Appendix Table 1. Demographics by Country (with non-US sites de-identified).

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | U.S.  (N = 503) | Non-US 1  (N = 29) | Non-US 2  (N = 98) | Non-US 3  (N = 153) | Non-US 4  (N = 21) | Non-US 5  (N = 33) | Non-US 6  (N = 100) | Non-US 7  (N = 44) |
| Age, Mean (SD) | 51 + 15 | 66 + 14 | 73 + 13 | 61 + 20 | 41 + 13 | 65 + 14 | 49 + 16 | 48 + 19 |
| Female gender, N (%)1 | 243 (48) | 19 (66) | 51 (52) | 85 (55) | 11 (52) | 16 (48) | 45 (45) | 20 (45) |
| Race/ethnicity, N (%)2  Black/African American  White  Hispanic or Latino  Asian  American Indian or Alaskan Native  Hawaiian or Pacific Islander  Other | 130 (26)  282 (56)  72 (14)  4 (1)  12 (2)  1 (<1)  2 (<1) | 29 (100) | 97 (99)  1 (1) | 138 (91)  1 (1)  11 (7)  2 (1) | 21 (100) | 1 (3)  28 (85)  2 (6)  2 (6) | 100 (100) | 2 (5)  36 (82)  2 (5)  2 (5)  2 (5) |
| Charlson comorbidity index, median (IQR) | 2 (1, 3) | 3 (2, 4) | 4 (3, 5) | 3 (1, 4) | 0 (0, 1) | 4 (2, 5) | 1 (0, 2) | 1.5 (0, 3.5) |
| Length of stay, median (IQR)3 | 3 (2, 4) | 7 (3, 13) | 11 (7, 16) | 4 (3, 5) | 7.5 (4, 10) | 9 (6, 15) | 7 (3, 13) | 3 (2, 5.5) |
| History of illicit drug use, N (%)4 | 167 (33) | 0 (0) | 1 (1) | 14 (9) | 0 (0) | 2 (6) | 0 (0) | 13 (30) |
| History of psychiatric illness, N (%) | 136 (27) | 2 (7) | 6 (6) | 21 (14) | 0 (0) | 2 (6) | 0 (0) | 5 (11) |
| Receiving opioids prior to admission, N (%)5 | 192 (38) | 10 (36) | 17 (17) | 41 (27) | 0 (0) | 2 (6) | 1 (1) | 11 (25) |
| Morphine equivalents, mg, median (IQR) | 45 (20, 91) | 37.5 (22.5, 90) | 16.5 (6.75, 50) | 36 (16, 90) | 0 (0) | 40 (20, 60) | 30 (N/A) | 40 (9.6, 85) |
| >60 MME received, N (%) | 87 (17) | 3 (10) | 2 (2) | 13 (9) | 0 (0) | 1 (3) | 0 (0) | 5 (11) |

11 patient did not report gender.

21 patient did not report race/ethnicity.

3Length of stay was missing for 135 patients.

46 patients did not report illicit drug use.

56 patients did not report whether they were receiving opioids prior to admission.

Appendix Table 2. Admitting diagnoses1

|  |  |  |
| --- | --- | --- |
|  | U.S.2  (N = 503) | All other countries  (N = 478) |
| Cellulitis | 80 (16%) | 79 (17%) |
| Chest Pain | 53 (11%) | 14 (3%) |
| Sepsis | 48 (10%) | 5 (1%) |
| Pneumonia | 44 (9%) | 21 (4%) |
| Acute Renal Failure | 39 (8%) | 8 (2%) |
| Acute Pancreatitis | 35 (7%) | 19 (4%) |
| Abdominal Pain | 34 (7%) | 14 (3%) |
| Alcohol Withdrawal | 33 (7%) | 4 (1%) |
| Urinary Tract Infection | 30 (6%) | 9 (2%) |
| Nausea and Vomiting | 30 (6%) | 4 (1%) |
| Acute Exacerbation of COPD | 28 (6%) | 15 (3%) |
| Acute Respiratory Failure | 28 (6%) | 3 (1%) |
| Syncope | 26 (5%) | 15 (3%) |
| Acidosis | 19 (4%) | 1 (0.2%) |
| Cardiac Dysrhythmia | 18 (4%) | 14 (3%) |
| Angina | 18 (4%) | 6 (1%) |
| Heart Failure | 17 (3%) | 34 (7%) |
| GI Bleed | 16 (3%) | 4 (1%) |
| Pyelonephritis | 14 (3%) | 19 (4%) |
| Asthma Exacerbation | 13 (3%) | 3 (1%) |
| Unspecified Back or Neck Disorder | 12 (2%) | 21 (4%) |
| Headache | 10 (2%) | 26 (5%) |
| Diabetes | 9 (2%) | 6 (1%) |
| Diverticulitis | 7 (1%) | 10 (2%) |
| Cholecystitis | 2 (0.3%) | 22 (5%) |

1Patients may have more than one diagnosis

2On average, U.S. patients had 2.4 acute/primary diagnoses per patient compared to 1.5 for non-U.S. patients.

