**Supplementary Table 1**. Characteristics of patients with and without follow-up data.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Completed follow-up** **(n = 585)** | **Lost to follow-up****(n = 95)** | ***P*-valuea** |
| Age category, n (%) |  |  | 0.20 |
|  5-11 years | 193 (33.0) | 25 (26.3) |  |
|  12-17 years | 378 (66.6) | 84 (74.3) |  |
| Male sex, n (%) | 277 (47.4) | 44 (46.3) | 0.85 |
| Nonwhite race, n (%) | 179 (30.1) | 41 (43.2) | 0.02 |
| Hispanic ethnicity, n (%) | 42 (7.2) | 8 (8.4) | 0.67 |
| Cause of injury, n (%) |  |  | 0.47 |
|  Sport-related | 302 (51.6) | 46 (48.4) |  |
|  MVA-related | 51 (8.7) | 12 (12.6) |  |
|  Other | 232 (39.7) | 37 (39.0) |  |
| LOC, n (%) | 107 (18.3) | 22 (23.2) | 0.26 |
| Amnesia, n (%) | 143 (24.4) | 18 (19.0) | 0.24 |
| History of prior concussion, n (%) | 213 (36.4) | 30 (31.6) | 0.36 |
| LD, n (%) | 63 (11.9) | 7 (9.0) | 0.45 |
| ADHD, n (%) | 86 (15.6) | 21 (22.8) | 0.11 |

ADHD: attention deficit/hyperactivity disorder; LD: learning disorders; LOC: loss of consciousness; MVA: motor vehicle accident.

a From Wald Chi-square tests.

**Supplementary Table 2.** Distribution of acute concussion symptoms by strata of pre-existing LD and ADHD, respectively.

