

BEANZ Analysis Report

BEANZ

2017-03-29

Contents

Warnings	2
Data Summary	2
Subgroup Definition	2
Analysis Results	3
Model: No subgroup effect	3
Subgroup Effects	3
Subgroup Effects Comparison	4
Model: Full stratification	6
Subgroup Effects	6
Subgroup Effects Comparison	8
Model: Simple regression	9
Subgroup Effects	9
Subgroup Effects Comparison	11
Model: Basic shrinkage	13
Subgroup Effects	13
Subgroup Effects Comparison	14
Model: Regression and shrinkage	16
Subgroup Effects	16
Subgroup Effects Comparison	17
Model: Dixon and Simon	19
Subgroup Effects	19
Subgroup Effects Comparison	20
Model: Extended Dixon and Simon	22
Subgroup Effects	22
Subgroup Effects Comparison	24
Summary	26

Warnings

Subgroup analysis are only exploratory unless such analyses were pre-specified in a study protocol at the design stage. The users should be cautious with the choices of the priors in Bayesian subgroup analysis. The users are encouraged to conduct sensitivity analysis by trying different parameter values in the prior distributions and examining the robustness of the results.

Data Summary

```
##      trt          y          censor          lvef
## Min.   :0.0000   Min.   :  0.01   Min.   :0.0000   Min.   :0.000
## 1st Qu.:0.0000   1st Qu.: 350.01   1st Qu.:0.0000   1st Qu.:0.000
## Median :1.0000   Median : 880.01   Median :1.0000   Median :0.000
## Mean   :0.5006   Mean   : 824.10   Mean   :0.5266   Mean   :0.312
## 3rd Qu.:1.0000   3rd Qu.:1252.01   3rd Qu.:1.0000   3rd Qu.:1.000
## Max.   :1.0000   Max.   :1683.01   Max.   :1.0000   Max.   :1.000
##      sodium      any.vasodilator.use
## Min.   :0.0000   Min.   :0.0000
## 1st Qu.:0.0000   1st Qu.:0.0000
## Median :0.0000   Median :1.0000
## Mean   :0.2817   Mean   :0.5558
## 3rd Qu.:1.0000   3rd Qu.:1.0000
## Max.   :1.0000   Max.   :1.0000
```

Subgroup Definition

Subgroup	lvef	sodium	any.vasodilator.use	Estimate	Variance	N
1	0	0	0	-0.3778	0.01213	562
2	0	0	1	-0.3466	0.01004	695
3	0	1	0	-0.7924	0.0394	237
4	0	1	1	-0.3933	0.02969	250
5	1	0	0	0.06776	0.04629	223
6	1	0	1	-0.2366	0.024	341
7	1	1	0	0.1544	0.1037	104
8	1	1	1	0.05947	0.07762	123

Analysis Results

Model: No subgroup effect

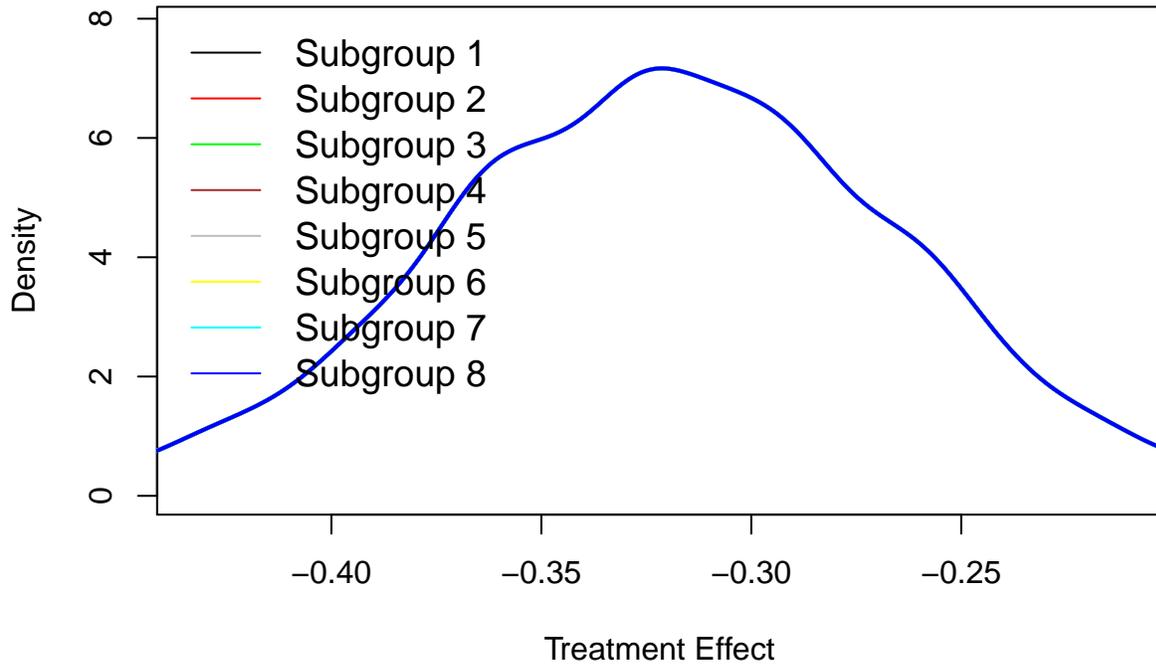
Subgroup Effects

Table 2: Table continues below

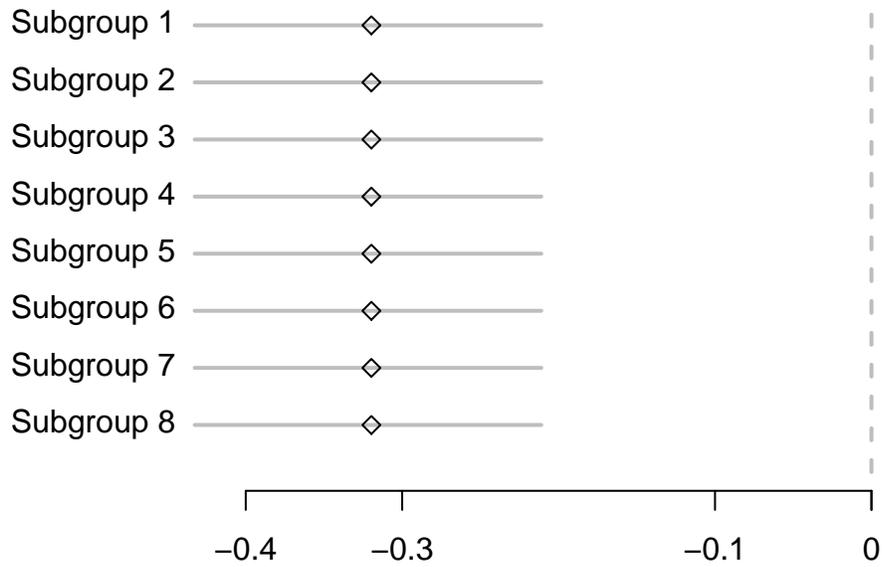
	Subgroup	Mean	SD	2.5%	25%	Median	75%	97.5%
Subgroup 1	Subgroup 1	-0.32	0.056	-0.433	-0.358	-0.32	-0.282	-0.211
Subgroup 2	Subgroup 2	-0.32	0.056	-0.433	-0.358	-0.32	-0.282	-0.211
Subgroup 3	Subgroup 3	-0.32	0.056	-0.433	-0.358	-0.32	-0.282	-0.211
Subgroup 4	Subgroup 4	-0.32	0.056	-0.433	-0.358	-0.32	-0.282	-0.211
Subgroup 5	Subgroup 5	-0.32	0.056	-0.433	-0.358	-0.32	-0.282	-0.211
Subgroup 6	Subgroup 6	-0.32	0.056	-0.433	-0.358	-0.32	-0.282	-0.211
Subgroup 7	Subgroup 7	-0.32	0.056	-0.433	-0.358	-0.32	-0.282	-0.211
Subgroup 8	Subgroup 8	-0.32	0.056	-0.433	-0.358	-0.32	-0.282	-0.211

	Prob < 0
Subgroup 1	1
Subgroup 2	1
Subgroup 3	1
Subgroup 4	1
Subgroup 5	1
Subgroup 6	1
Subgroup 7	1
Subgroup 8	1

