### Supplementary file 3

**Table B: Model Covariates and Coefficients**

| Fixed effects          | OR   | std error | p-value |
|------------------------|------|-----------|---------|
| (Intercept)            | 1.40 | 0.05      | 0.000   |
| Sex                    |      |           |         |
| male (ref)             | 1.00 |           |         |
| female                 | 0.97 | 0.01      | 0.000   |
| Deprivation quintile   |      |           |         |
| 1 (ref)                | 1.00 |           |         |
| 2                      | 0.99 | 0.01      | 0.181   |
| 3                      | 1.00 | 0.01      | 0.616   |
| 4                      | 1.00 | 0.01      | 0.559   |
| 5                      | 1.01 | 0.01      | 0.498   |
| Ethnicity              |      |           |         |
| white (ref)            | 1.00 |           |         |
| asian                  | 0.89 | 0.01      | 0.000   |
| black                  | 0.88 | 0.02      | 0.000   |
| mixed parentage        | 0.90 | 0.02      | 0.000   |
| not know / not stated  | 0.85 | 0.01      | 0.000   |
| other                  | 0.82 | 0.02      | 0.000   |
| Arrival mode           |      |           |         |
| ambulance (ref)        | 1.00 |           |         |
| walk-in                | 0.34 | 0.01      | 0.000   |
| Arrival month          |      |           |         |
| Jun (ref)              | 1.00 |           |         |
| Jan                    | 1.00 | 0.01      | 0.885   |
| Feb                    | 0.97 | 0.01      | 0.005   |
| Mar                    | 0.97 | 0.01      | 0.005   |
| Apr                    | 0.97 | 0.01      | 0.013   |
| May                    | 0.98 | 0.01      | 0.086   |
| Jul                    | 1.00 | 0.01      | 0.918   |
| Aug                    | 1.01 | 0.01      | 0.344   |
| Sep                    | 1.02 | 0.01      | 0.156   |
| Oct                    | 1.00 | 0.01      | 0.849   |
| Nov                    | 0.98 | 0.01      | 0.101   |
| Dec                    | 0.95 | 0.01      | 0.000   |
| Arrival weekday        |      |           |         |
| Mon (ref)              | 1.00 |           |         |
| Tue                    | 1.05 | 0.01      | 0.000   |
| Wed                    | 1.06 | 0.01      | 0.000   |
| Thu                    | 1.07 | 0.01      | 0.000   |
| Fri                    | 1.07 | 0.01      | 0.000   |
| Sat                    | 1.08 | 0.01      | 0.000   |
| Sun                    | 0.99 | 0.01      | 0.189   |
| Arrival hour           |      |           |         |
| 12 (Ref)               | 1.00 |           |         |
| 0                      | 0.84 | 0.02      | 0.000   |
| 1                      | 0.83 | 0.02      | 0.000   |
| 2                      | 0.83 | 0.02      | 0.000   |
| 3                      | 0.84 | 0.02      | 0.000   |
| 4                      | 0.89 | 0.02      | 0.000   |
| 5                      | 0.97 | 0.02      | 0.182   |
| 6                      | 1.04 | 0.02      | 0.049   |
| 7                      | 1.02 | 0.02      | 0.274   |
| 8                      | 0.87 | 0.02      | 0.000   |
| 9                      | 0.89 | 0.01      | 0.000   |
| 10                     | 0.95 | 0.01      | 0.000   |
| 11                     | 0.99 | 0.01      | 0.371   |
| 12                     | 0.96 | 0.01      | 0.004   |
| 13                     | 0.91 | 0.01      | 0.000   |
| 14                     | 0.88 | 0.01      | 0.000   |
| 15                     | 0.89 | 0.01      | 0.000   |
| 16                     | 0.89 | 0.01      | 0.000   |
| 17                     | 0.89 | 0.01      | 0.000   |
| 18                     | 0.87 | 0.01      | 0.000   |
| 19                     | 0.76 | 0.02      | 0.000   |
| 20                     | 0.80 | 0.02      | 0.000   |
| Fixed effects | OR  | std error | p-value |
|---------------|-----|-----------|---------|
| 21            | 0.87| 0.02      | 0.000   |
| 22            | 0.86| 0.02      | 0.000   |
| 23            | 0.82| 0.02      | 0.000   |

Prior activity (28 days)

| attended % admitted | OR  | std error | p-value |
|---------------------|-----|-----------|---------|
| none (ref)          | 1.00|           |         |
| attended only       | 1.76| 0.01      | 0.000   |
| attended only       | 0.91| 0.01      | 0.000   |

Prior activity (29-365 days)

| attended % admitted | OR  | std error | p-value |
|---------------------|-----|-----------|---------|
| none (ref)          | 1.00|           |         |
| attended only       | 1.36| 0.01      | 0.000   |
| attended only       | 0.85| 0.01      | 0.000   |

