QOL-Physical

* All the diagnostics for the full and reduced model look good!
* The parameter estimate for drug use does not change from the crude to the full
* The priors don’t need to change, none are close to the edges of the prior distribution
* DIC crude = 3320.320, DIC full = 3093.463

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| **Posterior Summaries and Intervals** | | | | | |
| **Parameter** | **N** | **Mean** | **Standard Deviation** | **95% HPD Interval** | |
| **betaint** | 100000 | 15.5571 | 3.8337 | 7.8492 | 22.8782 |
| **betaSmokerInd** | 100000 | -0.8142 | 0.8160 | -2.4438 | 0.7693 |
| **betaDrinksInd** | 100000 | -0.9509 | 1.3934 | -3.7489 | 1.6555 |
| **betaRaceInd** | 100000 | -0.00104 | 31.5169 | -63.1839 | 60.3756 |
| **betaEducationInd** | 100000 | 1.0765 | 1.0254 | -1.0104 | 3.0365 |
| **betaAdherenceInd** | 100000 | 1.2473 | 1.2177 | -1.1756 | 3.6359 |
| **betaIncomeMedInd** | 100000 | 1.9025 | 1.0796 | -0.2593 | 3.9646 |
| **betaIncomeHighInd** | 100000 | 2.2565 | 1.2294 | -0.0857 | 4.7270 |
| **betaHashVInd** | 100000 | 0.6645 | 0.7363 | -0.7715 | 2.0836 |
| **betaBMI** | 100000 | 0.0674 | 0.0874 | -0.1063 | 0.2335 |
| **betaAge** | 100000 | -0.1206 | 0.0436 | -0.2044 | -0.0331 |
| **betaHardDrugs** | 100000 | -3.0955 | 1.3900 | -5.9218 | -0.4560 |
| **betaQOLBase** | 100000 | -0.3301 | 0.0449 | -0.4217 | -0.2467 |
| **sigma2** | 100000 | 58.1203 | 3.9406 | 50.5557 | 65.9492 |

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| **Posterior Summaries and Intervals** | | | | | |
| **Parameter** | **N** | **Mean** | **Standard Deviation** | **95% HPD Interval** | |
| **betaint** | 100000 | 14.6787 | 2.0975 | 10.6364 | 18.8845 |
| **betaHardDrugs** | 100000 | -3.6467 | 1.3329 | -6.2632 | -1.0364 |
| **betaQOLBase** | 100000 | -0.3121 | 0.0402 | -0.3906 | -0.2337 |
| **sigma2** | 100000 | 61.7264 | 4.0268 | 54.0774 | 69.7876 |

QOL-Mental

* All the diagnostic plots look good!
* The estimate changes, but not drastically enough----the interpretation stays the same because the intervals contain zero for both
* Priors are good as it too.
* DIC for crude = 3547.074, DIC for full = 3328.946

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| **Posterior Summaries and Intervals** | | | | | |
| **Parameter** | **N** | **Mean** | **Standard Deviation** | **95% HPD Interval** | |
| **betaint** | 100000 | 16.4836 | 4.0514 | 8.3123 | 24.1994 |
| **betaSmokerInd** | 100000 | 1.7094 | 1.0780 | -0.3658 | 3.8490 |
| **betaDrinksInd** | 100000 | -0.3037 | 1.8255 | -3.9225 | 3.2268 |
| **betaRaceInd** | 100000 | -0.0148 | 31.6561 | -61.0629 | 62.7091 |
| **betaEducationInd** | 100000 | 1.0082 | 1.3450 | -1.5492 | 3.7267 |
| **betaAdherenceInd** | 100000 | 2.2911 | 1.6088 | -0.9304 | 5.4409 |
| **betaIncomeMedInd** | 100000 | 1.0091 | 1.3554 | -1.6265 | 3.6806 |
| **betaIncomeHighInd** | 100000 | 2.4132 | 1.5294 | -0.7007 | 5.2883 |
| **betaHashVInd** | 100000 | 1.3467 | 0.9828 | -0.6841 | 3.1706 |
| **betaBMI** | 100000 | 0.0467 | 0.1132 | -0.1786 | 0.2639 |
| **betaAge** | 100000 | 0.0820 | 0.0562 | -0.0267 | 0.1934 |
| **betaHardDrugs** | 100000 | -0.4596 | 1.7955 | -4.0932 | 2.9386 |
| **betaQOLBase** | 100000 | -0.5325 | 0.0357 | -0.5997 | -0.4605 |
| **sigma2** | 100000 | 98.5281 | 6.6923 | 85.5501 | 111.8 |

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| **Posterior Summaries and Intervals** | | | | | |
| **Parameter** | **N** | **Mean** | **Standard Deviation** | **95% HPD Interval** | |
| **betaint** | 100000 | 25.0679 | 1.5821 | 21.9745 | 28.1589 |
| **betaHardDrugs** | 100000 | -0.0452 | 1.6673 | -3.2998 | 3.2055 |
| **betaQOLBase** | 100000 | -0.5065 | 0.0334 | -0.5740 | -0.4435 |
| **sigma2** | 100000 | 99.4125 | 6.4672 | 87.2099 | 112.4 |