Posterior Distribution of Subgroup Effects



Subgroup Effects Forest Plot



Subgroup Effects Comparison

Table 4: Table continues below

	Comparison	Mean	SD	2.5%	25%	Median	75%
Subgroup 2-1	Subgroup 2-1	0.002	0.08	-0.159	-0.052	0.002	0.057
Subgroup 3-1	Subgroup 3-1	-0.001	0.079	-0.152	-0.056	-0.001	0.051
Subgroup 4-1	Subgroup 4-1	0.001	0.079	-0.154	-0.052	0.001	0.054
Subgroup 5-1	Subgroup 5-1	0	0.081	-0.153	-0.055	-0.001	0.055
Subgroup 6-1	Subgroup 6-1	0	0.081	-0.16	-0.054	-0.001	0.053
Subgroup 7-1	Subgroup 7-1	0	0.08	-0.158	-0.054	0.002	0.053
Subgroup 8-1	Subgroup 8-1	-0.002	0.079	-0.156	-0.055	-0.003	0.052
Subgroup 3-2	Subgroup 3-2	-0.002	0.08	-0.157	-0.056	-0.002	0.052
Subgroup 4-2	Subgroup 4-2	0.001	0.079	-0.154	-0.051	0.001	0.054
Subgroup 5-2	Subgroup 5-2	-0.001	0.082	-0.16	-0.056	0	0.056
Subgroup 6-2	Subgroup 6-2	-0.003	0.081	-0.164	-0.057	-0.001	0.051
Subgroup 7-2	Subgroup 7-2	0.003	0.082	-0.16	-0.053	0.004	0.057
Subgroup 8-2	Subgroup 8-2	-0.001	0.08	-0.154	-0.055	0	0.053
Subgroup 4-3	Subgroup 4-3	-0.001	0.079	-0.16	-0.053	0	0.052
Subgroup 5-3	Subgroup 5-3	-0.001	0.081	-0.162	-0.054	0	0.053
Subgroup 6-3	Subgroup 6-3	0.001	0.08	-0.155	-0.053	0	0.054
Subgroup 7-3	Subgroup 7-3	0.001	0.08	-0.156	-0.055	0.002	0.056
Subgroup 8-3	Subgroup 8-3	-0.001	0.079	-0.158	-0.053	-0.001	0.05
Subgroup 5-4	Subgroup 5-4	0.001	0.08	-0.161	-0.051	0.002	0.055
Subgroup 6-4	Subgroup 6-4	0.003	0.08	-0.154	-0.05	0.003	0.057
Subgroup 7-4	Subgroup 7-4	-0.001	0.08	-0.157	-0.054	0.001	0.054
Subgroup 8-4	Subgroup 8-4	-0.001	0.08	-0.156	-0.056	-0.002	0.052
Subgroup 6-5	Subgroup 6-5	0.001	0.081	-0.154	-0.054	0.001	0.057
Subgroup 7-5	Subgroup 7-5	0	0.08	-0.155	-0.054	0	0.055
Subgroup 8-5	Subgroup 8-5	-0.001	0.08	-0.157	-0.054	0	0.052
Subgroup 7-6	Subgroup 7-6	-0.001	0.077	-0.152	-0.053	-0.002	0.052

	Comparison	Mean	SD	2.5%	25%	Median	75%
Subgroup 8-6	Subgroup 8-6	0.002	0.08	-0.155	-0.05	0.001	0.054
Subgroup 8-7	Subgroup 8-7	0.001	0.08	-0.16	-0.053	0.001	0.054

	97.5%	Prob <0
Subgroup 2-1	0.156	0.494
Subgroup 3-1	0.158	0.505
Subgroup 4-1	0.154	0.494
Subgroup 5-1	0.161	0.504
Subgroup 6-1	0.159	0.505
Subgroup 7-1	0.161	0.489
Subgroup 8-1	0.153	0.517
Subgroup 3-2	0.155	0.506
Subgroup 4-2	0.158	0.498
Subgroup 5-2	0.158	0.501
Subgroup 6-2	0.156	0.509
Subgroup 7-2	0.163	0.48
Subgroup 8-2	0.151	0.503
Subgroup 4-3	0.149	0.498
Subgroup 5-3	0.159	0.501
Subgroup 6-3	0.162	0.502
Subgroup 7-3	0.154	0.486
Subgroup 8-3	0.157	0.505
Subgroup 5-4	0.158	0.49
Subgroup 6-4	0.157	0.486
Subgroup 7-4	0.159	0.496
Subgroup 8-4	0.153	0.509
Subgroup 6-5	0.158	0.495
Subgroup 7-5	0.161	0.501
Subgroup 8-5	0.157	0.502
Subgroup 7-6	0.148	0.507
Subgroup 8-6	0.16	0.496
Subgroup 8-7	0.158	0.493

Model: Full stratification

Subgroup Effects

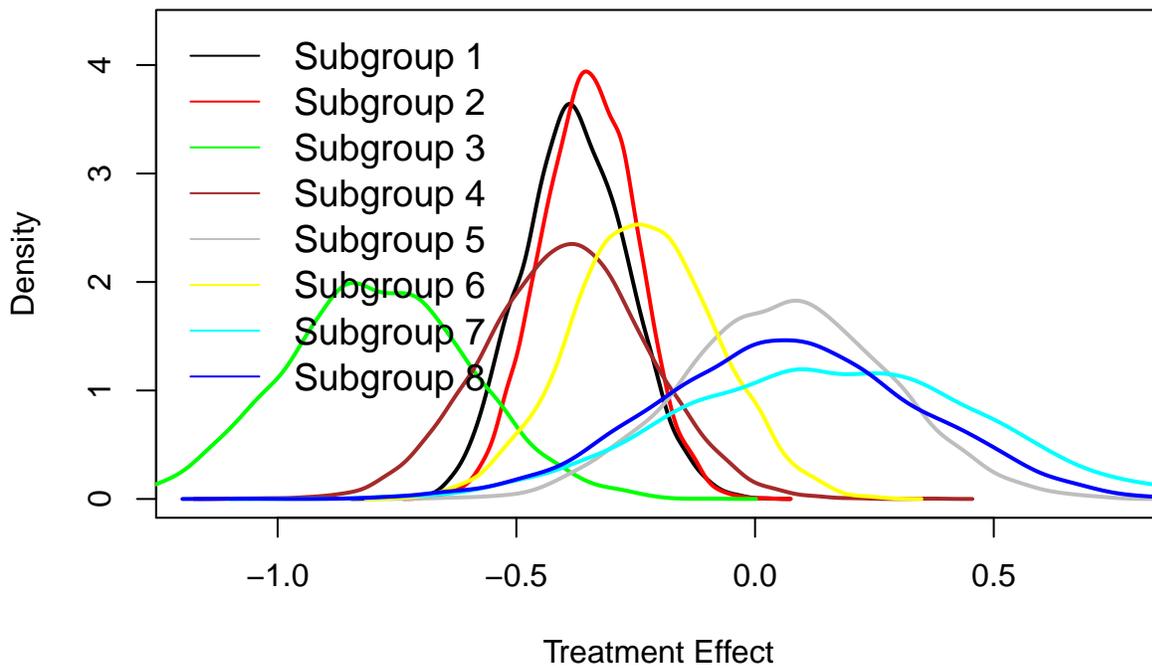
Table 6: Table continues below

	Subgroup	Mean	SD	2.5%	25%	Median	75%	97.5%
Subgroup 1	Subgroup 1	-0.377	0.11	-0.585	-0.451	-0.379	-0.301	-0.158
Subgroup 2	Subgroup 2	-0.349	0.099	-0.541	-0.416	-0.348	-0.279	-0.154
Subgroup 3	Subgroup 3	-0.795	0.197	-1.177	-0.927	-0.796	-0.661	-0.409
Subgroup 4	Subgroup 4	-0.395	0.17	-0.725	-0.511	-0.394	-0.282	-0.063
Subgroup 5	Subgroup 5	0.066	0.215	-0.357	-0.08	0.067	0.211	0.482
Subgroup 6	Subgroup 6	-0.235	0.153	-0.537	-0.337	-0.237	-0.131	0.064
Subgroup 7	Subgroup 7	0.152	0.317	-0.473	-0.072	0.149	0.369	0.772

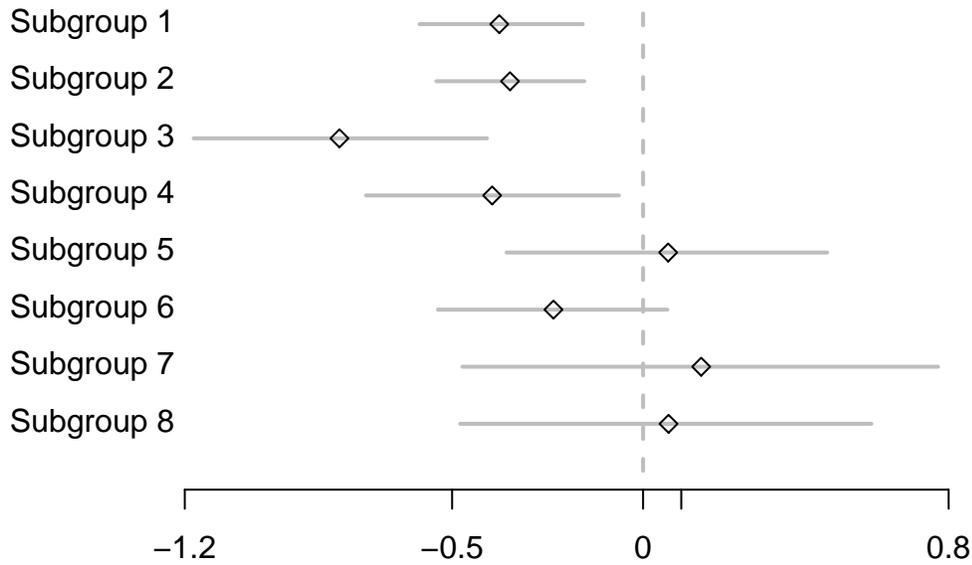
	Subgroup	Mean	SD	2.5%	25%	Median	75%	97.5%
Subgroup 8	Subgroup 8	0.067	0.276	-0.479	-0.119	0.067	0.249	0.598

	Prob < 0
Subgroup 1	1
Subgroup 2	1
Subgroup 3	1
Subgroup 4	0.99
Subgroup 5	0.384
Subgroup 6	0.933
Subgroup 7	0.322
Subgroup 8	0.402

