**Supplementary Table 3: Calibration results.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **L1 Logistic Regression** | | **Random Forest** | | **Gradient Boosted Trees** | |
| **Decile** | **Predicted Probability** | **Actual Probability** | **Predicted Probability** | **Actual Probability** | **Predicted Probability** | **Actual Probability** |
| 1 | 0.003 | 0.001 | 0.000 | 0.003 | 0.003 | 0.002 |
| 2 | 0.005 | 0.004 | 0.000 | 0.001 | 0.004 | 0.003 |
| 3 | 0.009 | 0.005 | 0.002 | 0.008 | 0.006 | 0.007 |
| 4 | 0.015 | 0.005 | 0.007 | 0.006 | 0.011 | 0.011 |
| 5 | 0.020 | 0.014 | 0.015 | 0.017 | 0.020 | 0.009 |
| 6 | 0.027 | 0.017 | 0.028 | 0.015 | 0.028 | 0.022 |
| 7 | 0.039 | 0.032 | 0.050 | 0.037 | 0.040 | 0.026 |
| 8 | 0.062 | 0.069 | 0.085 | 0.064 | 0.061 | 0.057 |
| 9 | 0.107 | 0.129 | 0.146 | 0.133 | 0.111 | 0.136 |
| 10 | 0.295 | 0.286 | 0.278 | 0.279 | 0.272 | 0.291 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **HOSPITAL** | | **LACE** | |
| **Decile** | **Predicted Probability** | **Actual Probability** | **Predicted Probability** | **Actual Probability** |
| 1 | 0.031 | 0.014 | 0.021 | 0.012 |
| 2 | 0.031 | 0.006 | 0.025 | 0.013 |
| 3 | 0.033 | 0.007 | 0.030 | 0.018 |
| 4 | 0.042 | 0.041 | 0.034 | 0.026 |
| 5 | 0.050 | 0.036 | 0.042 | 0.028 |
| 6 | 0.052 | 0.018 | 0.051 | 0.053 |
| 7 | 0.067 | 0.113 | 0.062 | 0.068 |
| 8 | 0.067 | 0.090 | 0.078 | 0.076 |
| 9 | 0.092 | 0.087 | 0.105 | 0.114 |
| 10 | 0.126 | 0.152 | 0.176 | 0.156 |

***Table legend:* Tables show the predicted and actual readmission probabilities by deciles of predicted readmission probabilities for the three methods (regularized logistic regression, random forests and gradient boosted trees) for a single random split using the general and lab-based features, as well HOSPITAL and LACE.**