CD4 Count

* Diagnostic Plots look good!
* The estimate doesn’t change drastically
* Had to change the prior distribution for the sigma values
* DIC crude = 6292.001, DIC full = 5880.173

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| **Posterior Summaries and Intervals** | | | | | |
| **Parameter** | **N** | **Mean** | **Standard Deviation** | **95% HPD Interval** | |
| **betaint** | 26667 | 49.3244 | 56.2513 | -63.3750 | 156.9 |
| **betaSmokerInd** | 26667 | -10.6357 | 15.8172 | -41.2600 | 20.5217 |
| **betaDrinksInd** | 26667 | -3.5441 | 22.5173 | -46.3216 | 41.3411 |
| **betaRaceInd** | 26667 | -0.4483 | 31.3761 | -61.3312 | 61.3356 |
| **betaEducationInd** | 26667 | 18.5881 | 18.0337 | -17.3557 | 53.5656 |
| **betaAdherenceInd** | 26667 | 31.2939 | 20.7659 | -9.9594 | 71.0130 |
| **betaIncomeMedInd** | 26667 | 17.6851 | 17.1761 | -15.6573 | 51.5377 |
| **betaIncomeHighInd** | 26667 | -25.8987 | 18.8165 | -62.5089 | 10.6131 |
| **betaHashVInd** | 26667 | 30.0291 | 14.8598 | 0.7312 | 58.6988 |
| **betaBMI** | 26667 | 4.8718 | 1.8004 | 1.3214 | 8.3564 |
| **betaAge** | 26667 | -0.5504 | 0.9183 | -2.3870 | 1.2311 |
| **betaHardDrugs** | 26667 | -82.7244 | 22.4302 | -128.0 | -40.1647 |
| **betaCD4Base** | 26667 | -0.0584 | 0.0403 | -0.1355 | 0.0221 |
| **sigma2** | 26667 | 30235.4 | 2063.7 | 26313.3 | 34327.1 |

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| **Posterior Summaries and Intervals** | | | | | |
| **Parameter** | **N** | **Mean** | **Standard Deviation** | **95% HPD Interval** | |
| **betaint** | 26667 | 183.5 | 16.0843 | 151.8 | 215.5 |
| **betaHardDrugs** | 26667 | -89.2782 | 21.7383 | -131.4 | -45.8162 |
| **betaCD4Base** | 26667 | -0.0220 | 0.0384 | -0.0968 | 0.0540 |
| **sigma2** | 26667 | 31793.8 | 2096.6 | 27902.4 | 36064.3 |

VLoad

* No need to worry about changing priors
* The estimate doesn’t change, so good with just these models
* Diagnostics are good too!
* DIC for crude = 390.493, DIC for full = 370.170

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| **Parameter** | **N** | **Mean** | **Standard Deviation** | **95% HPD Interval** | |
| **betaint** | 300000 | 1.2957 | 0.1793 | 0.9446 | 1.6489 |
| **betaSmokerInd** | 300000 | -0.0445 | 0.0394 | -0.1206 | 0.0326 |
| **betaDrinksInd** | 300000 | -0.0146 | 0.0672 | -0.1459 | 0.1163 |
| **betaRaceInd** | 300000 | 0.0948 | 31.5773 | -60.9702 | 62.9607 |
| **betaEducationInd** | 300000 | 0.0401 | 0.0496 | -0.0557 | 0.1391 |
| **betaAdherenceInd** | 300000 | -0.1476 | 0.0596 | -0.2601 | -0.0262 |
| **betaIncomeMedInd** | 300000 | -0.1033 | 0.0510 | -0.2036 | -0.00348 |
| **betaIncomeHighInd** | 300000 | -0.2050 | 0.0580 | -0.3182 | -0.0910 |
| **betaHashVInd** | 300000 | -0.0474 | 0.0361 | -0.1181 | 0.0233 |
| **betaBMI** | 300000 | -0.00851 | 0.00415 | -0.0166 | -0.00031 |
| **betaAge** | 300000 | -0.00009 | 0.00204 | -0.00412 | 0.00389 |
| **betaHardDrugs** | 300000 | -0.0265 | 0.0664 | -0.1598 | 0.1020 |
| **betaLogVloadBase** | 300000 | -0.0392 | 0.00872 | -0.0570 | -0.0228 |
| **sigma2** | 300000 | 0.1340 | 0.00910 | 0.1165 | 0.1519 |

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| **Posterior Summaries and Intervals** | | | | | |
| **Parameter** | **N** | **Mean** | **Standard Deviation** | **95% HPD Interval** | |
| **betaint** | 300000 | 0.7342 | 0.0848 | 0.5693 | 0.9001 |
| **betaHardDrugs** | 300000 | -0.0172 | 0.0615 | -0.1349 | 0.1045 |
| **betaLogVloadBase** | 300000 | -0.0309 | 0.00797 | -0.0468 | -0.0157 |
| **sigma2** | 300000 | 0.1352 | 0.00879 | 0.1184 | 0.1528 |