1fvcratio	0.5011	1.7384	1520	0.29	0.7732	0.05	-2.9089	3.9110
d_num_re1	2.1417	0.6004	1520	3.57	0.0004	0.05	0.9640	3.3194
d_num_re2	2.9096	0.9695	1520	3.00	0.0027	0.05	1.0078	4.8113
d_num_re3	4.1471	1.4180	1520	2.92	0.0035	0.05	1.3657	6.9285
d_male	0.7139	0.3811	1520	1.87	0.0612	0.05	-0.03368	1.4615
d_nowsmk	0.9082	0.4562	1520	1.99	0.0467	0.05	0.01328	1.8030
d_oxygen	0.6043	0.3763	1520	1.61	0.1084	0.05	-0.1337	1.3424