**Positive Scores on the 4AT Delirium Assessment Tool at Hospital Admission are Linked to Mortality, Length of Stay, and Home Time: Two-Centre Study of 82,770 Emergency Admissions**

**SUPPLEMENTARY DATA**

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**Supplementary Table 1.** 4AT scores and completion rates by age

|  | **All** | **Lothian** | **Salford** |
| --- | --- | --- | --- |
| **Age band (years)** | **Number of episodes** | **Completed 4AT (%)** | **Number of episodes** | **Mean 4AT** **score (SD)** | **Completed** **4AT (%)** | **Number of episodes** | **Mean 4AT** **score (SD)** | **Completed** **4AT (%)** |
| 65-70 | 15,388 | 58 | 7,718 | 0.9 (2.3) | 75 | 7,670 | 1.2 (2.8) | 42 |
| 70-75 | 15,200 | 62 | 7,791 | 1.1 (2.4) | 77 | 7,409 | 1.6 (3.2) | 46 |
| 75-80 | 16,436 | 65 | 8,830 | 1.4 (2.7) | 78 | 7,606 | 2.0 (3.4) | 49 |
| 80-85 | 16,380 | 66 | 9,022 | 1.8 (3.0) | 78 | 7,358 | 2.4 (3.7) | 51 |
| 85-90 | 12,301 | 67 | 6,898 | 2.2 (3.2) | 78 | 5,403 | 3.1 (3.9) | 54 |
| >90 | 7,065 | 68 | 3,687 | 2.8 (3.4) | 79 | 3,378 | 3.5 (3.9) | 56 |
| **All** | **82,770** | **64** | **43,946** | **1.6 (2.9)** | **77** | **38,824** | **2.2 (3.5)** | **46** |

**Supplementary Table 2.** Readmission and mortality outcomes by 4AT score in index hospital admissions in Lothian

|  | **All** | **4AT 0** | **4AT 1-3**  | **4AT ≥4** | **Not measured** |
| --- | --- | --- | --- | --- | --- |
| Number of patients | 22,934 | 11,216 (49) | 3,359 (15) | 3,093 (13) | 5,266 (23) |
| Age, years (SD) | 79 (8) | 78 (8) | 83 (8) | 82 (8) | 79 (8) |
| Females | 12,807 (56) | 6,131 (55) | 1,934 (58) | 1,798 (58) | 2,944 (56) |
| Length of stay, median (Q1–Q3) days | 4 (2–13) | 4 (1–9) | 10 (3–27) | 10 (4–29) | 3 (1–8) |
| Readmission within 30 days | 3,276 (14) | 1,721 (15) | 530 (16) | 297 (10) | 728 (14) |
| Inpatient mortality at 30 days | 1,523 (7) | 373 (3) | 223 (7) | 561 (18) | 366 (7) |
| Any inpatient mortality | 2,039 (9) | 465 (4) | 346 (10) | 788 (25) | 440 (8) |
| All-cause mortality at 1 year | 6,417 (28) | 2,238 (20) | 1,191 (35) | 1,565 (51) | 1,423 (27) |
| Home time at 1 year, median (Q1–Q3) days | 352 (222–361) | 357 (322–362) | 324 (131–356) | 245 (0–351) | 356 (246–362) |
| Post-discharge home time at 1 year in index admission survivors, median (Q1–Q3) days\* | 365 (334–365) | 365 (354–365) | 363 (251–365) | 361 (177–365) | 365 (340–365) |

Values are n (%) unless stated otherwise. \*Calculated in 20,895 patients who survived to discharge from index hospital episode

**Supplementary Table 3.** Readmission and mortality outcomes by 4AT score in index hospital admissions in Salford

|  | **All** | **4AT 0** | **4AT 1-3**  | **4AT ≥4** | **Not measured** |
| --- | --- | --- | --- | --- | --- |
| Number of patients | 8,332 | 2,533 | 599 | 845 | 4,355 |
| Age, years (SD) | 78 (8) | 78 (8) | 83 (8) | 82 (8) | 78 (8) |
| Females | 4,548 (55) | 1,349 (53) | 368(61) | 480 (57) | 2,351 (54) |
| Length of stay, median (Q1–Q3) days | 3 (1–­9) | 4 (1– 9) | 6 (2–15) | 6 (2–17) | 2 (0–7) |
| Readmission within 30 days |  1,306 (16) |  374 (15) |  133 (22) |  144 (17) |  655 (15) |
| Inpatient mortality at 30 days |  413 (5) | 79 (3.1) |  44 (7) | 116 (14) | 174 (4) |
| Any inpatient mortality |  485 (6) | 90 (4) | 56 (9) |  133 (16) |  206 (4.7) |
| All-cause mortality at 1 year | 2,005 (24) | 447 (18) | 213 (36) | 377 (45) | 968 (22) |
| Home time at 1 year, median (Q1–Q3) days | 354 (270–363) | 356 (319–362) | 321 (98–355) | 295 (30–354) | 357 (291–364) |
| Post-discharge home time at 1 year in index admission survivors, median (Q1–Q3) days\* | 363 (324–365) | 364 (344–365) | 350 (240–365) | 351 (144–365) | 364 (332–365) |

Values are n (%) unless stated otherwise. \*Calculated in 7,847 patients who survived to discharge from index hospital episode

**Supplementary Figure 1.** Completion rates of 4AT by month since introduction within electronic health records in Lothian (A) and Salford (B)

**A B**

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**Supplementary Figure 2.** Inpatient mortality at 30 days by 4AT score



**Supplementary Figure 3.** Density plot showing length of hospital stay distribution by 4AT score in Lothian (A) and Salford (B).

**A**

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**B**

**Supplementary Figure 4.** Home time in the year following discharge for survivors of index admission in Lothian (A) and Salford (B)

**A**

**B**