Posterior Distribution of Subgroup Effects



Subgroup Effects Forest Plot



Subgroup Effects Comparison

Table 8: Table continues below

	Comparison	Mean	SD	2.5%	25%	Median	75%
Subgroup 2-1	Subgroup 2-1	0.027	0.149	-0.263	-0.074	0.028	0.131
Subgroup 3-1	Subgroup 3-1	-0.418	0.227	-0.866	-0.574	-0.413	-0.264
Subgroup 4-1	Subgroup 4-1	-0.022	0.204	-0.422	-0.157	-0.021	0.116
Subgroup 5-1	Subgroup 5-1	0.448	0.237	-0.019	0.283	0.449	0.61
Subgroup 6-1	Subgroup 6-1	0.138	0.191	-0.242	0.01	0.142	0.269
Subgroup 7-1	Subgroup 7-1	0.533	0.329	-0.108	0.303	0.533	0.752
Subgroup 8-1	Subgroup 8-1	0.451	0.303	-0.146	0.247	0.448	0.656
Subgroup 3-2	Subgroup 3-2	-0.447	0.22	-0.879	-0.596	-0.444	-0.298
Subgroup 4-2	Subgroup 4-2	-0.052	0.195	-0.427	-0.185	-0.051	0.084
Subgroup 5-2	Subgroup 5-2	0.42	0.239	-0.046	0.255	0.425	0.58
Subgroup 6-2	Subgroup 6-2	0.115	0.184	-0.248	-0.01	0.12	0.246
Subgroup 7-2	Subgroup 7-2	0.504	0.337	-0.147	0.27	0.508	0.736
Subgroup 8-2	Subgroup 8-2	0.415	0.288	-0.157	0.219	0.417	0.607
Subgroup 4-3	Subgroup 4-3	0.402	0.265	-0.118	0.225	0.404	0.581
Subgroup 5-3	Subgroup 5-3	0.858	0.292	0.282	0.662	0.859	1.061
Subgroup 6-3	Subgroup 6-3	0.555	0.246	0.073	0.386	0.555	0.723
Subgroup 7-3	Subgroup 7-3	0.947	0.376	0.235	0.685	0.935	1.207
Subgroup 8-3	Subgroup 8-3	0.867	0.338	0.2	0.646	0.859	1.096
Subgroup 5-4	Subgroup 5-4	0.45	0.273	-0.084	0.261	0.451	0.637
Subgroup 6-4	Subgroup 6-4	0.155	0.227	-0.287	0.006	0.149	0.301
Subgroup 7-4	Subgroup 7-4	0.55	0.36	-0.153	0.303	0.544	0.804
Subgroup 8-4	Subgroup 8-4	0.455	0.32	-0.176	0.244	0.455	0.667
Subgroup 6-5	Subgroup 6-5	-0.294	0.259	-0.799	-0.466	-0.298	-0.118

	Comparison	Mean	SD	2.5%	25%	Median	75%
Subgroup 7-5	Subgroup 7-5	0.084	0.389	-0.683	-0.188	0.087	0.348
Subgroup 8-5	Subgroup 8-5	-0.004	0.352	-0.701	-0.246	-0.008	0.238
Subgroup 7-6	Subgroup 7-6	0.387	0.352	-0.305	0.152	0.391	0.62
Subgroup 8-6	Subgroup 8-6	0.298	0.316	-0.32	0.087	0.302	0.516
Subgroup 8-7	Subgroup 8-7	-0.093	0.421	-0.9	-0.377	-0.102	0.196

	97.5%	Prob <0
Subgroup 2-1	0.324	0.434
Subgroup 3-1	0.026	0.968
Subgroup 4-1	0.378	0.542
Subgroup 5-1	0.921	0.03
Subgroup 6-1	0.5	0.235
Subgroup 7-1	1.18	0.049
Subgroup 8-1	1.04	0.066
Subgroup 3-2	-0.02	0.979
Subgroup 4-2	0.325	0.611
Subgroup 5-2	0.898	0.038
Subgroup 6-2	0.462	0.269
Subgroup 7-2	1.171	0.068
Subgroup 8-2	0.967	0.074
Subgroup 4-3	0.918	0.065
Subgroup 5-3	1.421	0.001
Subgroup 6-3	1.036	0.012
Subgroup 7-3	1.681	0.004
Subgroup 8-3	1.527	0.007
Subgroup 5-4	0.973	0.05
Subgroup 6-4	0.617	0.244
Subgroup 7-4	1.256	0.063
Subgroup 8-4	1.075	0.075
Subgroup 6-5	0.216	0.868
Subgroup 7-5	0.847	0.41
Subgroup 8-5	0.68	0.51
Subgroup 7-6	1.083	0.139
Subgroup 8-6	0.89	0.176
Subgroup 8-7	0.733	0.59

Model: Simple regression

Subgroup Effects

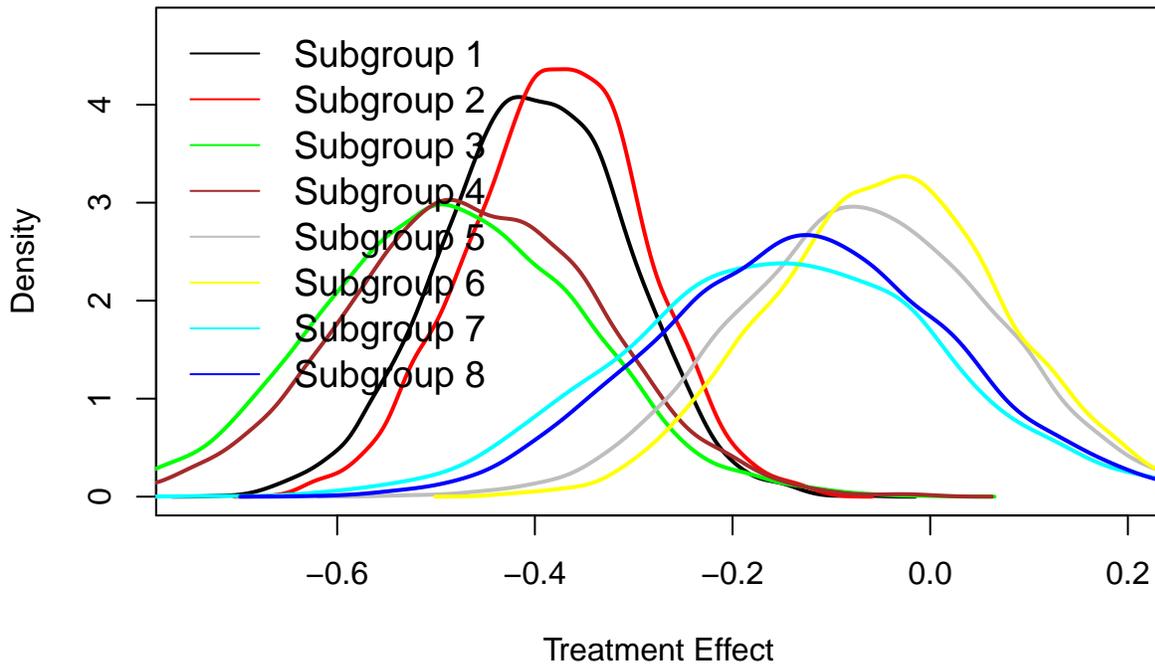
Table 10: Table continues below

	Subgroup	Mean	SD	2.5%	25%	Median	75%	97.5%
Subgroup 1	Subgroup 1	-0.401	0.093	-0.587	-0.464	-0.401	-0.338	-0.225
Subgroup 2	Subgroup 2	-0.379	0.089	-0.557	-0.437	-0.376	-0.318	-0.209
Subgroup 3	Subgroup 3	-0.486	0.132	-0.746	-0.576	-0.488	-0.394	-0.228
Subgroup 4	Subgroup 4	-0.463	0.128	-0.714	-0.549	-0.465	-0.374	-0.211
Subgroup 5	Subgroup 5	-0.066	0.134	-0.327	-0.157	-0.067	0.025	0.191
Subgroup 6	Subgroup 6	-0.044	0.122	-0.281	-0.125	-0.042	0.038	0.196

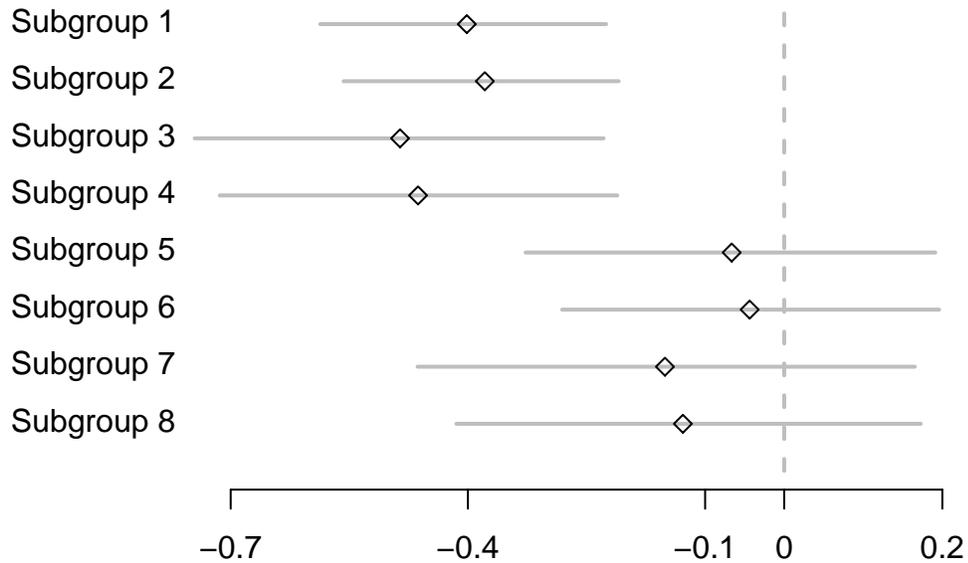
	Subgroup	Mean	SD	2.5%	25%	Median	75%	97.5%
Subgroup 7	Subgroup 7	-0.151	0.161	-0.464	-0.26	-0.149	-0.04	0.165
Subgroup 8	Subgroup 8	-0.128	0.151	-0.415	-0.23	-0.129	-0.028	0.173