|  | **No LD/ADHD** |  | **LD** |  |  | **ADHD** |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **n (%)** | **n (%)** | **aOR (95% CI)**a | ***P*-valueb,c** | **n (%)** | **aOR (95% CI)**a | ***P*-valueb,c** |
| **Cognitive** |  |  |  |  |  |  |  |
| Feeling slowed down | 235 (43.7) | 36 (51.4) | 1.41 (0.85 - 2.34) | 0.18 | 51 (47.7) | 1.29 (0.84 - 1.98) | 0.24 |
| Feeling mentally foggy  | 226 (42.0) | 35 (50.0) | 1.42 (0.86 - 2.35) | 0.17 | 49 (45.8) | 1.27 (0.83 - 1.95) | 0.27 |
| Decreased attention/concentration | 222 (41.3) | 34 (48.6) | 1.38 (0.83 - 2.29) | 0.21 | 47 (43.9) | 1.19 (0.77 - 1.83) | 0.43 |
| Difficulty remembering  | 183 (34.0) | 28 (40.0) | 1.32 (0.79 - 2.21) | 0.28 | 36 (33.6) | 1.05 (0.67 - 1.65) | 0.82 |
| Difficulty using a computer or screen | 150 (27.9) | 21 (30.0) | 1.15 (0.66 - 2.00) | 0.62 | 30 (28.0) | 1.08 (0.67 - 1.74) | 0.74 |
| Difficulty reading | 139 (25.8) | 17 (24.3) | 0.97 (0.54 - 1.74) | 0.91 | 29 (27.1) | 1.23 (0.75 - 2.00) | 0.41 |
| **Emotional** |  |  |  |  |  |  |  |
| Irritability | 141 (26.2) | 25 (35.7) | 1.64 (0.97 - 2.80) | 0.07 | 39 (36.5) | 1.77 (1.13 - 2.78) | 0.01 |
| Feeling more emotional | 129 (24.0) | 20 (28.6) | 1.32 (0.76 - 2.31) | 0.33 | 26 (24.3) | 1.11 (0.68 - 1.81) | 0.68 |
| Nervousness/anxiety | 97 (18.0) | 10 (14.3) | 0.80 (0.39 - 1.62) | 0.53 | 19 (17.8) | 1.10 (0.63 - 1.91) | 0.75 |
| Sadness | 78 (14.5) | 7 (10.0) | 0.68 (0.30 - 1.55) | 0.36 | 18 (16.8) | 1.32 (0.75 - 2.34) | 0.34 |
| **Physical** |  |  |  |  |  |  |  |
| Headache symptoms | 350 (65.1) | 44 (62.9) | 0.94 (0.56 - 1.59) | 0.83 | 68 (63.6) | 1.03 (0.66 - 1.60) | 0.90 |
| Dizziness | 290 (53.9) | 38 (54.3) | 1.05 (0.64 - 1.74) | 0.85 | 62 (57.9) | 1.26 (0.82 - 1.93) | 0.30 |
| Light sensitivity | 265 (49.3) | 34 (48.6) | 1.00 (0.60 - 1.66) | 0.99 | 51 (47.7) | 1.01 (0.65 - 1.54) | 0.98 |
| Nausea | 231 (42.9) | 32 (45.7) | 1.15 (0.70 - 1.90) | 0.59 | 51 (47.7) | 1.27 (0.84 - 1.94) | 0.26 |
| Noise sensitivity | 228 (42.4) | 27 (38.6) | 0.89 (0.53 - 1.49) | 0.65 | 50 (46.7) | 1.32 (0.86 - 2.03) | 0.21 |
| Balance problems | 220 (40.9) | 34 (48.6) | 1.43 (0.86 - 2.25) | 0.17 | 54 (50.5) | 1.61 (1.05 - 2.46) | 0.03 |
| Clumsiness/poor coordination  | 173 (32.2) | 28 (40.0) | 1.46 (0.87 - 2.44) | 0.15 | 41 (38.3) | 1.41 (0.91 - 2.18) | 0.12 |
| Neck pain | 172 (32.0) | 20 (28.6) | 0.89 (0.51 - 1.56) | 0.68 | 46 (43.0) | 1.85 (1.19 - 2.88) | 0.01 |
| Blurred vision | 167 (31.0) | 24 (34.3) | 1.23 (0.72 - 2.10) | 0.45 | 39 (36.5) | 1.40 (0.90 - 2.18) | 0.14 |
| Vomiting | 65 (12.1) | 8 (11.4) | 0.94 (0.43 - 2.08) | 0.88 | 12 (11.2) | 0.90 (0.46 - 1.76) | 0.75 |
| Ear symptoms | 66 (12.3) | 13 (18.6) | 1.70 (0.88 - 3.29) | 0.12 | 22 (20.6) | 2.00 (1.15 - 3.45) | 0.01 |
| Numbness in extremities | 59 (11.0) | 6 (8.6) | 0.77 (0.32 - 1.86) | 0.56 | 12 (11.2) | 1.09 (0.56 - 2.29) | 0.81 |
| Double vision | 56 (9.2) | 9 (12.9) | 1.30 (0.61 - 2.76) | 0.50 | 11 (10.3) | 1.02 (0.51 - 2.04) | 0.95 |
| Weakness in extremities | 53 (9.9) | 8 (11.4) | 1.19 (0.54 - 2.62) | 0.67 | 16 (15.0) | 1.60 (0.87 - 2.95) | 0.13 |
| **Sleep/Fatigue** |  |  |  |  |  |  |  |
| Fatigue | 313 (58.2) | 43 (61.4) | 1.18 (0.71 - 1.97) | 0.53 | 70 (65.4) | 1.44 (0.93 - 2.24) | 0.10 |
| Hypersomnia | 241 (44.8) | 27 (38.6) | 0.78 (0.47 - 1.31) | 0.35 | 53 (49.5) | 1.25 (0.82 - 1.91) | 0.27 |
| Trouble falling asleep  | 79 (13.0) | 9 (12.9) | 0.92 (0.43 - 1.93) | 0.82 | 20 (18.7) | 1.59 (0.91 - 2.78) | 0.11 |
| Frequent awakenings | 57 (10.6) | 8 (11.4) | 1.16 (0.52 - 2.55) | 0.72 | 19 (17.8) | 2.06 (1.15 - 3.69) | 0.01 |

ADHD: attention deficit/hyperactivity disorder; aOR: adjusted odds ratio; CI: confidence interval; LD: learning disorders.

a OR adjusted for binary age category (5-11, 12-17 years) and sex. Any confounding by mechanism of injury and history of concussion was accounted for by adjusting for age.

b From Wald Chi-square tests.

c No symptoms were statistically significantly associated with pre-existing LD or ADHD using a Bonferroni-corrected threshold of *P*<0.002 for an overall significance *P*<0.05.

