|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Trivariable Cox Regression** | | **Mid Esophagus** | | | **GEJ** | | | **Gastric** | | | **Pancreas** | | | **Colon** | | | **Rectum** | | |
| **HR** | **95% CI** | | **HR** | **95% CI** | | **HR** | **95% CI** | | **HR** | **95% CI** | | **HR** | **95% CI** | | **HR** | **95% CI** | |
| **Race/ethnicity, vs NL White** | **NL Black** | 1.42 | 1.36 | 1.48 | 1.37 | 1.31 | 1.43 | 1.01 | 0.97 | 1.05 | 1.12 | 1.10 | 1.15 | 1.22 | 1.19 | 1.25 | 1.36 | 1.31 | 1.40 |
| **Latinx** | 0.89 | 0.82 | 0.98 | 0.97 | 0.91 | 1.02 | 0.80 | 0.76 | 0.84 | 0.93 | 0.90 | 0.97 | 0.93 | 0.90 | 0.97 | 0.97 | 0.92 | 1.01 |
| **API** | 0.96 | 0.87 | 1.06 | 0.86 | 0.79 | 0.93 | 0.58 | 0.55 | 0.61 | 0.90 | 0.86 | 0.95 | 0.73 | 0.69 | 0.77 | 0.82 | 0.77 | 0.88 |
| **Other** | 0.84 | 0.74 | 0.96 | 0.83 | 0.77 | 0.90 | 0.82 | 0.73 | 0.91 | 0.96 | 0.91 | 1.01 | 0.86 | 0.80 | 0.92 | 0.99 | 0.91 | 1.07 |
| **Years since 2000** | | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.99 | 0.95 | 0.95 | 0.96 | 1.01 | 1.00 | 1.01 | 1.00 | 1.00 | 1.01 |
| **Age at diagnosis** | | 1.02 | 1.02 | 1.02 | 1.03 | 1.02 | 1.03 | 1.02 | 1.02 | 1.02 | 1.03 | 1.03 | 1.03 | 1.06 | 1.05 | 1.06 | 1.05 | 1.05 | 1.05 |
| **Multivariable Cox Regression model** | | | | | | | | | | | | | | | | | | | |
| **Race/ethnicity, vs NL White** | **NL Black** | 1.04 | 0.99 | 1.09 | 1.03 | 0.98 | 1.08 | 0.92 | 0.88 | 0.96 | 0.92 | 0.90 | 0.94 | 1.10 | 1.07 | 1.12 | 1.14 | 1.09 | 1.18 |
| **Latinx** | 0.75 | 0.68 | 0.83 | 0.83 | 0.78 | 0.88 | 0.75 | 0.71 | 0.79 | 0.77 | 0.74 | 0.80 | 0.83 | 0.80 | 0.86 | 0.81 | 0.77 | 0.85 |
| **API** | 0.82 | 0.73 | 0.91 | 0.78 | 0.71 | 0.85 | 0.64 | 0.61 | 0.68 | 0.89 | 0.84 | 0.93 | 0.75 | 0.71 | 0.80 | 0.83 | 0.78 | 0.89 |
| **Other** | 0.85 | 0.74 | 0.97 | 0.89 | 0.82 | 0.96 | 0.78 | 0.70 | 0.88 | 0.92 | 0.87 | 0.97 | 0.86 | 0.80 | 0.92 | 0.93 | 0.86 | 1.01 |
| **Clinical Stage, vs 1** | **2** | 1.55 | 1.47 | 1.63 | 1.55 | 1.51 | 1.60 | 1.62 | 1.56 | 1.68 | 1.36 | 1.34 | 1.38 | 1.35 | 1.33 | 1.38 | 1.63 | 1.58 | 1.67 |
