Hemophilia data

status		
1	-0.0056	-0.1657
1	-0.1698	-0.1585
1	-0.3469	-0.1879
1	-0.0894	0.0064
1	-0.1679	0.0713
1	-0.0836	0.0106
1	-0.1979	-0.0005
1	-0.0762	0.0392
1	-0.1913	-0.2123
1	-0.1092	-0.1190
1	-0.5268	-0.4773
1	-0.0842	0.0248
1	-0.0225	-0.0580
1	0.0084	0.0782
1	-0.1827	-0.1138
1	0.1237	0.2140
1	-0.4702	-0.3099
1	-0.1519	-0.0686
1	0.0006	-0.1153
1	-0.2015	-0.0498
1	-0.1932	-0.2293
1	0.1507	0.0933
1	-0.1259	-0.0669
1	-0.1551	-0.1232
1	-0.1952	-0.1007
1	0.0291	0.0442
1	-0.2280	-0.1710
1	-0.0997	-0.0733
1	-0.1972	-0.0607
1	-0.0867	-0.0560
2	-0.3478	0.1151
2	-0.3618	-0.2008
2	-0.4986	-0.0860
2	-0.5015	-0.2984
2	-0.1326	0.0097
2	-0.6911	-0.3390
2	-0.3608	0.1237
2	-0.4535	-0.1682
2	-0.3479	-0.1721
2	-0.3539	0.0722
2	-0.4719	-0.1079
2	-0.3610	-0.0399
2	-0.3226	0.1670
2	-0.4319	-0.0687
2	-0.2734	-0.0020
2	-0.5573	0.0548
2	-0.3755	-0.1865
2	-0.4950	-0.0153
2	-0.5107	-0.2483
2	-0.1652	0.2132
2	-0.2447	-0.0407
2	-0.4232	-0.0998
2	-0.2375	0.2876
2	-0.2205	0.0046
2	-0.2154	-0.0219
2	-0.3447	0.0097
2	-0.2540	-0.0573
2	-0.3778	-0.2682
2	-0.4046	-0.1162
2	-0.0639	0.1569
2	-0.3351	-0.1368
2	-0.0149	0.1539
2	-0.0312	0.1400
2	-0.1740	-0.0776
2	-0.1416	0.1642
2	-0.1508	0.1137
2	-0.0964	0.0531
2	-0.2642	0.0867

status		
2	-0.0234	0.0804
2	-0.3352	0.0875
2	-0.1878	0.2510
2	-0.1744	0.1892
2	-0.4055	-0.2418
2	-0.2444	0.1614
2	-0.4784	0.0282

Noncarriers: 1 Carriers: 2

$X_1 = \log_{10}$ (AHF activity)

$X_2 = \log_{10}$ (AHF antigen)

$\hat{\mu}_1 = (-0.1349 \quad -0.0779)'$ $\hat{\mu}_2 = (-0.3079 \quad -0.0060)'$

S1 =

0.0209	0.0155
0.0155	0.0179

S2 =

0.0238	0.0154
0.0154	0.0240

S =

0.0226	0.0154
0.0154	0.0216

$\hat{a} = S^{-1}(\hat{\mu}_1 - \hat{\mu}_2) = (19.3190, -17.1243)$

$\hat{m} = \frac{1}{2}(\hat{\mu}_1 - \hat{\mu}_2)' S^{-1}(\hat{\mu}_1 - \hat{\mu}_2) = -3.5595$

Rule with non-informative priors allocate $\underline{x}$ to noncarriers if $19.319x_1 - 17.124x_2 > -3.560$, allocate $\underline{x}$ to carriers if $19.319x_1 - 17.124x_2 < -3.560$

If $\underline{x} = (-.1744 \quad .1892)'$, then $19.319x_1 - 17.124x_2 = -6.609$ So allocate this to the carriers.

If $\hat{p}_1 = \frac{30}{75} = .4$, $\hat{p}_2 = .6$, then $\log(\hat{p}_2/\hat{p}_1) = -.405$. Then the rule is: allocate $\underline{x}$ to noncarriers if

$19.319x_1 - 17.124x_2 > -3.154$