**Supplementary Table 3.** Median recovery time (in days) across strata of pre-existing neurodevelopmental conditions from Kaplan-Meier analyses among those with sport-related concussion (n=348).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **No LD/ADHD****(n=289)** | **LD****(n=26)** | ***P*-valuea** | **ADHD****(n=47)** | ***P*-valuea** |
| **Recovery measure** | **median (IQR)** | **median (IQR)** |  | **median (IQR)** |  |
| Time to symptom resolution  | 33 (16 - 72) | 50 (27 - 82) | 0.40 | 58 (23 - 155) | 0.04 |
| Time to return to school/academics | 44 (23 - 75) | 48 (32 - 85) | 0.43 | 58 (31 - 103) | 0.04 |
| Time to return to physical activity | 46 (24 - 84) | 49 (36 - 89) | 0.60 | 60 (30 - 117) | 0.07 |

ADHD: attention deficit/hyperactivity disorder; IQR: interquartile range; LD: learning disorders.

a Calculated via log-rank tests.

**Supplementary Table 4.** Adjusted hazard ratios for prolonged recovery by pre-existing neurodevelopmental conditions from multivariable Cox regression models among those with sport-related concussion (n=348).

|  |  |  |
| --- | --- | --- |
|  | **LD****(n=26)** | **ADHD****(n=47)** |
| **Recovery measure** | **aHR (95% CI)a** | ***P*-value** | **aHR(95% CI)b** | ***P*-value** |
| Time to symptom resolution | 1.50 (0.92 - 2.44) | 0.10 | 1.76 (1.18 - 2.61) | 0.005 |
| Time to return to school/academics  | 1.42 (0.89 - 2.28) | 0.14 | 1.69 (1.15 – 2.48) | 0.008 |
| Time to return to physical activity | 1.33 (0.85 - 2.09) | 0.21 | 1.58 (1.09 - 2.30) | 0.02 |

ADHD: attention deficit/hyperactivity disorder; CI: confidence interval; aHR: adjusted hazard ratio; LD: learning disorders.

a HR adjusted for binary age category (5-11, 12-17 years), sex, and time to first clinic visit from date of injury (days). Any confounding by prior concussion history was accounted for by adjusting for age and sex.

b HR adjusted for binary age category and sex. Any confounding by mechanism of injury and prior concussion history was accounted for by adjusting for age and sex.

**Supplementary Table 5.** Symptom counts/scores for global concussion and vision symptoms over the first 90 days of recovery from multivariable linear mixed-effects models among those sport-related concussion (n=348).a

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Average Symptom Count Change** | **95% CI** | ***P-*value** |
| **Concussion Symptoms – LD vs. no LD/ADHD** |
| LD | 0.82 | -0.94 - 2.59 | 0.36 |
| Age group (12-17 years) | 0.95 | -0.27 - 2.16 | 0.12 |
| Female sex | 2.90 | 1.90 - 3.90 | <0.001 |
| Timeb |  |  | <0.001d |
|  Time (1-7 days)c  | -0.009 | -0.14 - 0.12 | 0.89 |
|  Time (8+ days)c | -0.11 | -0.13 - -0.09  | <0.001 |
| **Concussion Symptoms – ADHD vs. no LD/ADHD** |
| ADHD | 2.12 | 0.71 - 3.53 | 0.004 |
| Age group (12-17 years) | 0.98 | -0.20 - 2.15 | 0.10 |
| Female sex | 3.06 | 2.06 - 4.06 | <0.001 |
| Timeb |  |  | <0.001d |
|  Time (1-7 days)c  | -0.006 | -0.13 - 0.12 | 0.93 |
|  Time (8+ days)c | -0.11 | -0.13 - -0.09 | <0.001 |
|  | **Average Symptom Score Change** | **95% CI** | ***P-value*** |
| **Vision Symptoms – LD vs. no LD/ADHD** |
| LD | 4.93 | 0.003 - 9.86 | 0.05 |
| Age group (12-17 years) | 1.42 | -1.94 - 4.78 | 0.40 |
| Female sex | 8.87 | 6.08 - 11.65 | <0.001 |
| Timeb |  |  | <0.001d |
|  Time (1-7 days)c  | -0.58 | -1.34 - 0.19 | 0.14 |
|  Time (8+ days)c | -0.25 | - 0.31 - -0.19 | <0.001 |
| **Vision Symptoms – ADHD vs. no LD/ADHD** |
| ADHD | 5.85 | 1.88 - 9.82 | 0.005 |
| Age group (12-17 years) | 1.16 | -2.20 - 4.51 | 0.49 |
| Female sex | 9.52 | 6.69 - 12.35 | <0.001 |
| Timeb |  |  | <0.001d |
|  Time (1-7 days)c  | -0.77 | -1.54 - 0.003 | 0.05 |
|  Time (8+ days)c | -0.25 | - 0.31 - -0.20 | <0.001 |

