|  |  |  |  |
| --- | --- | --- | --- |
| Model | Breast DIC | LB DIC | Total DIC |
| Univariate Spatial (Baseline) | 55061.63 | 224710.2 | 279771.8 |
| Univariate Spatial Temporal | **54949.92** | 225743.4 | 280693.3 |
| Multivariate Spatial | 55027.95 | 22700 | N/A |
| Multivariate Spatial Temporal | 54962.73 | 225036.6 | 279999.3 |
| Multivariate Spatial Temporal 1 Change Point | 54957.74 | **224667.8** | **279625.5** |
| Multivariate Spatial Temporal 2 Change Point | 54955.18 | 224867.7 | 279822.9 |

\*Temporal inclusion improves overall model, Spatial alone does not do much.

|  |  |  |  |
| --- | --- | --- | --- |
| Model | Breast D-Bar | LB D-Bar | Total D-Bar |
| Univariate Spatial (Baseline) | 54975.68 | 224700.2 | 279675.88 |
| Univariate Spatial Temporal | 54879.27 | 224540.2 | 279419.47 |
| Multivariate Spatial | 54981.83 | 224700 | 279681.83 |
| Multivariate Spatial Temporal | 54903.84 | 224511.9 | 279415.74 |
| Multivariate Spatial Temporal 1 Change Point | **54903.35** | **224503.4** | **279406.75** |
| Multivariate Spatial Temporal 2 Change Point | 54903.48 | 224507.8 | 279411.28 |

\*Since the D-bar agrees with the conclusions of the DIC, the Multivariate Spatial Temporal model with 1 change point is the best model

\*improving for lung cancer more than breast, borrowing information

\*multivariate = shared random effects

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Model | Breast DIC | Colorectal DIC | Prostate DIC | Total DIC |
| Univariate Spatial (Baseline) | 55019.80 | 92190.13 | 42023.34 | 189233.3 |
| Univariate Spatial Temporal | 54947.03 | 92148.67 | **41882.56** | 188978.3 |
| Multivariate Spatial | 55018.38 | 92177.54 | 42045.73 | 189241.7 |
| Multivariate Spatial Temporal | 54948.88 | **92114.31** | 41890.91 | 188954.1 |
| Multivariate Spatial Temporal 1 Change Point | **54945.29** | *92114.84* | *41887.41* | **188947.5** |

\*Temporal inclusion improves overall model, spatial alone does not do much

\*Prostate cancer has a better fit in a univariate spatial temporal model

\*shared change point bt breast and colorectal