	Prob < 0
Subgroup 1	1
Subgroup 2	1
Subgroup 3	1
Subgroup 4	1
Subgroup 5	0.688
Subgroup 6	0.64
Subgroup 7	0.832
Subgroup 8	0.8

Posterior Distribution of Subgroup Effects



Subgroup Effects Forest Plot



Subgroup Effects Comparison

Table 12: Table continues below

	Comparison	Mean	SD	2.5%	25%	Median	75%
Subgroup 2-1	Subgroup 2-1	0.022	0.127	-0.221	-0.06	0.02	0.106
Subgroup 3-1	Subgroup 3-1	-0.083	0.161	-0.4	-0.191	-0.082	0.024
Subgroup 4-1	Subgroup 4-1	-0.063	0.156	-0.365	-0.169	-0.063	0.042
Subgroup 5-1	Subgroup 5-1	0.335	0.164	0.017	0.223	0.338	0.446
Subgroup 6-1	Subgroup 6-1	0.359	0.154	0.054	0.254	0.358	0.464
Subgroup 7-1	Subgroup 7-1	0.25	0.184	-0.098	0.125	0.247	0.377
Subgroup 8-1	Subgroup 8-1	0.276	0.18	-0.07	0.155	0.275	0.398
Subgroup 3-2	Subgroup 3-2	-0.108	0.161	-0.419	-0.221	-0.107	0.001
Subgroup 4-2	Subgroup 4-2	-0.085	0.154	-0.387	-0.19	-0.084	0.02
Subgroup 5-2	Subgroup 5-2	0.312	0.158	0.013	0.203	0.313	0.416
Subgroup 6-2	Subgroup 6-2	0.335	0.149	0.034	0.236	0.335	0.433
Subgroup 7-2	Subgroup 7-2	0.224	0.183	-0.126	0.094	0.225	0.349
Subgroup 8-2	Subgroup 8-2	0.249	0.172	-0.075	0.13	0.245	0.365

	Comparison	Mean	SD	2.5%	25%	Median	75%
Subgroup 4-3	Subgroup 4-3	0.028	0.184	-0.334	-0.099	0.026	0.155
Subgroup 5-3	Subgroup 5-3	0.421	0.191	0.045	0.296	0.422	0.554
Subgroup 6-3	Subgroup 6-3	0.441	0.18	0.096	0.322	0.443	0.566
Subgroup 7-3	Subgroup 7-3	0.332	0.208	-0.067	0.186	0.328	0.48
Subgroup 8-3	Subgroup 8-3	0.353	0.201	-0.038	0.214	0.354	0.491
Subgroup 5-4	Subgroup 5-4	0.397	0.183	0.052	0.27	0.397	0.522
Subgroup 6-4	Subgroup 6-4	0.422	0.178	0.078	0.3	0.421	0.54
Subgroup 7-4	Subgroup 7-4	0.318	0.207	-0.098	0.183	0.32	0.46
Subgroup 8-4	Subgroup 8-4	0.33	0.198	-0.054	0.198	0.328	0.46
Subgroup 6-5	Subgroup 6-5	0.023	0.182	-0.33	-0.102	0.02	0.148
Subgroup 7-5	Subgroup 7-5	-0.086	0.205	-0.487	-0.225	-0.085	0.054
Subgroup 8-5	Subgroup 8-5	-0.063	0.202	-0.463	-0.197	-0.064	0.072
Subgroup 7-6	Subgroup 7-6	-0.109	0.203	-0.503	-0.245	-0.111	0.028
Subgroup 8-6	Subgroup 8-6	-0.086	0.195	-0.456	-0.22	-0.085	0.044
Subgroup 8-7	Subgroup 8-7	0.025	0.221	-0.405	-0.124	0.026	0.176

	97.5%	Prob <0
Subgroup 2-1	0.28	0.435
Subgroup 3-1	0.232	0.694
Subgroup 4-1	0.245	0.654
Subgroup 5-1	0.652	0.02
Subgroup 6-1	0.656	0.01
Subgroup 7-1	0.608	0.085
Subgroup 8-1	0.63	0.058
Subgroup 3-2	0.215	0.748
Subgroup 4-2	0.215	0.698
Subgroup 5-2	0.62	0.021
Subgroup 6-2	0.626	0.015
Subgroup 7-2	0.588	0.113
Subgroup 8-2	0.587	0.07
Subgroup 4-3	0.386	0.444
Subgroup 5-3	0.78	0.014
Subgroup 6-3	0.785	0.007
Subgroup 7-3	0.727	0.055
Subgroup 8-3	0.741	0.041
Subgroup 5-4	0.763	0.014
Subgroup 6-4	0.775	0.01
Subgroup 7-4	0.721	0.066
Subgroup 8-4	0.727	0.048
Subgroup 6-5	0.37	0.453

	97.5%	Prob <0
Subgroup 7-5	0.325	0.661
Subgroup 8-5	0.33	0.632
Subgroup 7-6	0.296	0.707
Subgroup 8-6	0.305	0.67
Subgroup 8-7	0.454	0.453

Model: Basic shrinkage

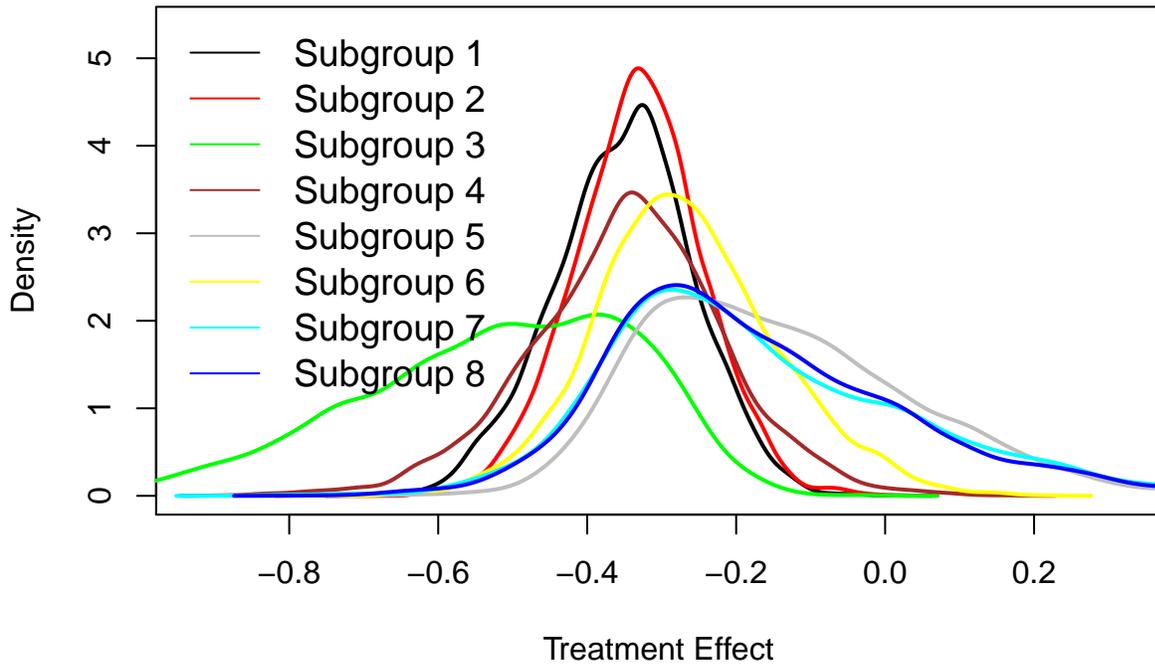
Subgroup Effects

Table 14: Table continues below

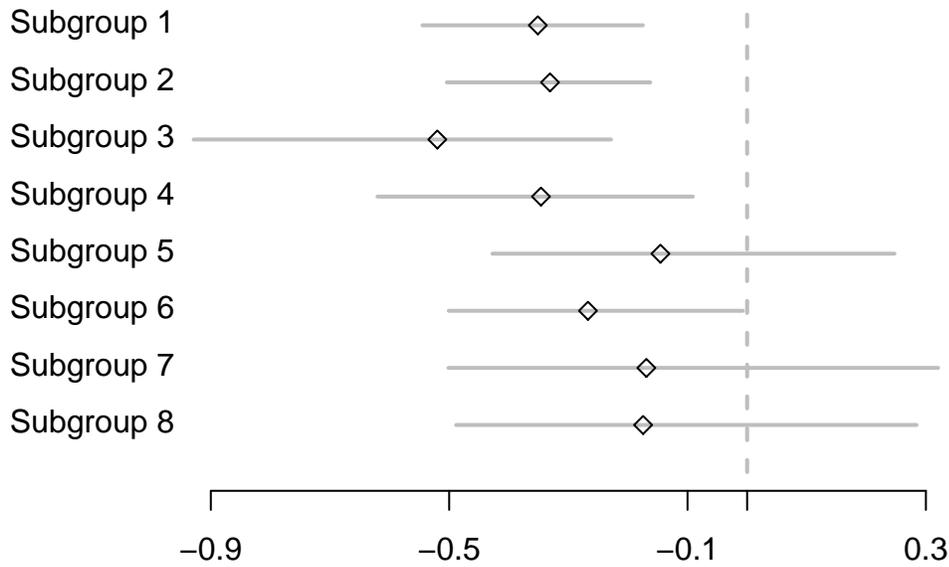
	Subgroup	Mean	SD	2.5%	25%	Median	75%	97.5%
Subgroup 1	Subgroup 1	-0.351	0.093	-0.545	-0.412	-0.346	-0.288	-0.175
Subgroup 2	Subgroup 2	-0.331	0.087	-0.504	-0.387	-0.33	-0.275	-0.163
Subgroup 3	Subgroup 3	-0.52	0.187	-0.929	-0.642	-0.5	-0.375	-0.228
Subgroup 4	Subgroup 4	-0.346	0.132	-0.62	-0.426	-0.341	-0.263	-0.091
Subgroup 5	Subgroup 5	-0.145	0.18	-0.427	-0.283	-0.169	-0.032	0.247
Subgroup 6	Subgroup 6	-0.267	0.123	-0.501	-0.349	-0.274	-0.191	-0.007
Subgroup 7	Subgroup 7	-0.169	0.211	-0.501	-0.316	-0.21	-0.046	0.321
Subgroup 8	Subgroup 8	-0.175	0.198	-0.488	-0.315	-0.21	-0.058	0.284