ADHD: attention deficit/hyperactivity disorder; CI: confidence interval; LD: learning disorders.

a Models inclusive of all variables shown in table.

b Time was modeled as a piecewise linear covariate with knot at 7 days.

c Modeled as random effects (slopes and intercept).

d Calculated via F-test with 2 degrees of freedom to test overall significance.

**Supplementary Table 6.** Median recovery time (in days) across strata of pre-existing neurodevelopmental conditions from Kaplan-Meier analyses among those with pre-existing internalizing disorders (n=176).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **No LD/ADHD****(n=97)** | **LD****(n=40)** | ***P*-valuea** | **ADHD****(n=65)** | ***P*-valuea** |
| **Recovery measure** | **median (IQR)** | **median (IQR)** |  | **median (IQR)** |  |
| Time to symptom resolution  | 70 (42 – 146) | 70 (41 – >180b) | 0.59 | 90 (57 – 169) | 0.18 |
| Time to return to school/academics | 72 (40 – 132) | 69 (41 – >180b) | 0.36 | 85 (55 – 132) | 0.40 |
| Time to return to physical activity | 86 (42 – 132) | 90 (45 – 132) | 0.59 | 85 (57 – 132) | 0.52 |

ADHD: attention deficit/hyperactivity disorder; IQR: interquartile range; LD: learning disorders.

a Calculated via log-rank tests.

b Unable to estimate upper quartile, greater than 180 days.

**Supplementary Table 7.** Median recovery time (in days) across strata of pre-existing neurodevelopmental conditions from Kaplan-Meier analyses among those without pre-existing internalizing disorders (n=504).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **No LD/ADHD****(n=441)** | **LD****(n=30)** | ***P*-valuea** | **ADHD****(n=42)** | ***P*-valuea** |
| **Recovery measure** | **median (IQR)** | **median (IQR)** |  | **median (IQR)** |  |
| Time to symptom resolution  | 34 (16 – 78) | 42 (24 – 111) | 0.43 | 41 (18 – 99) | 0.81 |
| Time to return to school/academics | 45 (23 – 83) | 45 (26 – 89) | 0.70 | 46 (23 – 73) | 0.87 |
| Time to return to physical activity | 45 (25 – 90) | 46 (26 – 89) | 0.52 | 49 (23 – 100) | 0.57 |

ADHD: attention deficit/hyperactivity disorder; IQR: interquartile range; LD: learning disorders.

a Calculated via log-rank tests.

**Supplementary Table 8.** Adjusted hazard ratios for prolonged recovery by pre-existing neurodevelopmental conditions from multivariable Cox regression models among those with pre-existing internalizing disorders (n=176).

|  |  |  |
| --- | --- | --- |
|  | **LD****(n=40)** | **ADHD****(n=65)** |
| **Recovery measure** | **aHR (95% CI)a** | ***P*-value** | **aHR(95% CI)b** | ***P*-value** |
| Time to symptom resolution | 1.39 (0.79 – 2.43) | 0.25 | 1.86 (1.09 – 3.15) | 0.02 |
| Time to return to school/academics  | 1.57 (0.94 – 2.63) | 0.08 | 1.70 (1.07 – 2.72) | 0.03 |
| Time to return to physical activity | 1.43 (0.88 – 2.33) | 0.15 | 1.57 (1.00 – 2.48) | 0.05 |

ADHD: attention deficit/hyperactivity disorder; CI: confidence interval; aHR: adjusted hazard ratio; LD: learning disorders.

a HR adjusted for binary age category (5-11, 12-17 years), sex, and time to first clinic visit from date of injury (days). Any confounding by prior concussion history was accounted for by adjusting for age and sex.

b HR adjusted for binary age category and sex. Any confounding by mechanism of injury and prior concussion history was accounted for by adjusting for age and sex.

