**Supplemental digital content 2.** Patient and hospital characteristics

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| **Characteristics** | **Patients n=451a** | **AE** **n=84** | **no AE n=367** | **p-value** |
|  | n (%) | n (%) | n (%) |  |
| **Patient Characteristics on Admission to ICU** |  |  |  |  |
| Female | 185 (41) | 34 (40) | 151 (41) | 0.91 |
| Age, median (IQR) in years | 59 (49-69) | 63 (51-71) | 59 (49-68) | 0.27 |
| Caucasianb | 243 (82) | 40 (83) | 203 (82) | 0.77 |
| Primary spoken language other than English or Frenchb,c | 38 (12) | 7 (14) | 31 (12) | 0.63 |
| Highest level of education, high school or lessb | 153 (50) | 25 (54) | 128 (50) | 0.55 |
| Co-morbid illness |  |  |  |  |
|  Chronic heart or vascular diseased | 106 (24) | 30 (36) | 76 (21) | 0.003 |
|  Chronic lung disease | 97 (22) | 20 (24) | 77 (21) | 0.57 |
|  Diabetes mellitus | 121 (27) | 22 (26) | 99 (27) | 0.88 |
|  Liver disease | 31 (7) | 7 (8) | 24 (7) | 0.56 |
|  Malignancye | 46 (10) | 12 (14) | 34 (9) | 0.17 |
|  Neurological or mental health illness | 107 (24) | 27 (32) | 80 (22) | 0.044 |
|  Chronic kidney disease | 50 (11) | 23 (27) | 27 (7) | <0.001 |
| Charlson score |  |  |  | <0.001 |
|  0 | 173 (38) | 20 (24) | 153 (42) |  |
|  1 | 103 (23) | 16 (19) | 87 (24) |  |
|  2+ | 175 (39) | 48 (57) | 127 (35) |  |
| Primary reason for ICU admission |  |  |  | 0.67 |
|  Respiratory | 129 (29) | 21 (25) | 108 (29) |  |
|  Cardiovascular | 75 (17) | 11 (13) | 64 (17) |  |
|  Gastrointestinal | 74 (16) | 14 (17) | 60 (16) |  |
|  Neurological | 65 (14) | 14 (17) | 51 (14) |  |
|  Trauma & musculoskeletal | 57 (13) | 11 (13) | 46 (13) |  |
|  Other | 51 (11) | 13 (15) | 38 (10) |  |
| ICU admission scheduled in advance | 78 (17) | 13 (16) | 65 (18) | 0.63 |
| Location before ICU admission  |  |  |  | 0.40 |
|  Emergency department | 173 (38) | 28 (33) | 145 (40) |  |
|  Operating room/recovery | 96 (21) | 18 (21) | 78 (21) |  |
|  Ward | 134 (30) | 25 (30) | 109 (30) |  |
|  Other hospital | 48 (11) | 13 (15) | 35 (10) |  |
| Surgery before ICU admission  |  |  |  | 0.16 |
|  Elective | 90 (20) | 11 (13) | 79 (22) |  |
|  Emergency | 77 (17) | 18 (21) | 59 (16) |  |
| Cardiopulmonary arrest or MET activation before ICU admission | 82 (18) | 20 (24) | 62 (17) | 0.14 |
| Previous ICU admission during hospital stay | 28 (6) | 9 (11) | 19 (5) | 0.058 |
| APACHE II Score, median (IQR) | 18 (13-23) | 20 (15-24) | 17 (12-23) | 0.014 |
| SOFA Score, median (IQR) | 6 (3-9) | 7 (5-8) | 6 (3-9) | 0.14 |
| **Patient Characteristics on Discharge from ICU** |  |  |  |  |
| Therapies received in the ICU |  |  |  |  |
|  Mechanical ventilation | 302 (67) | 54 (64) | 248 (68) | 0.56 |
|  Duration, median (IQR) in days | 3 (2-7) | 4 (2-8) | 3 (2-7) | 0.85 |
|  Tracheostomy | 34 (8) | 5 (6) | 29 (8) | 0.54 |
|  Vasoactive medications | 201 (45) | 42 (50) | 159 (44) | 0.28 |
|  Duration, median (IQR) in days | 3 (2-4) | 3 (2-4) | 3 (2-5) | 0.76 |
|  Renal replacement therapy | 50 (12) | 14 (17) | 36 (10) | 0.095 |
| Deliriumf | 127 (28) | 27 (32) | 100 (27) | 0.37 |
| ICU length of stay, median (IQR) in days | 5 (2-9) | 6 (2-10) | 5 (3-9) | 0.94 |
| Eligible for ICU readmission (goals of care)g | 432 (96) | 79 (94) | 353 (96) | 0.38 |
| APACHE II Score, median (IQR)h | 9 (6-12) | 11 (9-14) | 9 (6-12) | <0.001 |
