**Appendix A:** Description of admissions to general internal medicine service in 2015.

|  |  |  |
| --- | --- | --- |
| **VARIABLE** | **VALUE** | **N=6,405** |
| ***PATIENT FACTORS*** |  |  |
| Mean (SD) Age | Mean ± SD | 68.1 ± 19.0 |
| Female |  | 3,253 (50.8%) |
| Median [IQR] LAPS |  | 43 [28-56] |
| Hospital campus | General | 3,284 (51.3%) |
|  | Civic | 3,121 (48.7%) |
| Living status at admission | Home | 5,435 (84.9%) |
|  | Nursing Home | 533 (8.3%) |
|  | Rehab | 2 (0.0%) |
|  | Hospital | 167 (2.6%) |
|  | Unknown | 268 (4.2%) |
| Median [IQR] Charlson score |  | 2 [0-3] |
| Cancer Centre Visit in Previous 6 Months |  | 386 (6.0%) |
| 1+ ER Visits in Previous Year |  | 4,161 (63.0%) |
| Median [IQR] Probability Death in 1-year by Lifetable |  | 4,053 [63.3%] |
| ***ADMISSION FACTORS*** |  |  |
| Admission urgency | Elective | 17 (0.3%) |
|  | Urgent, No Ambulance | 3,234 (50.5%) |
|  | Urgent, Ambulance | 3,154 (49.2%) |
| Median [IQR] Length of Stay, days |  | 4 [2-7] |
| Disposition | Discharged | 5906 (92.2%) |
|  | Death | 378 (5.9%) |
|  | Transferred | 121 (1.9%) |

This cohort included 5208 patients and 38,967 patient-days.

LAPS = Laboratory Abnormality Physiological Score 5.

**Appendix B**: Observed and expected number of discharges by patient and admission factors other than hospitalist continuity.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **FACTOR** | **LEVEL** | **PATIENT DAYS** | **NUMBER OF DISCHARGES** | | **O/E (95% CI)** |
| **OBSERVED** | **EXPECTED** |
| Overall | - | 38,967 | 5833 | 5718.6 | 1.02 (0.99, 1.05) |
| Patient Age | <57 | 8818 | 1554 | 1553.1 | 1.00 (0.95, 1.05) |
| 57-71 | 9715 | 1477 | 1432.8 | 1.03 (0.98, 1.08) |
| 72-82 | 9426 | 1323 | 1241.9 | 1.07 (1.01, 1.12) |
| 83+ | 11,008 | 1479 | 1490.8 | 0.99 (0.94, 1.04) |
| Gender | Male | 19,360 | 2863 | 2799.9 | 1.02 (0.99, 1.06) |
| Female | 19,607 | 2970 | 2918.8 | 1.02 (0.98, 1.05) |
| Campus | General | 20,854 | 2982 | 3004.7 | 0.99 (0.96, 1.03) |
| Civic | 18,113 | 2851 | 2714.0 | 1.05 (1.01, 1.09) |
| LAPS | <31 | 10,261 | 1820 | 1732.6 | 1.05 (1.00, 1.10) |
| 31-46 | 10,177 | 1656 | 1509.8 | 1.10 (1.04, 1.15) |
| 47-61 | 10,070 | 1431 | 1321.4 | 1.08 (1.03, 1.14) |
| 62+ | 8459 | 926 | 1154.9 | 0.80 (0.75, 0.85) |
| Emergent | No | 1398 | 137 | 201.5 | 0.68 (0.57, 0.79) |
| Yes | 37,569 | 5696 | 5517.2 | 1.03 (1.01, 1.06) |
| Hospitalization Day | 1 | 6301 | 314 | 393.4 | 0.80 (0.71, 0.89) |
| 2-3 | 11,004 | 1728 | 1598.1 | 1.08 (1.03, 1.13) |
| 4-8 | 13,338 | 2655 | 2554.5 | 1.04 (1.00, 1.08) |
| 9+ | 8324 | 1136 | 1172.7 | 0.97 (0.91, 1.03) |
| Expected probability  of death in 1 year | <12.5% | 9744 | 1918 | 1675.5 | 1.14 (1.09, 1.20) |
| 12.5-31.2% | 9733 | 1434 | 1377.1 | 1.04 (0.99, 1.10) |
| 31.3-60.7% | 9749 | 1371 | 1360.3 | 1.01 (0.95, 1.06) |
| >60.7% | 9741 | 1110 | 1305.7 | 0.85 (0.80, 0.90) |
| Weekend/Holiday | No | 27,244 | 4800 | 4699.0 | 1.02 (0.99, 1.05) |
| Yes | 11,723 | 1033 | 1019.6 | 1.01 (0.95, 1.07) |