Appendix Table 3. Opioids given by country (with non-US sites de-identified)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | | Patients given non-opioids during hospitalization | Patients given opioids during hospitalization | Opioids given morphine equivalents (mg), median (IQR) | Opioids given at discharge | Opioids at discharge morphine equivalents (mg), median (IQR) |
| Patients taking opioids prior to admission | Non-US 1 (N=10) | 100% | 60% | 43 (11, 115) | 30% | 60 (32, 72) |
| Non-US 2 (N=17) | 71% | 59% | 11 (4, 35) | 35% | 27 (20, 80) |
| Non-US 3 (N=41) | 93% | 71% | 27 (20, 80) | 68% | 48 (30, 115) |
| Non-US 4 (N=0) | n/a | n/a | n/a | n/a | n/a |
| Non-US 5 (N=2) | 100% | 100% | 33 (16, 49) | 100% | 23 (15, 30) |
| Non-US 6 (N=1) | 100% | 100% | 19 (N/A) | 100% | 23 (N/A) |
| Non-US 7 (N=11) | 91% | 82% | 15 (14, 40) | 91% | 41 (36, 81) |
| US (N=192) | 76% | 92% | 51 (26, 122) | 82% | 60 (30, 120) |
|  |  |  |  |  |  |  |
| Patients not taking opioids prior to admission | Non-US 1 (N=18) | 67% | 33% | 14 (7, 23) | 11% | 42 (24, 60) |
| Non-US 2 (N=81) | 69% | 19% | 6 (4, 20) | 15% | 15 (10, 23) |
| Non-US 3 (N=109) | 89% | 34% | 17 (9, 28) | 20% | 36 (24, 36) |
| Non-US 4 (N=21) | 43% | 90% | 25 (14, 47) | 5% | 10 (10, 10) |
| Non-US 5 (N=31) | 100% | 35% | 17 (7, 48) | 13% | 55 (26, 115) |
| Non-US 6 (N=99) | 41% | 61% | 24 (19, 38) | 8% | 35 (30, 43) |
| Non-US 7 (N=33) | 73% | 36% | 22 (13, 47) | 27% | 18 (18, 80) |
| US (N=309) | 78% | 71% | 34 (17, 66) | 34% | 45 (30, 90) |

Appendix Table 4. Type of non-opioid pain medications prescribed in the U.S. and in all other countries\*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Patients taking opioids prior to admission  (N = 274) | | | | Patients not taking opioids prior to admission  (N=701) | |
|  | U.S.  N = 192 | | All Other Countries  N = 82 | | U.S.  N = 309 | All Other Countries  N = 392 |
| Patients prescribed non-opioid pain medications during hospitalization | 146 (76) | | 73 (89) | | 242 (78) | 270 (69) |
| Non-steroidal anti-inflammatory drugs (NSAIDs) | 35 (18) | | 16 (20) | | 72 (23) | 72 (18) |
| Acetaminophen, Paracetamol | 102 (53) | | 66 (80) | | 177 (57) | 230 (59) |
| Neuropathic agents (Gabapentin, Pregabalin, Topiramate, Lamotrigine, Levetiracetam, Valproate, Zonisamide, Tiagabine) | 43 (22) | | 18 (22) | | 37 (12) | 12 (3) |
| Corticosteroids | 7 (4) | | 9 (11) | | 8 (3) | 17 (4) |
| Antidepressants (Tricyclics, Serotonin reuptake inhibitors) | 10 (5) | 13 (16) | | 6 (2) | | 10 (3) |
| Benzodiazepines | 6 (3) | 4 (5) | | 6 (2) | | 8 (2) |
| Antispasmodics (Cyclobenzaprine, Carisoprodol, Baclofen, Methocarbamol) | 21 (11) | 2 (2) | | 5 (2) | | 2 (1) |
| Topical agents (lidocaine, capsaicin, topical NSAIDs) | 10 (5) | 0 (0) | | 22 (7) | | 1 (<1) |
| Other non-narcotic pain reliever | 9 (5) | 7 (9) | | 16 (5) | | 22 (6) |

\*Patients may be prescribed more than one non-opioid pain medication