Appendix 1

Dataset characteristics- Antibacterial dataset

|  |  |  |
| --- | --- | --- |
| **Category** | **Subcategory** | **Count (Percentage %)** |
| **System** | Atlas | 224,867 (26.2%) |
|  | Inform | 219,885 (25.6%) |
|  | SPIDAAR | 236 (0.0%) |
|  | TEST | 413,245 (48.2%) |
| **Age Group** | 0 to 2 Years | 48,296 (5.6%) |
|  | 13 to 18 Years | 17,803 (2.1%) |
|  | 19 to 64 Years | 397,423 (46.3%) |
|  | 3 to 12 Years | 35,562 (4.1%) |
|  | 65 to 84 Years | 285,901 (33.3%) |
|  | 85 and Over | 59,437 (6.9%) |
|  | Unknown | 13,811 (1.6%) |
| **Speciality** | Clinic / Office | 35,137 (4.1%) |
|  | Emergency Room | 81,795 (9.5%) |
|  | General Unspecified ICU | 12,820 (1.5%) |
|  | Medicine General | 315,604 (36.8%) |
|  | Medicine ICU | 93,194 (10.9%) |
|  | None Given | 61,359 (7.2%) |
|  | Nursing Home / Rehab | 5,865 (0.7%) |
|  | Other | 11,180 (1.3%) |
|  | Pediatric General | 40,333 (4.7%) |
|  | Pediatric ICU | 24,852 (2.9%) |
|  | Surgery General | 128,719 (15.0%) |
|  | Surgery ICU | 47,375 (5.5%) |
| **Source (Organ Systems)** | Respiratory (Lungs, Bronchus, etc.) | 109,641 (12.8%) |
|  | CNS (Brain, Spinal Cord, CSF, etc.) | 39,668 (4.6%) |
|  | Urinary (Urine, Bladder, Kidney, etc.) | 119,641 (13.9%) |
|  | Hepatic (Liver, Gall Bladder, etc.) | 11,394 (1.3%) |
|  | Gastrointestinal (Stomach, Intestine, etc.) | 54,573 (6.4%) |
|  | Musculoskeletal (Bone, Muscle, etc.) | 3,760 (0.4%) |
|  | Skin and Soft Tissue (Wound, Abscess, etc.) | 160,029 (18.7%) |
|  | Other Specified Systems | 360,527 (42.0%) |
| **In/Out Patient** | Inpatient | 440,977 (64.1%) |
|  | Outpatient | 88,759 (12.9%) |
|  | None Given | 156,114 (22.7%) |
|  | Other | 1,766 (0.3%) |
| **Phenotype** | (BL Neg) | 23,323 (10.0%) |
|  | (BL Pos) | 7,767 (3.3%) |
|  | ESBL | 54,471 (23.4%) |
|  | MRSA | 65,644 (28.2%) |
|  | MSSA | 81,843 (35.1%) |

Appendix 2

Dataset characteristics- Antifungal dataset

|  |  |  |
| --- | --- | --- |
| **Category** | **Subcategory** | **Count (Percentage %)** |
| **Study** | SENTRY | 19,596 (100.0%) |
| **Gender** | F | 7,778 (43.6%) |
|  | M | 10,032 (56.4%) |
| **Age Group** | 0 - 17 | 1,316 (7.6%) |
|  | 18 - 30 | 1,278 (7.4%) |
|  | 31 - 60 | 5,838 (33.9%) |
|  | 61+ | 8,762 (50.9%) |
| **Specialty** | Ambulatory/Outpatient | 466 (2.4%) |
|  | Cardiothoracic/Pulmonary | 1,367 (7.0%) |
|  | Intensive Care Unit | 3,167 (16.2%) |
|  | Internal Medicine | 3,985 (20.3%) |
|  | Hematology/Oncology | 1,437 (7.3%) |
|  | Surgery | 1,597 (8.1%) |
|  | Pediatrics/Neonate | 1,019 (5.2%) |
|  | Others (sum of other specialties) | 5,707 (29.1%) |
| **Source** | Blood culture | 11,403 (58.2%) |
|  | Bronchoalveolar lavage/wash | 1,269 (6.5%) |
|  | Urine/Urinary tract | 259 (1.3%) |
|  | Sputum | 1,033 (5.3%) |
|  | Tissue | 347 (1.8%) |
|  | Peritoneal fluid | 267 (1.4%) |
|  | Unknown | 2,174 (11.1%) |
|  | Others (sum of other sources) | 1,844 (9.4%) |

Appendix 3

Dataset characteristics- Genotype categories

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Gene Type** | **Subtype Count** | **Total Count** | **Gene Type** | **Subtype Count** | **Total Count** |
| ACC | 6 | 57 | FOX | 9 | 32 |
| ACTMIR | 7 | 210 | GES | 39 | 332 |
| AMPC | 1 | 832 | IMP | 26 | 269 |
| CMY11 | 29 | 1287 | KPC | 15 | 4042 |
| CMY1MOX | 7 | 14 | NDM | 10 | 2634 |
| CTXM1 | 47 | 25535 | OXA | 29 | 3972 |
| CTXM2 | 14 | 619 | PER | 8 | 161 |
| CTXM825 | 8 | 170 | SHV | 85 | 18941 |
| CTXM9 | 27 | 3967 | TEM | 58 | 22825 |
| DHA | 14 | 1216 | VEB | 18 | 333 |
|  |  |  | VIM | 22 | 1852 |