Diagnosis: ambulance conveyed

| Respiratory conditions (ref) | OR  | std error | p-value |
|-----------------------------|-----|-----------|---------|
| Not known / recorded        | 1.40| 0.02      | 0.000   |
| Laceration                  | 0.21| 0.03      | 0.000   |
| Contusion/abrasion          | 0.20| 0.02      | 0.000   |
| Soft tissue inflammation    | 0.37| 0.03      | 0.000   |
| Head injury                 | 0.29| 0.02      | 0.000   |
| Dislocation/fracture/joint injury/amputation | 1.07| 0.02 | 0.001 |
| Sprain/ligament injury      | 0.18| 0.03      | 0.000   |
| Muscle/tendon injury        | 0.26| 0.04      | 0.000   |
| Nerve injury                | 1.00|           |         |
| Vascular injury             | 0.55| 0.16      | 0.000   |
| Burns and scalds            | 0.67| 0.07      | 0.000   |
| Electric shock              | 0.47| 0.09      | 0.000   |
| Foreign body                | 0.00|           |         |
| Bites/stings                | 0.84| 0.02      | 0.000   |
| Poisoning                   | 1.67| 0.33      | 0.120   |
| Visceral injury             | 3.08| 0.09      | 0.000   |
| Infectious disease          | 1.61| 0.03      | 0.000   |
| Local infection             | 1.40| 0.04      | 0.000   |
| Septicaemia                 | 7.78| 0.05      | 0.000   |
| Cardiac conditions          | 0.93| 0.02      | 0.000   |
| Cerebro-vascular conditions | 1.17| 0.02      | 0.000   |
| Other vascular conditions   | 0.73| 0.05      | 0.000   |
| Haematological conditions   | 1.41| 0.03      | 0.000   |
| Central Nervous System conditions (exc. strokes) | 0.71| 0.02 | 0.000 |
| Gastrointestinal conditions | 0.90| 0.02      | 0.000   |
| Urological conditions       | 0.89| 0.02      | 0.000   |
| Obstetric conditions        | 1.62| 0.17      | 0.005   |
| Gynaecological conditions   | 1.06| 0.04      | 0.136   |
| Diabetes and other endocrinological conditions | 2.21| 0.04 | 0.000 |
| Dermatological conditions   | 0.43| 0.07      | 0.000   |
| Allergy                     | 0.40| 0.05      | 0.000   |
| Facio-maxillary conditions  | 0.34| 0.13      | 0.000   |
| ENT conditions              | 0.32| 0.03      | 0.000   |
| Psychiatric conditions      | 0.56| 0.02      | 0.000   |
| Ophthalmological conditions | 0.15| 0.12      | 0.000   |
| Social problem              | 1.34| 0.04      | 0.000   |
| Nothing abnormal detected   | 0.31| 0.02      | 0.000   |

Diagnosis: walk-in

| Respiratory conditions (ref) | OR  | std error | p-value |
|-----------------------------|-----|-----------|---------|
| Not known / recorded        | 1.70| 0.02      | 0.000   |
| Laceration                  | 0.78| 0.03      | 0.000   |
| Contusion/abrasion          | 0.43| 0.03      | 0.000   |
| Soft tissue inflammation    | 1.05| 0.04      | 0.187   |
| Head injury                 | 0.85| 0.03      | 0.000   |
| Dislocation/fracture/joint injury/amputation | 0.24| 0.03 | 0.000 |
| Sprain/ligament injury      | 0.24| 0.05      | 0.000   |
| Muscle/tendon injury        | 0.52| 0.05      | 0.000   |
| Nerve injury                | 0.00|           |         |
| Vascular injury             | 1.26| 0.22      | 0.287   |
| Burns and scalds            | 0.52| 0.08      | 0.000   |
| Electric shock              | 0.57| 0.10      | 0.000   |
| Foreign body                | 3.69|           |         |
| Bites/stings                | 1.80| 0.03      | 0.000   |
| Fixed effects                                      | OR    | std error | p-value |
|--------------------------------------------------|-------|-----------|---------|
| Poisoning                                        | 0.53  | 0.60      | 0.299   |
| Visceral injury                                  | 1.11  | 0.11      | 0.377   |
| Infectious disease                               | 0.62  | 0.03      | 0.000   |
| Local infection                                  | 0.54  | 0.05      | 0.000   |
| Septicaemia                                      | 2.76  | 0.08      | 0.000   |
| Cardiac conditions                               | 1.80  | 0.02      | 0.000   |
| Cerebro-vascular conditions                      | 1.29  | 0.03      | 0.000   |
| Other vascular conditions                        | 1.06  | 0.06      | 0.375   |
| Haematological conditions                        | 2.13  | 0.05      | 0.000   |
| Central Nervous System conditions (exc. strokes) | 1.66  | 0.03      | 0.000   |
| Gastrointestinal conditions                      | 1.63  | 0.02      | 0.000   |
| Urological conditions                            | 1.23  | 0.02      | 0.000   |
| Obstetric conditions                             | 1.72  | 0.19      | 0.004   |
| Gynaecological conditions                        | 1.42  | 0.04      | 0.000   |
| Diabetes and other endocrinological conditions    | 1.44  | 0.05      | 0.000   |
| Dermatological conditions                        | 0.92  | 0.07      | 0.235   |
| Allergy                                          | 0.98  | 0.06      | 0.798   |
| Facio-maxillary conditions                       | 1.01  | 0.13      | 0.936   |
| ENT conditions                                   | 1.57  | 0.04      | 0.000   |
| Psychiatric conditions                           | 1.63  | 0.03      | 0.000   |
| Ophthalmological conditions                      | 0.52  | 0.13      | 0.000   |
| Social problem                                   | 0.94  | 0.07      | 0.420   |
| Nothing abnormal detected                        | 1.54  | 0.02      | 0.000   |

| Random effect                                     | Estimated df | Residual df | p-value |
|---------------------------------------------------|--------------|-------------|---------|
| Provider                                           | 11.962       | 12.000      | 0.000   |

| Non-parametric (smoothed) term                     | Estimated df | Residual df | p-value |
|---------------------------------------------------|--------------|-------------|---------|
| (age-55):sex(male)                                | 8.88         | 8.987       | 0.000   |
| (age-55):sex(female)                              | 8.841        | 8.978       | 0.000   |
| ED patients                                       | 4.516        | 5.500       | 0.000   |
| emergency inpatients                              | 3.433        | 4.321       | 0.044   |
| overnight elective inpatients                     | 7.518        | 8.317       | 0.000   |
| elective day case in patients                     | 6.424        | 7.382       | 0.000   |
| maternity inpatients                              | 3.646        | 4.547       | 0.022   |