	Prob < 0
Subgroup 1	1
Subgroup 2	1
Subgroup 3	1
Subgroup 4	0.994
Subgroup 5	0.791
Subgroup 6	0.978
Subgroup 7	0.798
Subgroup 8	0.818

Posterior Distribution of Subgroup Effects



Subgroup Effects Forest Plot



Subgroup Effects Comparison

Table 16: Table continues below

	Comparison	Mean	SD	2.5%	25%	Median	75%
Subgroup 2-1	Subgroup 2-1	0.022	0.13	-0.237	-0.063	0.021	0.113

	Comparison	Mean	SD	2.5%	25%	Median	75%
Subgroup 3-1	Subgroup 3-1	-0.168	0.214	-0.621	-0.306	-0.15	-0.008
Subgroup 4-1	Subgroup 4-1	0.006	0.159	-0.318	-0.096	0.007	0.11
Subgroup 5-1	Subgroup 5-1	0.207	0.206	-0.136	0.056	0.187	0.338
Subgroup 6-1	Subgroup 6-1	0.085	0.152	-0.199	-0.018	0.081	0.186
Subgroup 7-1	Subgroup 7-1	0.183	0.23	-0.198	0.022	0.15	0.319
Subgroup 8-1	Subgroup 8-1	0.177	0.22	-0.193	0.026	0.15	0.309
Subgroup 3-2	Subgroup 3-2	-0.193	0.207	-0.638	-0.328	-0.175	-0.041
Subgroup 4-2	Subgroup 4-2	-0.015	0.155	-0.335	-0.113	-0.011	0.088
Subgroup 5-2	Subgroup 5-2	0.182	0.197	-0.164	0.042	0.167	0.307
Subgroup 6-2	Subgroup 6-2	0.066	0.153	-0.225	-0.036	0.061	0.162
Subgroup 7-2	Subgroup 7-2	0.164	0.231	-0.215	0.005	0.134	0.301
Subgroup 8-2	Subgroup 8-2	0.16	0.216	-0.203	0.013	0.134	0.287
Subgroup 4-3	Subgroup 4-3	0.18	0.227	-0.231	0.018	0.17	0.33
Subgroup 5-3	Subgroup 5-3	0.373	0.254	-0.067	0.189	0.353	0.538
Subgroup 6-3	Subgroup 6-3	0.252	0.222	-0.128	0.092	0.234	0.395
Subgroup 7-3	Subgroup 7-3	0.348	0.283	-0.122	0.141	0.322	0.525
Subgroup 8-3	Subgroup 8-3	0.348	0.27	-0.113	0.157	0.328	0.518
Subgroup 5-4	Subgroup 5-4	0.198	0.217	-0.191	0.043	0.187	0.338
Subgroup 6-4	Subgroup 6-4	0.075	0.183	-0.278	-0.044	0.071	0.199
Subgroup 7-4	Subgroup 7-4	0.177	0.245	-0.235	0.006	0.153	0.32
Subgroup 8-4	Subgroup 8-4	0.17	0.235	-0.243	0.008	0.147	0.318
Subgroup 6-5	Subgroup 6-5	-0.121	0.217	-0.57	-0.264	-0.108	0.031
Subgroup 7-5	Subgroup 7-5	-0.022	0.273	-0.547	-0.202	-0.031	0.144
Subgroup 8-5	Subgroup 8-5	-0.031	0.276	-0.562	-0.214	-0.032	0.142
Subgroup 7-6	Subgroup 7-6	0.099	0.243	-0.313	-0.065	0.076	0.242
Subgroup 8-6	Subgroup 8-6	0.097	0.234	-0.318	-0.066	0.077	0.238
Subgroup 8-7	Subgroup 8-7	-0.01	0.288	-0.584	-0.193	-0.012	0.163

	97.5%	Prob <0
Subgroup 2-1	0.272	0.432
Subgroup 3-1	0.2	0.763
Subgroup 4-1	0.319	0.48
Subgroup 5-1	0.65	0.152
Subgroup 6-1	0.403	0.292
Subgroup 7-1	0.701	0.211
Subgroup 8-1	0.682	0.201
Subgroup 3-2	0.162	0.82
Subgroup 4-2	0.275	0.53
Subgroup 5-2	0.602	0.177
Subgroup 6-2	0.383	0.334
Subgroup 7-2	0.696	0.24
Subgroup 8-2	0.665	0.226
Subgroup 4-3	0.65	0.222
Subgroup 5-3	0.917	0.053
Subgroup 6-3	0.713	0.121
Subgroup 7-3	0.975	0.087
Subgroup 8-3	0.912	0.085
Subgroup 5-4	0.67	0.19
Subgroup 6-4	0.436	0.348

	97.5%	Prob <0
Subgroup 7-4	0.732	0.24
Subgroup 8-4	0.667	0.234
Subgroup 6-5	0.272	0.698
Subgroup 7-5	0.547	0.546
Subgroup 8-5	0.525	0.55
Subgroup 7-6	0.646	0.36
Subgroup 8-6	0.604	0.36
Subgroup 8-7	0.591	0.519