| SOFA Score, median (IQR)h | 2 (1-4) | 2 (2-5) | 2 (1-4) | 0.012 |
| **Hospital Characteristics** |  |  |  |  |
| Hospital Type |  |  |  | 0.79 |
|  Community care | 107 (24) | 19 (23) | 88 (24) |  |
|  Tertiary care | 344 (76) | 65 (77) | 279 (76) |  |
| Teaching hospital | 403 (89) | 75 (89) | 328 (89) | 0.98 |
| Number of beds in hospital |  |  |  | 0.068 |
|  <600 | 223 (49) | 34 (40) | 189 (51) |  |
|  > 600 | 228 (51) | 50 (60) | 178 (49) |  |
| Number of beds in ICU |  |  |  | 0.82 |
|  <20 | 215 (48) | 41 (49) | 174 (47) |  |
|  >20 | 236 (52) | 43 (51) | 193 (53) |  |
| Intensivist lead ICU | 427 (95) | 76 (90) | 351 (96) | 0.057 |
| ICU discharge guideline/policy | 125 (28) | 24 (29) | 101 (28) | 0.85 |
| Hospital-wide EMR | 199 (44) | 37 (44) | 162 (44) | 0.99 |
| **Transition Processes** |  |  |  |  |
| ICU beds occupied at 09:00 on day of ICU discharge, median % (IQR) | 86 (74-94) | 90 (77-96) | 86 (74-93) | 0.050 |
| Discharged from ICU at night (18:01-07:59) | 145 (32.2) | 116 (31.6) | 29 (34.5) | 0.61 |
| Time from transfer initiation to ICU discharge, median (IQR) in hoursi | 25 (6-52) | 16 (6-48) | 26 (6-54) | 0.17 |
| ICU physician rated overall quality of transfer of care as above averagej | 186 (52) | 32 (53) | 154 (52) | 0.81 |
| Ward physician rated overall quality of transfer of care as above averagek | 138 (67) | 30 (79) | 108 (65) | 0.090 |
| ICU physician rated quality of communication with ward provider as good or excellentl | 283 (80) | 52 (87) | 231 (78) | 0.14 |
| Ward physician rated quality of communication with ICU provider as good or excellentm | 166 (81) | 33 (87) | 133 (80) | 0.34 |
| ICU physician reported method of communication with ward providern |  |  |  |  |
|  Verbal communication over telephone | 262 (78) | 50 (85) | 212 (77) | 0.19 |
|  Verbal communication face-to-face | 124 (37) | 26 (44) | 98 (36) | 0.22 |
|  Written communication | 144 (43) | 26 (44) | 118 (43) | 0.87 |
| Ward physician reported method of communicationo |  |  |  |  |
|  Verbal communication over telephone | 120 (62) | 27 (73) | 93 (59) | 0.11 |
|  Verbal communication face-to-face | 108 (55) | 24 (65) | 84 (53) | 0.20 |
|  Written communication | 61 (31) | 17 (46) | 44 (28) | 0.033 |

a Data presented as number (%) unless otherwise indicated.

b Survey responses for ethnicity, language and educational status respectively available for 297, 311 and 304 patients.

c Primary spoken language not one of the official languages in which healthcare services were delivered within the study hospitals (e.g., Mandarin).

d Congestive heart failure, cerebrovascular, myocardial infarction or peripheral vascular disease

e Leukemia, lymphoma, tumor with/without metastases

f Delirium as diagnosed by a physician

g Patients without any limitations of care documented were presumed to be eligible for readmission to ICU

h Severity of illness at the time of ICU discharge was measured using APACHE II scores and SOFA scores calculated with data from the final 24 hours of ICU stay.

i Data missing for 47 patients.

j Data missing for 93 patients.

k Data unavailable for 246 patients

l Data unavailable for 96 patients

m Data unavailable for 247 patients

n Data unavailable for 117 patients

o Data unavailable for 256 patients

*Abbreviations:* EMR=electronic medical record, IQR=interquartile range, MET=medical emergency team