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 00:58:45	**Observation Length**	192
Last Modified	11/29/2019 00:58:45	**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	671639
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	22
Quadrature Points	5

Initial Parameters										
ln_gamma	**b_0**	**b_trtSal**	**b_trtSal_Flu**	**b_age**	**b_BMI**	**b_fev1pp**	**b_fev1fvcratio**	**b_rand_season2**	**b_rand_season3**	**b_rand_season4**
0.118	-0.8	0.3127	0.2507	-0.5213	-1.0989	-1.4856	0.2384	-0.4905	-0.2933	-0.1329

Initial Parameters									
b_num_re1	**b_num_re2**	**b_num_re3**	**b_event_season2**	**b_event_season3**	**b_event_season4**	**b_male**	**b_nowsmk**	**b_oxygen**	**b_OPTIMAL**
-0.4762	-0.3804	-0.9259	-0.1268	-0.3455	-0.3801	0.0057	0.0614	0.4871	0.1067

Initial Parameters	
theta	**Negative Log Likelihood**
1	1054.96349

Iteration History					
Iteration	**Calls**	**Negative Log Likelihood**	**Difference**	**Maximum Gradient**	**Slope**
1	4	969.8217	85.14176	325.327	-5799.44
2	6	900.3619	69.45984	115.517	-106.187
3	8	892.6586	7.703306	33.3088	-14.1994
4	12	881.0670	11.59161	70.3161	-4.28551

The NLMIXED Procedure

Iteration History					
Iteration	Calls	Negative Log Likelihood	Difference	Maximum Gradient	Slope
5	14	876.0208	5.046229	30.3675	-11.9397
6	16	868.3233	7.697421	36.9536	-2.64380
7	18	857.9844	10.33889	25.1766	-7.64310
8	21	856.2491	1.735312	11.4279	-3.32669
9	24	855.5495	0.699606	14.8161	-0.85774
10	28	853.2467	2.30282	20.5647	-0.39035
11	31	852.2576	0.989062	2.90454	-1.44856
12	34	852.2201	0.037577	3.16472	-0.04572
13	38	852.0910	0.129095	4.87894	-0.02415
14	40	852.0101	0.080869	3.53142	-0.09112
15	43	851.9735	0.036628	1.44743	-0.06590
16	45	851.9337	0.039731	1.34716	-0.00606
17	47	851.8964	0.037329	0.90587	-0.04253
18	50	851.8874	0.008982	0.70889	-0.01410
19	52	851.8806	0.006817	1.08736	-0.00181
20	56	851.8552	0.025436	0.64526	-0.01028
21	59	851.8401	0.015116	0.87209	-0.01599
22	63	851.6866	0.15344	2.71332	-0.00353
23	66	851.6658	0.020834	0.91161	-0.03281
24	68	851.6621	0.003732	2.30409	-0.00223
25	72	851.6483	0.013767	0.76151	-0.01442
26	74	851.6357	0.012603	0.97526	-0.00869
27	77	851.6328	0.00284	0.63120	-0.00335
28	81	851.6098	0.023042	0.39953	-0.00221
29	83	851.6090	0.000841	0.56629	-0.00047
30	87	851.6046	0.004341	0.34881	-0.00347
31	91	851.5955	0.00908	0.43807	-0.00407
32	94	851.5951	0.000479	0.30669	-0.00070
33	98	851.5906	0.004499	0.23513	-0.00026
34	101	851.5904	0.000196	0.18809	-0.00030
35	105	851.5874	0.002958	0.35641	-0.00010
36	107	851.5858	0.001568	0.46209	-0.00261
37	110	851.5848	0.001039	0.28490	-0.00190
38	114	851.5806	0.004157	0.66487	-0.00017

The NLMIXED Procedure

Iteration History					
Iteration	Calls	Negative Log Likelihood	Difference	Maximum Gradient	Slope
39	116	851.5757	0.004924	0.32543	-0.00407
40	118	851.5751	0.000635	0.46484	-0.00021
41	122	851.5723	0.002806	0.27933	-0.00142
42	124	851.5687	0.003618	0.19061	-0.00265
43	126	851.5684	0.000278	0.21384	-0.00007
44	130	851.5673	0.001072	0.059398	-0.00045
45	133	851.5671	0.000216	0.056899	-0.00033
46	137	851.5663	0.00082	0.063222	-0.00002
47	140	851.5662	0.000044	0.069093	-0.00007
48	144	851.5658	0.000424	0.089460	-0.00002
49	147	851.5657	0.000108	0.039326	-0.00016
50	151	851.5656	0.000144	0.037265	-3.09E-6
51	154	851.5655	0.000054	0.028405	-0.00008
52	158	851.5654	0.000069	0.062060	-2.94E-6
53	160	851.5653	0.000086	0.023752	-0.00007
54	162	851.5653	8.736E-6	0.022322	-1.32E-6
55	166	851.5653	0.000076	0.032548	-0.00002
56	170	851.5650	0.000229	0.005478	-0.00010
57	172	851.5650	3.009E-7	0.005725	-4.37E-8
58	176	851.5650	2.517E-6	0.020411	-7.43E-7
59	180	851.5650	0.000019	0.000152	-3.85E-6
60	189	851.5650	1.46E-10	0.000178	-0.00001

NOTE: FCONV convergence criterion satisfied.