Model: Regression and shrinkage

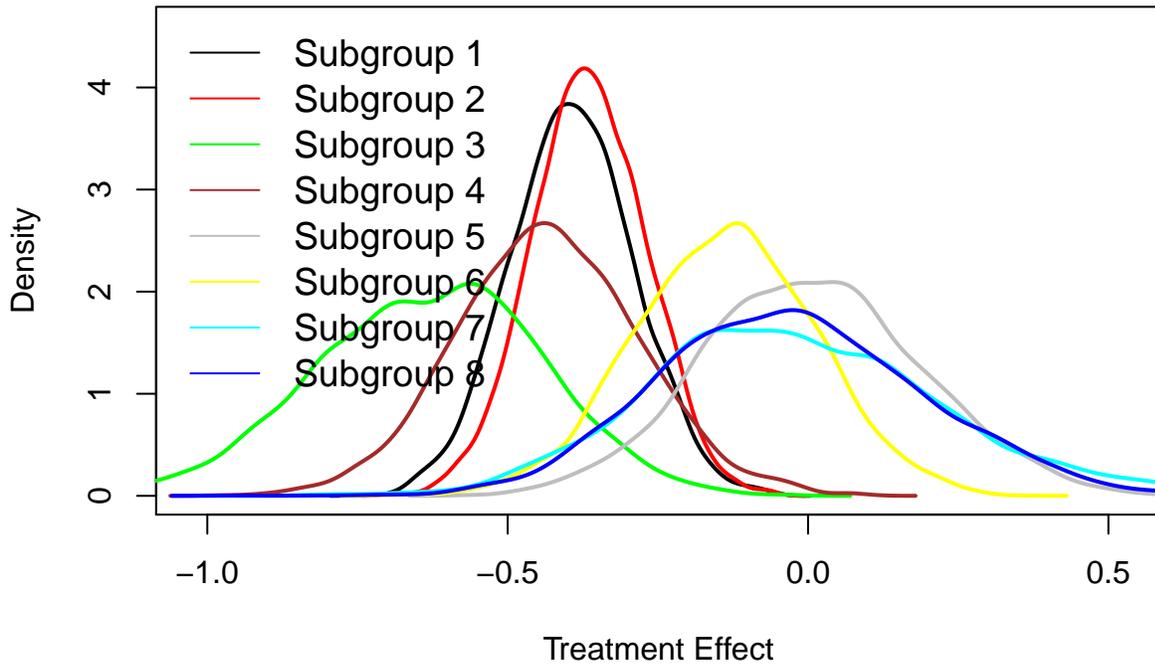
Subgroup Effects

Table 18: Table continues below

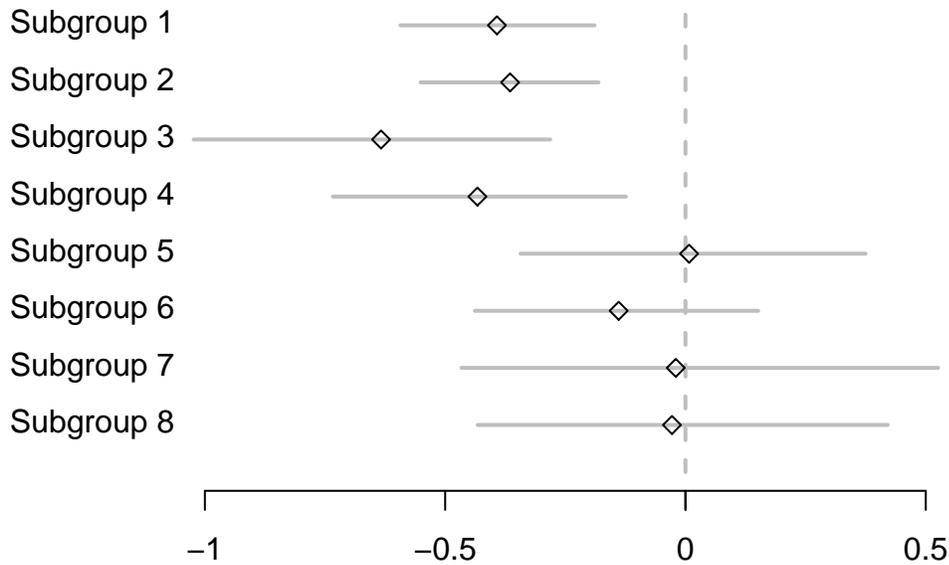
	Subgroup	Mean	SD	2.5%	25%	Median	75%	97.5%
Subgroup 1	Subgroup 1	-0.392	0.103	-0.593	-0.462	-0.393	-0.324	-0.189
Subgroup 2	Subgroup 2	-0.365	0.095	-0.551	-0.427	-0.366	-0.3	-0.181
Subgroup 3	Subgroup 3	-0.633	0.19	-1.023	-0.763	-0.624	-0.501	-0.281
Subgroup 4	Subgroup 4	-0.433	0.152	-0.734	-0.535	-0.435	-0.332	-0.124
Subgroup 5	Subgroup 5	0.008	0.182	-0.343	-0.119	0.004	0.126	0.375
Subgroup 6	Subgroup 6	-0.139	0.15	-0.438	-0.24	-0.135	-0.037	0.151
Subgroup 7	Subgroup 7	-0.02	0.249	-0.466	-0.188	-0.037	0.133	0.526
Subgroup 8	Subgroup 8	-0.028	0.221	-0.432	-0.183	-0.037	0.114	0.421

	Prob < 0
Subgroup 1	1
Subgroup 2	1
Subgroup 3	1
Subgroup 4	0.998
Subgroup 5	0.494
Subgroup 6	0.82
Subgroup 7	0.559
Subgroup 8	0.567

Posterior Distribution of Subgroup Effects



Subgroup Effects Forest Plot



Subgroup Effects Comparison

Table 20: Table continues below

	Comparison	Mean	SD	2.5%	25%	Median	75%
Subgroup 2-1	Subgroup 2-1	0.027	0.143	-0.25	-0.073	0.028	0.124

	Comparison	Mean	SD	2.5%	25%	Median	75%
Subgroup 3-1	Subgroup 3-1	-0.239	0.215	-0.658	-0.384	-0.236	-0.093
Subgroup 4-1	Subgroup 4-1	-0.039	0.182	-0.383	-0.161	-0.039	0.081
Subgroup 5-1	Subgroup 5-1	0.402	0.212	-0.007	0.258	0.4	0.548
Subgroup 6-1	Subgroup 6-1	0.252	0.18	-0.111	0.135	0.256	0.374
Subgroup 7-1	Subgroup 7-1	0.364	0.261	-0.124	0.186	0.348	0.538
Subgroup 8-1	Subgroup 8-1	0.366	0.241	-0.094	0.199	0.359	0.524
Subgroup 3-2	Subgroup 3-2	-0.267	0.212	-0.7	-0.41	-0.259	-0.118
Subgroup 4-2	Subgroup 4-2	-0.069	0.182	-0.433	-0.19	-0.068	0.053
Subgroup 5-2	Subgroup 5-2	0.376	0.203	-0.002	0.233	0.37	0.511
Subgroup 6-2	Subgroup 6-2	0.223	0.179	-0.14	0.101	0.225	0.347
Subgroup 7-2	Subgroup 7-2	0.342	0.269	-0.136	0.163	0.322	0.511
Subgroup 8-2	Subgroup 8-2	0.345	0.244	-0.12	0.179	0.333	0.506
Subgroup 4-3	Subgroup 4-3	0.199	0.243	-0.27	0.034	0.197	0.362
Subgroup 5-3	Subgroup 5-3	0.637	0.264	0.135	0.452	0.632	0.816
Subgroup 6-3	Subgroup 6-3	0.492	0.247	0.013	0.323	0.485	0.657
Subgroup 7-3	Subgroup 7-3	0.61	0.312	0.05	0.398	0.594	0.813
Subgroup 8-3	Subgroup 8-3	0.604	0.291	0.05	0.404	0.597	0.799
Subgroup 5-4	Subgroup 5-4	0.44	0.233	-0.014	0.283	0.442	0.595
Subgroup 6-4	Subgroup 6-4	0.295	0.213	-0.131	0.158	0.299	0.442
Subgroup 7-4	Subgroup 7-4	0.416	0.291	-0.137	0.218	0.414	0.6
Subgroup 8-4	Subgroup 8-4	0.4	0.27	-0.121	0.214	0.395	0.578
Subgroup 6-5	Subgroup 6-5	-0.148	0.237	-0.626	-0.304	-0.146	0.015
Subgroup 7-5	Subgroup 7-5	-0.028	0.309	-0.609	-0.232	-0.036	0.168
Subgroup 8-5	Subgroup 8-5	-0.034	0.291	-0.61	-0.233	-0.032	0.163
Subgroup 7-6	Subgroup 7-6	0.117	0.292	-0.423	-0.077	0.104	0.303
Subgroup 8-6	Subgroup 8-6	0.108	0.269	-0.412	-0.075	0.101	0.291
Subgroup 8-7	Subgroup 8-7	-0.011	0.339	-0.69	-0.232	-0.003	0.214

	97.5%	Prob <0
Subgroup 2-1	0.309	0.429
Subgroup 3-1	0.17	0.865
Subgroup 4-1	0.327	0.587
Subgroup 5-1	0.823	0.026
Subgroup 6-1	0.599	0.085
Subgroup 7-1	0.898	0.074
Subgroup 8-1	0.845	0.056
Subgroup 3-2	0.127	0.9
Subgroup 4-2	0.291	0.646
Subgroup 5-2	0.778	0.025
Subgroup 6-2	0.561	0.108
Subgroup 7-2	0.904	0.089
Subgroup 8-2	0.835	0.072
Subgroup 4-3	0.674	0.204
Subgroup 5-3	1.159	0.004
Subgroup 6-3	0.981	0.022
Subgroup 7-3	1.266	0.016
Subgroup 8-3	1.182	0.016
Subgroup 5-4	0.895	0.029
Subgroup 6-4	0.707	0.09

	97.5%	Prob <0
Subgroup 7-4	1.015	0.073
Subgroup 8-4	0.941	0.067
Subgroup 6-5	0.311	0.729
Subgroup 7-5	0.62	0.542
Subgroup 8-5	0.548	0.544
Subgroup 7-6	0.729	0.358
Subgroup 8-6	0.634	0.345
Subgroup 8-7	0.639	0.504