**Supplementary Table 9.** Adjusted hazard ratios for prolonged recovery by pre-existing neurodevelopmental conditions from multivariable Cox regression models among those without pre-existing internalizing disorders (n=504).

|  |  |  |
| --- | --- | --- |
|  | **LD****(n=30)** | **ADHD****(n=42)** |
| **Recovery measure** | **aHR (95% CI)a** | ***P*-value** | **aHR(95% CI)b** | ***P*-value** |
| Time to symptom resolution | 1.12 (0.69 – 1.80) | 0.66 | 1.00 (0.70 – 1.44) | 0.99 |
| Time to return to school/academics  | 1.00 (0.65 – 1.54) | 1.00 | 1.08 (0.76 – 1.54) | 0.68 |
| Time to return to physical activity | 1.03 (0.65 – 1.64) | 0.89 | 1.17 (0.81 – 1.70) | 0.40 |

ADHD: attention deficit/hyperactivity disorder; CI: confidence interval; aHR: adjusted hazard ratio; LD: learning disorders.

a HR adjusted for binary age category (5-11, 12-17 years), sex, and time to first clinic visit from date of injury (days). Any confounding by prior concussion history was accounted for by adjusting for age and sex.

b HR adjusted for binary age category and sex. Any confounding by mechanism of injury and prior concussion history was accounted for by adjusting for age and sex.

**Supplementary Table 10.** Symptom counts/scores for global concussion and vision symptoms over the first 90 days of recovery from multivariable linear mixed-effects models among those with pre-existing internalizing disorders (n=176).a

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Average Symptom Count Change** | **95% CI** | ***P-*value** |
| **Concussion Symptoms – LD vs. no LD/ADHD** |
| LD | 1.24 | -0.60 - 3.08 | 0.18 |
| Age group (12-17 years) | 2.61 | 0.66 - 4.55 | 0.01 |
| Female sex | 2.27 | 0.45 - 4.10 | 0.02 |
| Injury mechanism |  |  | 0.22 |
|  Motor vehicle vs. Sport | 1.95 | -0.43 - 4.33 | - |
|  Other vs. Sport | 1.03 | -0.71 - 2.77 | - |
| Timeb |  |  | <0.001d |
|  Time (1-7 days)c  | 0.02 | -0.17 - 0.21 | 0.85 |
|  Time (8+ days)c | -0.09 | -0.12 - -0.06 | <0.001 |
| **Concussion Symptoms – ADHD vs. no LD/ADHD** |
| ADHD | 1.60 | 0.04 - 3.16 | 0.04 |
| Age group (12-17 years) | 2.58 | 0.82 - 4.34 | 0.005 |
| Female sex | 2.25 | 0.64 - 3.86 | 0.007 |
| Injury mechanism |  |  | 0.33 |
|  Motor vehicle vs. Sport | 1.56 | -0.54 - 3.65 | - |
|  Other vs. Sport | 0.23 | -1.30 - 1.75 | - |
| Timeb |  |  | <0.001d |
|  Time (1-7 days)c  | -0.04 | -0.22 - 0.13 | 0.62 |
|  Time (8+ days)c | -0.08 | -0.11 - -0.06 | <0.001 |
|  | **Average Symptom Score Change** | **95% CI** | ***P-value*** |
| **Vision Symptoms – LD vs. no LD/ADHD** |
| LD | 6.21 | 1.16 - 11.26 | 0.02 |
| Age group (12-17 years) | 4.66 | -0.89 - 10.21 | 0.10 |
| Female sex | 10.74 | 5.82 - 15.66 | <0.001 |
| Timeb |  |  | <0.001d |
|  Time (1-7 days)c  | -0.06 | -1.29 - 1.16 | 0.92 |
|  Time (8+ days)c | -0.16 | -0.24 - -0.09 | <0.001 |
| **Vision Symptoms – ADHD vs. no LD/ADHD** |
| ADHD | 6.14 | 1.65 - 10.64 | 0.009 |
| Age group (12-17 years) | 3.62 | -1.75 - 8.99 | 0.18 |
| Female sex | 10.94 | 6.35 - 15.52 | <0.001 |
| Timeb |  |  | <0.001d |
|  Time (1-7 days)c  | -0.73 | -1.94 - 0.47 | 0.23 |
|  Time (8+ days)c | -0.17 | -0.24 - -0.10 | <0.001 |