Fit Statistics	
-2 Log Likelihood	1703.1
AIC (smaller is better)	1747.1
AICC (smaller is better)	1747.6
BIC (smaller is better)	1864.3

The NLMIXED Procedure

Parameter Estimates								
Parameter	Estimate	Standard Error	DF	t Value	Pr > |t|	95% Confidence Limits		Gradient
ln_gamma	0.07808	0.05047	1520	1.55	0.1220	-0.02091	0.1771	-0.00018
b_0	-0.06829	0.6293	1520	-0.11	0.9136	-1.3027	1.1662	0.000134
b_trtSal	0.3129	0.1309	1520	2.39	0.0169	0.05618	0.5697	0.000105
b_trtSal_Flu	0.2381	0.2755	1520	0.86	0.3876	-0.3023	0.7785	-0.00001
b_age	-0.6133	0.7909	1520	-0.78	0.4382	-2.1647	0.9382	0.000086
b_BMI	-1.1725	1.0155	1520	-1.15	0.2484	-3.1643	0.8194	0.000037
b_fev1pp	-1.1295	0.6273	1520	-1.80	0.0720	-2.3599	0.1009	0.000040
b_fev1fvcratio	0.2983	0.6932	1520	0.43	0.6670	-1.0614	1.6580	0.000055
b_rand_season2	-0.4672	0.1963	1520	-2.38	0.0174	-0.8522	-0.08229	0.000134
b_rand_season3	-0.1415	0.2048	1520	-0.69	0.4897	-0.5432	0.2602	-0.00005
b_rand_season4	0.02945	0.1884	1520	0.16	0.8758	-0.3400	0.3989	0.000012
b_num_re1	-0.3827	0.1971	1520	-1.94	0.0524	-0.7693	0.004018	0.000039
b_num_re2	0.04003	0.2615	1520	0.15	0.8783	-0.4728	0.5529	0.000015
b_num_re3	-0.3216	0.3014	1520	-1.07	0.2862	-0.9129	0.2697	5.305E-7
b_event_season2	0.01022	0.1612	1520	0.06	0.9494	-0.3060	0.3264	0.000148
b_event_season3	-0.3772	0.1768	1520	-2.13	0.0330	-0.7239	-0.03047	-0.00007
b_event_season4	-0.4473	0.1627	1520	-2.75	0.0060	-0.7665	-0.1282	0.000016
b_male	0.08024	0.1277	1520	0.63	0.5298	-0.1702	0.3307	0.000075
b_nowsmk	0.06369	0.1587	1520	0.40	0.6883	-0.2477	0.3750	7.045E-6
b_oxygen	0.4211	0.1441	1520	2.92	0.0035	0.1385	0.7038	0.000134
b_OPTIMAL	0.07861	0.1794	1520	0.44	0.6614	-0.2734	0.4306	-0.00001
theta	2.6026	0.5471	1520	4.76	<.0001	1.5294	3.6757	8.332E-6

Additional Estimates								
Label	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper
theta_inv	0.3842	0.08077	1520	4.76	<.0001	0.05	0.2258	0.5427
gamma	1.0812	0.05457	1520	19.81	<.0001	0.05	0.9742	1.1882
re_trtSal	0.3384	0.1425	1520	2.37	0.0177	0.05	0.05884	0.6179
re_trtSal_Flu	0.2575	0.2983	1520	0.86	0.3882	0.05	-0.3277	0.8426
re_age	-0.6631	0.8551	1520	-0.78	0.4382	0.05	-2.3403	1.0142
re_BMI	-1.2677	1.0983	1520	-1.15	0.2486	0.05	-3.4221	0.8867
re_fev1pp	-1.2212	0.6803	1520	-1.80	0.0728	0.05	-2.5557	0.1132
re_fev1fvcratio	0.3226	0.7500	1520	0.43	0.6672	0.05	-1.1486	1.7937
re_rand_season2	-0.5052	0.2131	1520	-2.37	0.0179	0.05	-0.9233	-0.08711

The NLMIXED Procedure

Additional Estimates								
Label	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper
re_rand_season3	-0.1530	0.2221	1520	-0.69	0.4910	0.05	-0.5886	0.2826
re_rand_season4	0.03184	0.2036	1520	0.16	0.8757	0.05	-0.3675	0.4311
re_num_re1	-0.4137	0.2206	1520	-1.88	0.0609	0.05	-0.8464	0.01888
re_num_re2	0.04328	0.2819	1520	0.15	0.8780	0.05	-0.5098	0.5963
re_num_re3	-0.3477	0.3322	1520	-1.05	0.2953	0.05	-0.9993	0.3038
re_event_season2	0.01105	0.1743	1520	0.06	0.9494	0.05	-0.3309	0.3530
re_event_season3	-0.4078	0.1894	1520	-2.15	0.0315	0.05	-0.7793	-0.03629
re_event_season4	-0.4837	0.1759	1520	-2.75	0.0060	0.05	-0.8286	-0.1387
re_male	0.08676	0.1380	1520	0.63	0.5297	0.05	-0.1840	0.3575
re_nowsmk	0.06886	0.1717	1520	0.40	0.6885	0.05	-0.2680	0.4057
re_oxygen	0.4553	0.1565	1520	2.91	0.0037	0.05	0.1483	0.7623
re_OPTIMAL	0.08500	0.1940	1520	0.44	0.6614	0.05	-0.2956	0.4656