Model: Dixon and Simon

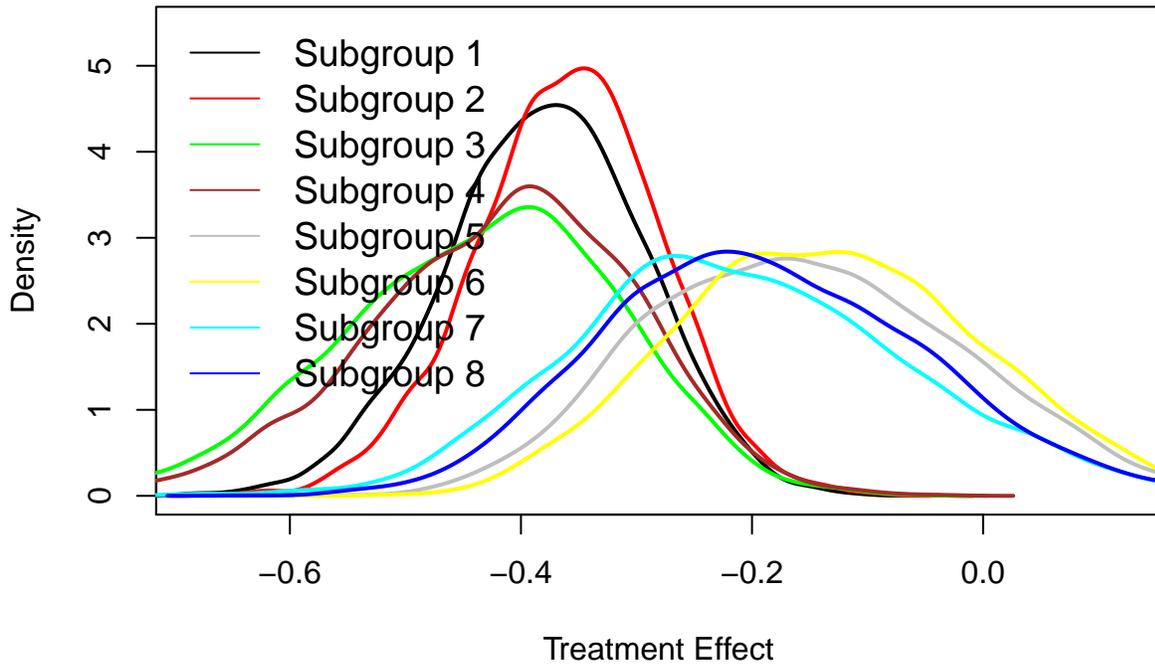
Subgroup Effects

Table 22: Table continues below

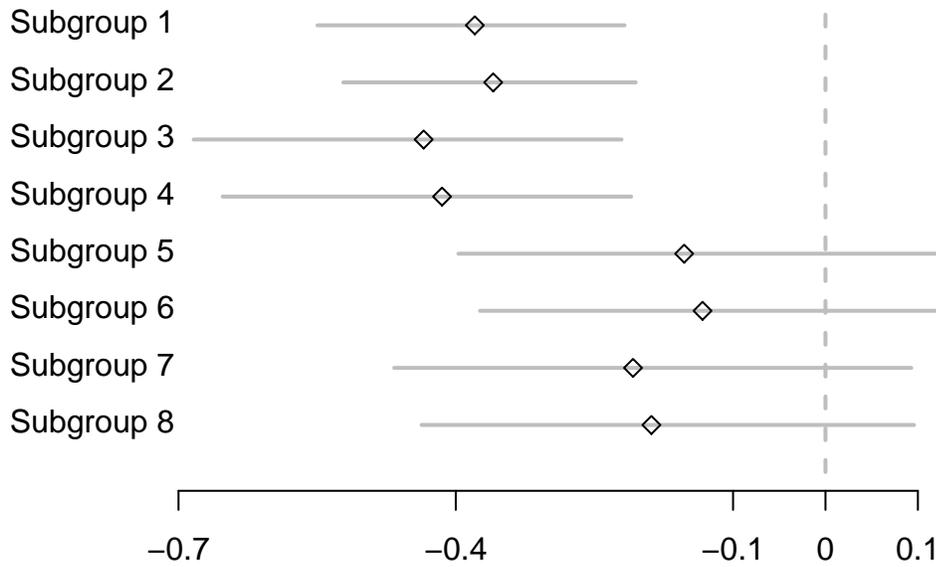
	Subgroup	Mean	SD	2.5%	25%	Median	75%	97.5%
Subgroup 1	Subgroup 1	-0.379	0.086	-0.55	-0.436	-0.377	-0.321	-0.217
Subgroup 2	Subgroup 2	-0.36	0.08	-0.522	-0.411	-0.357	-0.306	-0.205
Subgroup 3	Subgroup 3	-0.435	0.121	-0.684	-0.515	-0.425	-0.349	-0.221
Subgroup 4	Subgroup 4	-0.415	0.115	-0.652	-0.491	-0.406	-0.334	-0.21
Subgroup 5	Subgroup 5	-0.153	0.136	-0.397	-0.252	-0.159	-0.06	0.119
Subgroup 6	Subgroup 6	-0.133	0.13	-0.374	-0.225	-0.137	-0.045	0.122
Subgroup 7	Subgroup 7	-0.208	0.146	-0.467	-0.307	-0.217	-0.112	0.093
Subgroup 8	Subgroup 8	-0.188	0.138	-0.437	-0.287	-0.197	-0.096	0.096

	Prob < 0
Subgroup 1	1
Subgroup 2	1
Subgroup 3	1
Subgroup 4	1
Subgroup 5	0.86
Subgroup 6	0.838
Subgroup 7	0.914
Subgroup 8	0.909

Posterior Distribution of Subgroup Effects



Subgroup Effects Forest Plot



Subgroup Effects Comparison

Table 24: Table continues below

	Comparison	Mean	SD	2.5%	25%	Median	75%
Subgroup 2-1	Subgroup 2-1	0.023	0.118	-0.209	-0.059	0.022	0.101
Subgroup 3-1	Subgroup 3-1	-0.053	0.148	-0.347	-0.151	-0.048	0.05
Subgroup 4-1	Subgroup 4-1	-0.038	0.146	-0.333	-0.134	-0.034	0.063
Subgroup 5-1	Subgroup 5-1	0.226	0.158	-0.074	0.115	0.223	0.335
Subgroup 6-1	Subgroup 6-1	0.249	0.158	-0.054	0.144	0.245	0.354
Subgroup 7-1	Subgroup 7-1	0.177	0.171	-0.149	0.06	0.172	0.29
Subgroup 8-1	Subgroup 8-1	0.192	0.161	-0.109	0.082	0.182	0.299
Subgroup 3-2	Subgroup 3-2	-0.075	0.144	-0.365	-0.171	-0.073	0.023
Subgroup 4-2	Subgroup 4-2	-0.056	0.143	-0.339	-0.148	-0.051	0.042
Subgroup 5-2	Subgroup 5-2	0.207	0.159	-0.088	0.095	0.199	0.313
Subgroup 6-2	Subgroup 6-2	0.231	0.154	-0.063	0.125	0.228	0.336
Subgroup 7-2	Subgroup 7-2	0.15	0.165	-0.159	0.035	0.146	0.263
Subgroup 8-2	Subgroup 8-2	0.167	0.16	-0.123	0.054	0.16	0.273
Subgroup 4-3	Subgroup 4-3	0.021	0.167	-0.305	-0.093	0.019	0.131
Subgroup 5-3	Subgroup 5-3	0.281	0.18	-0.051	0.155	0.276	0.406
Subgroup 6-3	Subgroup 6-3	0.302	0.173	-0.025	0.181	0.298	0.415
Subgroup 7-3	Subgroup 7-3	0.224	0.186	-0.125	0.091	0.223	0.351
Subgroup 8-3	Subgroup 8-3	0.249	0.184	-0.097	0.123	0.245	0.373
Subgroup 5-4	Subgroup 5-4	0.26	0.178	-0.07	0.134	0.253	0.38
Subgroup 6-4	Subgroup 6-4	0.28	0.172	-0.037	0.16	0.276	0.397
Subgroup 7-4	Subgroup 7-4	0.204	0.185	-0.141	0.072	0.199	0.332
Subgroup 8-4	Subgroup 8-4	0.227	0.177	-0.102	0.099	0.223	0.347
Subgroup 6-5	Subgroup 6-5	0.019	0.185	-0.342	-0.107	0.02	0.146
Subgroup 7-5	Subgroup 7-5	-0.065	0.199	-0.451	-0.203	-0.063	0.074
Subgroup 8-5	Subgroup 8-5	-0.039	0.191	-0.407	-0.167	-0.038	0.09
Subgroup 7-6	Subgroup 7-6	-0.076	0.198	-0.456	-0.209	-0.081	0.055
Subgroup 8-6	Subgroup 8-6	-0.056	0.19	-0.422	-0.188	-0.061	0.073

	Comparison	Mean	SD	2.5%	25%	Median	75%
Subgroup 8-7	Subgroup 8-7	0.022	0.203	-0.373	-0.116	0.02	0.159

	97.5%	Prob <0
Subgroup 2-1	0.256	0.42
Subgroup 3-1	0.229	0.633
Subgroup 4-1	0.238	0.594
Subgroup 5-1	0.54	0.07
Subgroup 6-1	0.564	0.056
Subgroup 7-1	0.527	0.146
Subgroup 8-1	0.521	0.112
Subgroup 3-2	0.204	0.698
Subgroup 4-2	0.21	0.642
Subgroup 5-2	0.526	0.088
Subgroup 6-2	0.531	0.066
Subgroup 7-2	0.487	0.183
Subgroup 8-2	0.499	0.152
Subgroup 4-3	0.357	0.452
Subgroup 5-3	0.641	0.057
Subgroup 6-3	0.655	0.037
Subgroup 7-3	0.591	0.12
Subgroup 8-3	0.607	0.086
Subgroup 5-4	0.617	0.064
Subgroup 6-4	0.621	0.047
Subgroup 7-4	0.578	0.132
Subgroup 8-4	0.58	0.098
Subgroup 6-5	0.378	0.457
Subgroup 7-5	0.316	0.616
Subgroup 8-5	0.331	0.578
Subgroup 7-6	0.31	0.652
Subgroup 8-6	0.315	0.622
Subgroup 8-7	0.425	0.458