| **3** | 2.21 | 2.10 | 2.33 | 2.08 | 2.02 | 2.14 | 2.33 | 2.23 | 2.43 | 1.38 | 1.35 | 1.41 | 2.01 | 1.97 | 2.06 | 1.85 | 1.79 | 1.90 |
| **Histology - UGI squamous vs adeno, Gastric diffuse/signet/lintitis plastica vs all other adeno, LGI signet ring vs all other adeno** | | 1.09 | 1.05 | 1.13 | 1.03 | 1.00 | 1.07 | 1.23 | 1.19 | 1.28 | . | . | . | 1.52 | 1.44 | 1.61 | 2.54 | 2.33 | 2.78 |
| **Chemotherapy, vs none** | **Given** | 0.63 | 0.60 | 0.66 | 0.78 | 0.75 | 0.80 | 0.76 | 0.73 | 0.79 | 0.61 | 0.60 | 0.63 | 0.85 | 0.84 | 0.87 | 0.77 | 0.74 | 0.80 |
| **Unknown** | 0.65 | 0.57 | 0.74 | 0.84 | 0.78 | 0.91 | 0.79 | 0.73 | 0.86 | 0.68 | 0.66 | 0.71 | 0.77 | 0.74 | 0.81 | 0.71 | 0.66 | 0.77 |
| **Radiation, vs none** | **Given** | 0.77 | 0.73 | 0.81 | 0.89 | 0.87 | 0.92 | 0.93 | 0.89 | 0.96 | 0.86 | 0.84 | 0.87 | 1.31 | 1.25 | 1.37 | 0.86 | 0.83 | 0.89 |
| **Unknown** | 0.61 | 0.44 | 0.85 | 0.73 | 0.61 | 0.87 | 0.70 | 0.58 | 0.86 | 0.77 | 0.70 | 0.85 | 0.77 | 0.71 | 0.82 | 0.86 | 0.74 | 1.00 |
| **Grade, vs 1** | **2** | 1.17 | 1.08 | 1.27 | 1.23 | 1.18 | 1.29 | 1.29 | 1.18 | 1.40 | 1.42 | 1.37 | 1.47 | 1.06 | 1.04 | 1.09 | 1.05 | 1.01 | 1.09 |
| **3** | 1.33 | 1.22 | 1.44 | 1.56 | 1.49 | 1.64 | 1.63 | 1.49 | 1.77 | 1.80 | 1.74 | 1.86 | 1.41 | 1.37 | 1.45 | 1.54 | 1.47 | 1.61 |
| **4** | 1.21 | 0.98 | 1.49 | 1.62 | 1.47 | 1.79 | 1.64 | 1.42 | 1.89 | 1.54 | 1.41 | 1.67 | 1.49 | 1.42 | 1.57 | 1.55 | 1.41 | 1.70 |
| **Unknown** | 1.06 | 0.97 | 1.15 | 1.12 | 1.07 | 1.18 | 1.25 | 1.14 | 1.37 | 1.29 | 1.25 | 1.34 | 1.10 | 1.07 | 1.13 | 0.99 | 0.95 | 1.03 |
| **Did not receive surgery, vs received** | | 2.25 | 2.15 | 2.35 | 2.38 | 2.33 | 2.44 | 3.15 | 3.05 | 3.26 | 2.69 | 2.63 | 2.75 | 4.06 | 3.95 | 4.18 | 2.66 | 2.60 | 2.73 |
| **Male vs Female Sex** | | 1.15 | 1.11 | 1.19 | 1.06 | 1.04 | 1.09 | 1.07 | 1.04 | 1.10 | 1.03 | 1.02 | 1.05 | 1.23 | 1.21 | 1.24 | 1.19 | 1.16 | 1.21 |
| **Comorbidity count, vs 0** | **2** | 1.18 | 1.13 | 1.22 | 1.14 | 1.12 | 1.17 | 1.09 | 1.05 | 1.13 | 1.11 | 1.09 | 1.13 | 1.30 | 1.28 | 1.32 | 1.33 | 1.30 | 1.36 |
| **3** | 1.44 | 1.34 | 1.55 | 1.27 | 1.22 | 1.32 | 1.25 | 1.18 | 1.32 | 1.25 | 1.21 | 1.29 | 1.78 | 1.74 | 1.82 | 1.82 | 1.74 | 1.90 |