ADHD: attention deficit/hyperactivity disorder; CI: confidence interval; LD: learning disorders.

a Models inclusive of all variables shown in table.

b Time was modeled as a piecewise linear covariate with knot at 7 days.

c Modeled as random effects (slopes and intercept).

d Calculated via F-test with 2 degrees of freedom to test overall significance.

**Supplementary Table 11.** Symptom counts/scores for global concussion and vision symptoms over the first 90 days of recovery from multivariable linear mixed-effects models among those without pre-existing internalizing disorders (n=504).a

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Average Symptom Count Change** | **95% CI** | ***P-*value** |
| **Concussion Symptoms – LD vs. no LD/ADHD** |
| LD | 0.70 | -0.93 - 2.33 | 0.40 |
| Age group (12-17 years) | 1.22 | 0.33 - 2.11 | 0.008 |
| Female sex | 2.26 | 1.46 - 3.07 | <0.001 |
| Injury mechanism |  |  | <0.001 |
|  Motor vehicle vs. Sport | 3.43 | 1.86 - 5.01 | - |
|  Other vs. Sport | 0.70 | -0.19 - 1.59 | - |
| Timeb |  |  | <0.001d |
|  Time (1-7 days)c  | -0.02 | -0.13 - 0.09 | 0.78 |
|  Time (8+ days)c | -0.09 | -0.11 - -0.07 | <0.001 |
| **Concussion Symptoms – ADHD vs. no LD/ADHD** |
| ADHD | 0.66 | -0.73 - 2.04 | 0.35 |
| Age group (12-17 years) | 1.34 | 0.48 - 2.21 | 0.003 |
| Female sex | 2.46 | 1.66 - 3.25 | <0.001 |
| Injury mechanism |  |  | <0.001 |
|  Motor vehicle vs. Sport | 3.13 | 1.58 - 4.69 | - |
|  Other vs. Sport | 0.75 | -0.11 - 1.61 | - |
| Timeb |  |  | <0.001d |
|  Time (1-7 days)c  | -0.03 | -0.14 - 0.08 | 0.56 |
|  Time (8+ days)c | -0.09 | -0.11 - -0.07 | <0.001 |
|  | **Average Symptom Score Change** | **95% CI** | ***P-value*** |
| **Vision Symptoms – LD vs. no LD/ADHD** |
| LD | 4.03 | -0.45 - 8.51 | 0.08 |
| Age group (12-17 years) | 1.65 | -0.69 - 3.98 | 0.16 |
| Female sex | 7.39 | 5.15 - 9.63 | <0.001 |
| Timeb |  |  | <0.001d |
|  Time (1-7 days)c  | -0.99 | -1.71 - -0.26 | 0.008 |
|  Time (8+ days)c | -0.18 | -0.23 - -0.14 | <0.001 |
| **Vision Symptoms – ADHD vs. no LD/ADHD** |
| ADHD | 2.79 | -1.04 - 6.63 | 0.15 |
| Age group (12-17 years) | 1.69 | -0.62 - 4.00 | 0.15 |
| Female sex | 7.41 | 5.19 - 9.63 | <0.001 |
| Timeb |  |  | <0.001d |
|  Time (1-7 days)c  | -1.03 | -1.76 - -0.30 | 0.006 |
|  Time (8+ days)c | -0.19 | -0.23 - -0.14 | <0.001 |

ADHD: attention deficit/hyperactivity disorder; CI: confidence interval; LD: learning disorders.

a Models inclusive of all variables shown in table.

b Time was modeled as a piecewise linear covariate with knot at 7 days.

c Modeled as random effects (slopes and intercept).

d Calculated via F-test with 2 degrees of freedom to test overall significance.