Model: Extended Dixon and Simon

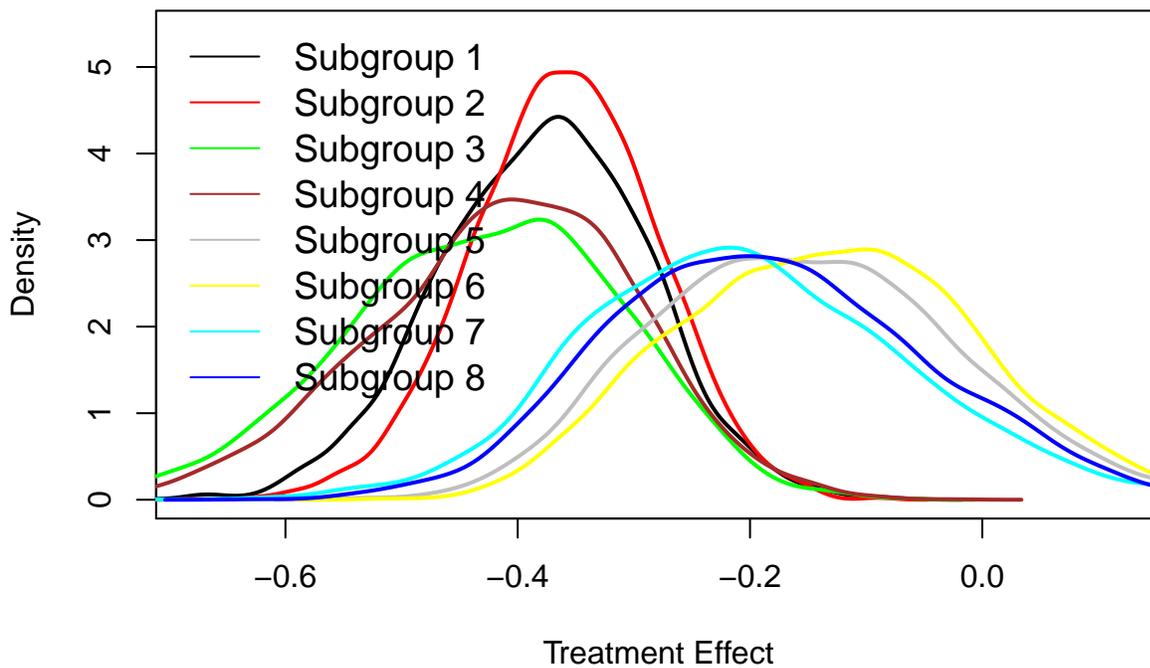
Subgroup Effects

Table 26: Table continues below

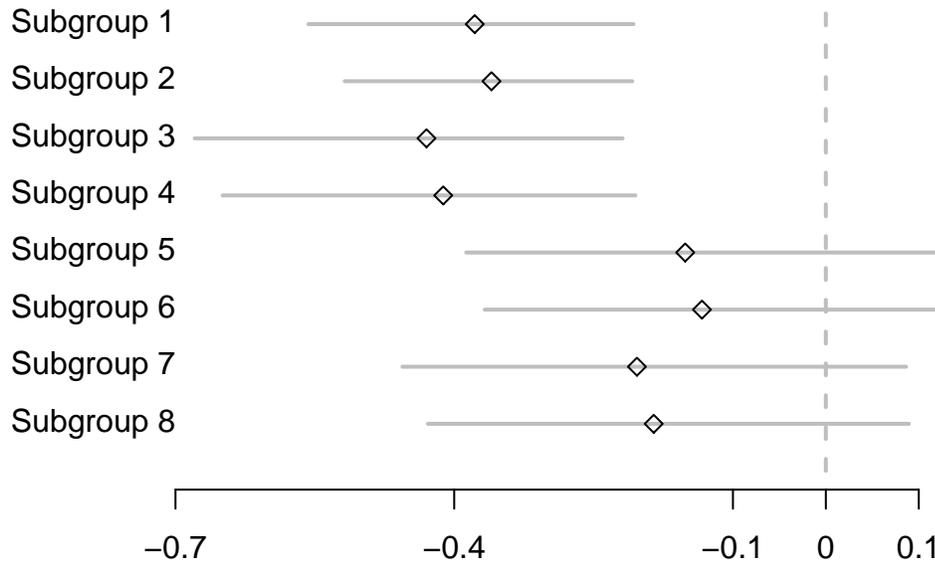
	Subgroup	Mean	SD	2.5%	25%	Median	75%	97.5%
Subgroup 1	Subgroup 1	-0.378	0.09	-0.557	-0.438	-0.375	-0.316	-0.207
Subgroup 2	Subgroup 2	-0.36	0.079	-0.518	-0.412	-0.359	-0.306	-0.208
Subgroup 3	Subgroup 3	-0.43	0.119	-0.679	-0.509	-0.423	-0.344	-0.219
Subgroup 4	Subgroup 4	-0.412	0.114	-0.649	-0.486	-0.406	-0.331	-0.205
Subgroup 5	Subgroup 5	-0.151	0.132	-0.387	-0.248	-0.157	-0.062	0.122
Subgroup 6	Subgroup 6	-0.133	0.127	-0.367	-0.225	-0.134	-0.045	0.118
Subgroup 7	Subgroup 7	-0.203	0.14	-0.456	-0.302	-0.212	-0.113	0.086
Subgroup 8	Subgroup 8	-0.185	0.137	-0.428	-0.281	-0.193	-0.095	0.089

	Prob < 0
Subgroup 1	1
Subgroup 2	1
Subgroup 3	1
Subgroup 4	1
Subgroup 5	0.869
Subgroup 6	0.851
Subgroup 7	0.918
Subgroup 8	0.902

Posterior Distribution of Subgroup Effects



Subgroup Effects Forest Plot



Subgroup Effects Comparison

Table 28: Table continues below

	Comparison	Mean	SD	2.5%	25%	Median	75%
Subgroup 2-1	Subgroup 2-1	0.021	0.12	-0.211	-0.059	0.021	0.101
Subgroup 3-1	Subgroup 3-1	-0.048	0.149	-0.356	-0.147	-0.044	0.053
Subgroup 4-1	Subgroup 4-1	-0.035	0.147	-0.325	-0.135	-0.033	0.066
Subgroup 5-1	Subgroup 5-1	0.233	0.161	-0.075	0.122	0.231	0.338
Subgroup 6-1	Subgroup 6-1	0.244	0.156	-0.058	0.136	0.242	0.351
Subgroup 7-1	Subgroup 7-1	0.177	0.167	-0.131	0.058	0.171	0.286
Subgroup 8-1	Subgroup 8-1	0.192	0.167	-0.119	0.073	0.186	0.306
Subgroup 3-2	Subgroup 3-2	-0.072	0.145	-0.362	-0.17	-0.07	0.031
Subgroup 4-2	Subgroup 4-2	-0.053	0.137	-0.331	-0.143	-0.05	0.037
Subgroup 5-2	Subgroup 5-2	0.212	0.158	-0.08	0.099	0.207	0.318
Subgroup 6-2	Subgroup 6-2	0.228	0.149	-0.047	0.121	0.225	0.331
Subgroup 7-2	Subgroup 7-2	0.153	0.159	-0.141	0.047	0.145	0.257
Subgroup 8-2	Subgroup 8-2	0.173	0.16	-0.126	0.061	0.166	0.277

	Comparison	Mean	SD	2.5%	25%	Median	75%
Subgroup 4-3	Subgroup 4-3	0.014	0.163	-0.304	-0.095	0.011	0.122
Subgroup 5-3	Subgroup 5-3	0.281	0.182	-0.05	0.154	0.275	0.405
Subgroup 6-3	Subgroup 6-3	0.299	0.177	-0.034	0.178	0.298	0.42
Subgroup 7-3	Subgroup 7-3	0.223	0.184	-0.12	0.095	0.215	0.348
Subgroup 8-3	Subgroup 8-3	0.248	0.184	-0.093	0.12	0.242	0.368
Subgroup 5-4	Subgroup 5-4	0.255	0.176	-0.067	0.131	0.249	0.37
Subgroup 6-4	Subgroup 6-4	0.279	0.172	-0.053	0.163	0.276	0.394
Subgroup 7-4	Subgroup 7-4	0.209	0.181	-0.128	0.087	0.202	0.325
Subgroup 8-4	Subgroup 8-4	0.225	0.181	-0.109	0.102	0.215	0.342
Subgroup 6-5	Subgroup 6-5	0.019	0.183	-0.329	-0.107	0.017	0.141
Subgroup 7-5	Subgroup 7-5	-0.057	0.191	-0.436	-0.18	-0.059	0.07
Subgroup 8-5	Subgroup 8-5	-0.029	0.19	-0.399	-0.158	-0.033	0.101
Subgroup 7-6	Subgroup 7-6	-0.07	0.189	-0.435	-0.2	-0.072	0.055
Subgroup 8-6	Subgroup 8-6	-0.05	0.189	-0.41	-0.18	-0.045	0.079
Subgroup 8-7	Subgroup 8-7	0.02	0.194	-0.354	-0.113	0.021	0.149

	97.5%	Prob <0
Subgroup 2-1	0.257	0.43
Subgroup 3-1	0.227	0.614
Subgroup 4-1	0.243	0.59
Subgroup 5-1	0.558	0.067
Subgroup 6-1	0.552	0.06
Subgroup 7-1	0.515	0.142
Subgroup 8-1	0.525	0.118
Subgroup 3-2	0.198	0.674
Subgroup 4-2	0.209	0.644
Subgroup 5-2	0.534	0.087
Subgroup 6-2	0.531	0.062
Subgroup 7-2	0.477	0.167
Subgroup 8-2	0.49	0.138
Subgroup 4-3	0.344	0.471
Subgroup 5-3	0.656	0.056
Subgroup 6-3	0.655	0.046
Subgroup 7-3	0.59	0.112
Subgroup 8-3	0.624	0.087
Subgroup 5-4	0.612	0.069
Subgroup 6-4	0.616	0.051
Subgroup 7-4	0.588	0.115
Subgroup 8-4	0.591	0.1

	97.5%	Prob <0
Subgroup 6-5	0.388	0.462
Subgroup 7-5	0.311	0.625
Subgroup 8-5	0.342	0.565
Subgroup 7-6	0.308	0.652
Subgroup 8-6	0.318	0.598
Subgroup 8-7	0.395	0.455

Summary

Based on leave-one-out cross-validation information criterion (LOOIC), results from the Extended Dixon and Simon model are reported here. However, this does not imply that the selected model is significantly better than the other models. Please consider the totality of the information for drawing the conclusions.

Based on LOOIC, Extended Dixon and Simon model is selected for the analysis dataset. The summary result table is as follows:

Table 30: Table continues below

	Model	Subgroup	lvef	sodium
Subgroup 1	Extended Dixon and Simon	1	0	0
Subgroup 2	Extended Dixon and Simon	2	0	0
Subgroup 3	Extended Dixon and Simon	3	0	1
Subgroup 4	Extended Dixon and Simon	4	0	1
Subgroup 5	Extended Dixon and Simon	5	1	0
Subgroup 6	Extended Dixon and Simon	6	1	0
Subgroup 7	Extended Dixon and Simon	7	1	1
Subgroup 8	Extended Dixon and Simon	8	1	1

	any.vasodilator.use	Mean	SD	Prob < 0
Subgroup 1	0	-0.378	0.09	1
Subgroup 2	1	-0.36	0.079	1
Subgroup 3	0	-0.43	0.119	1
Subgroup 4	1	-0.412	0.114	1
Subgroup 5	0	-0.151	0.132	0.869
Subgroup 6	1	-0.133	0.127	0.851
Subgroup 7	0	-0.203	0.14	0.918
Subgroup 8	1	-0.185	0.137	0.902