| **4** | 1.49 | 1.33 | 1.67 | 1.42 | 1.34 | 1.50 | 1.42 | 1.31 | 1.54 | 1.49 | 1.42 | 1.56 | 2.32 | 2.24 | 2.40 | 2.49 | 2.34 | 2.65 |
| **Facility Type, vs community cancer program (CCP)** | **Comprehensive CCP** | 1.05 | 0.99 | 1.13 | 0.98 | 0.94 | 1.02 | 1.00 | 0.94 | 1.06 | 1.03 | 0.99 | 1.06 | 1.01 | 0.99 | 1.04 | 0.95 | 0.92 | 0.99 |
| **Academic program** | 1.00 | 0.93 | 1.08 | 0.94 | 0.90 | 0.99 | 0.90 | 0.84 | 0.96 | 0.95 | 0.92 | 0.99 | 0.97 | 0.94 | 1.00 | 0.90 | 0.86 | 0.94 |
| **Integrated network CP** | 1.04 | 0.96 | 1.12 | 0.98 | 0.94 | 1.03 | 1.00 | 0.93 | 1.07 | 1.01 | 0.97 | 1.06 | 1.01 | 0.97 | 1.04 | 0.93 | 0.88 | 0.97 |
| **Other/unknown** | 1.26 | 0.99 | 1.61 | 1.49 | 1.34 | 1.65 | 1.70 | 1.50 | 1.94 | 0.82 | 0.74 | 0.92 | 2.94 | 2.71 | 3.20 | 2.22 | 2.03 | 2.42 |
| **Hospital Volume, vs bottom 25 percentile\*\*** | **25-75th percentile** | 1.00 | 0.95 | 1.04 | 0.95 | 0.92 | 0.97 | 0.93 | 0.90 | 0.97 | 0.92 | 0.90 | 0.94 | 0.98 | 0.96 | 1.00 | 0.96 | 0.94 | 0.99 |
| **75th-90th percentile** | 0.84 | 0.79 | 0.91 | 0.86 | 0.82 | 0.89 | 0.84 | 0.79 | 0.89 | 0.88 | 0.86 | 0.91 | 0.93 | 0.90 | 0.95 | 0.88 | 0.85 | 0.92 |
| **90th+** | 0.90 | 0.83 | 0.97 | 0.72 | 0.69 | 0.75 | 0.68 | 0.63 | 0.73 | 0.79 | 0.76 | 0.82 | 0.90 | 0.87 | 0.93 | 0.79 | 0.75 | 0.82 |
| **Region, Vs Northeast** | **Midwest** | 1.07 | 1.02 | 1.12 | 1.05 | 1.02 | 1.08 | 1.13 | 1.08 | 1.18 | 1.13 | 1.11 | 1.16 | 1.00 | 0.98 | 1.02 | 1.00 | 0.97 | 1.03 |
| **South** | 1.08 | 1.03 | 1.13 | 1.06 | 1.03 | 1.09 | 1.19 | 1.14 | 1.25 | 1.11 | 1.09 | 1.13 | 1.02 | 1.00 | 1.04 | 1.06 | 1.03 | 1.09 |
| **West** | 1.00 | 0.94 | 1.06 | 0.98 | 0.95 | 1.01 | 1.14 | 1.08 | 1.20 | 1.03 | 1.00 | 1.05 | 0.97 | 0.94 | 0.99 | 0.96 | 0.93 | 1.00 |
| **Zip Income Quartile, vs bottom** | **2nd** | 0.94 | 0.90 | 0.99 | 0.97 | 0.94 | 1.00 | 0.99 | 0.95 | 1.04 | 0.97 | 0.95 | 0.99 | 0.96 | 0.94 | 0.98 | 0.94 | 0.92 | 0.97 |
| **3rd** | 0.95 | 0.90 | 1.00 | 0.95 | 0.92 | 0.98 | 0.95 | 0.90 | 0.99 | 0.95 | 0.93 | 0.98 | 0.92 | 0.90 | 0.94 | 0.90 | 0.87 | 0.93 |