The observed and expected number of discharges from general internal medicine services at the study hospital in 2015 is presented. Patient-days are grouped on several patient and hospitalization factors with continuous variables categorized by quartile values. The expected number of discharges on each day for each patient was determined using the TEND model. The ratio of observed to expected number of discharges is presented in the final column with 95% confidence intervals; ratios below 1 indicate that *fewer* people were discharged than expected while ratios above 1 indicate that *more* people were discharged than expected.

LAPS = Laboratory Abnormality Physiological Score 5.

**Appendix C:** Daily discharge probability model.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Parameter** | **Estimate** | **SE** | **OR (95%CI)** | **Z** | **Pr > |Z|** |
| Intercept | -1.457 | 0.0226 | - | -64.57 | <.001 |
| Weekend or Holiday | -0.5389 | 0.0437 | 0.58 (0.54, 0.64) | -12.34 | <.001 |
| First day of admission | -1.0564 | 0.0707 | 0.35 (0.30, 0.40) | -14.95 | <.001 |
| Elective admission | -0.4847 | 0.1272 | 0.62 (0.48, 0.79) | -3.81 | 0.001 |
| Discharge Odds -(-2.100) | 0.4084 | 0.0396 | - | 10.32 | <.001 |
| [LAPS3/1000]-91.125 | -0.0008 | 0.0001 | - | -7.58 | <.001 |
| HOMR-now! Score - (-0.635) | -0.1158 | 0.0091 | - | -12.66 | <.001 |
| Consecutive number of days hospitalist treated patients-4 | 0.0165 | 0.0033 | 1.02 (1.011.02) | 5.00 | <.001 |

The adjusted odds ratio for discharge from hospital is presented for categorical variables only. The influence of continuous covariates on the outcome is presented in Figure 1. Note that the continuous covariates are centred. Discharge odds calculated from probability of discharge from the TEND model. LAPS = Laboratory Acute Physiology Score

**Appendix D:** Daily death probability model.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Parameter** | **Estimate** | **SE** | **OR (95%CI)** | **Z** | **Pr > |Z|** |
| Intercept | -4.9839 | 0.0814 | - | -61.21 | <.001 |
| Weekend or Holiday | 0.0124 | 0.1278 | 1.01 (0.79, 1.30) | 0.10 | 0.9228 |
| First day of admission | -0.5707 | 0.2151 | 0.57 (0.37, 0.86) | -2.65 | 0.008 |
| Elective admission | -0.9168 | 0.3677 | 0.40 (0.19, 0.82) | -2.49 | 0.0127 |
| Discharge Odds -(-2.100) | 0.0423 | 0.0762 | - | 0.56 | 0.5785 |
| [LAPS3/1000]-91.125 | 0.001 | 0.0002 | - | 4.45 | <.001 |
| HOMR-now! Score - (-0.635) | 0.372 | 0.0254 | - | 14.66 | <.001 |
| Consecutive number of days hospitalist treated patients-4 | 0.0015 | 0.0113 | - | 0.13 | 0.8943 |

The adjusted odds ratio for discharge from hospital is presented for categorical variables only. Note that the continuous covariates are centred. Discharge odds calculated from probability of discharge from the TEND model.

LAPS = Laboratory Acute Physiology Score