| **Top** | 0.88 | 0.83 | 0.93 | 0.90 | 0.87 | 0.93 | 0.90 | 0.85 | 0.94 | 0.89 | 0.87 | 0.91 | 0.84 | 0.83 | 0.86 | 0.80 | 0.78 | 0.83 |
| **Unknown** | 0.75 | 0.59 | 0.96 | 0.96 | 0.83 | 1.11 | 0.83 | 0.65 | 1.07 | 1.27 | 1.19 | 1.36 | 1.99 | 1.87 | 2.13 | 1.78 | 1.62 | 1.95 |
| **Insurance Type, Vs Private** | **None** | 1.35 | 1.24 | 1.47 | 1.37 | 1.29 | 1.46 | 0.93 | 0.85 | 1.02 | 1.09 | 1.04 | 1.15 | 1.59 | 1.51 | 1.67 | 1.67 | 1.58 | 1.77 |
| **Medicaid** | 1.31 | 1.22 | 1.40 | 1.28 | 1.23 | 1.34 | 1.03 | 0.96 | 1.10 | 1.15 | 1.11 | 1.19 | 1.75 | 1.68 | 1.82 | 1.71 | 1.63 | 1.79 |
| **Medicare** | 1.03 | 0.98 | 1.07 | 1.06 | 1.03 | 1.08 | 1.03 | 0.99 | 1.07 | 1.05 | 1.03 | 1.07 | 1.15 | 1.13 | 1.18 | 1.19 | 1.16 | 1.23 |
| **Other Government** | 1.01 | 0.89 | 1.15 | 0.99 | 0.92 | 1.06 | 1.08 | 0.93 | 1.26 | 1.06 | 0.99 | 1.13 | 1.10 | 1.00 | 1.20 | 1.15 | 1.05 | 1.25 |
| **Unknown** | 1.05 | 0.94 | 1.17 | 0.86 | 0.80 | 0.91 | 0.92 | 0.83 | 1.02 | 0.90 | 0.86 | 0.95 | 1.15 | 1.08 | 1.21 | 1.02 | 0.94 | 1.10 |
| **Context, Vs Urban** | **Suburban** | 1.05 | 1.00 | 1.11 | 1.03 | 1.00 | 1.06 | 1.06 | 1.00 | 1.11 | 1.02 | 1.00 | 1.04 | 0.99 | 0.97 | 1.01 | 1.01 | 0.97 | 1.04 |
| **Rural** | 1.03 | 0.95 | 1.11 | 1.05 | 1.01 | 1.10 | 1.13 | 1.04 | 1.23 | 1.02 | 0.99 | 1.05 | 0.98 | 0.95 | 1.02 | 1.03 | 0.99 | 1.08 |
| **Unknown** | 1.04 | 0.94 | 1.16 | 0.99 | 0.94 | 1.05 | 0.95 | 0.87 | 1.05 | 0.94 | 0.89 | 0.98 | 1.02 | 0.98 | 1.07 | 1.03 | 0.97 | 1.10 |
| **Continuous Variables** | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Years since 2000, change per year** | | 0.98 | 0.98 | 0.99 | 0.98 | 0.98 | 0.99 | 0.98 | 0.97 | 0.98 | 0.98 | 0.97 | 0.98 | 1.00 | 1.00 | 1.01 | 0.99 | 0.99 | 1.00 |
| **Hospital Operative Rate, change per %** | | 1.00 | 0.99 | 1.01 | 1.02 | 1.00 | 1.03 | 1.00 | 0.99 | 1.01 | 1.00 | 0.98 | 1.03 | 1.03 | 1.01 | 1.04 | 1.00 | 0.98 | 1.02 |
| **Age at diagnosis, change per year** | | 1.01 | 1.01 | 1.02 | 1.02 | 1.02 | 1.02 | 1.02 | 1.02 | 1.02 | 1.000 | 0.999 | 1.001 | 1.05 | 1.05 | 1.05 | 1.05 | 1.04 | 1.05 |

Table 3: Cox regression, detailed table