**Supplementary Table S1 (fields with discrepancy rates >5% are highlighted in red)**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **Major +**  **minor discrepancies1** | | **Unscored**  **Discrepancies2** | | **Systematic**  **Errors3** | | **Secondary**  **Errors4** | | **Other**  **Issues5** | |
| **Variable** | **N** | **N** | **%** | **N** | **%** | **N** | **%** | **N** | **%** | **N** | **%** |
| **Patient Information** |  |  |  |  |  |  |  |  |  |  |  |
| DOB† | 1457 | 9 | 0.62% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| Extracardiac anomaly | 2219 | N/A | N/A | 91 | 4.10% | 0 | 0.00% | 0 | 0.00% | 1 | 0.05% |
| Chromosomal abnormality | 2219 | N/A | N/A | 36 | 1.62% | 0 | 0.00% | 0 | 0.00% | 1 | 0.05% |
| Syndrome | 2219 | N/A | N/A | 50 | 2.25% | 0 | 0.00% | 0 | 0.00% | 1 | 0.05% |
| Birth weight | 404 | 5 | 1.24% | 4 | 0.99% | 0 | 0.00% | 0 | 0.00% | 1 | 0.25% |
| Gestational age† | 1011 | 22 | 2.18% | 8 | 0.79% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| **Hospitalization** |  |  |  |  |  |  |  |  |  |  |  |
| Hospital admit date | 2219 | 24 | 1.08% | 2 | 0.09% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| Hospital initial weight | 2219 | 15 | 0.68% | 36 | 1.62% | 0 | 0.00% | 1 | 0.05% | 0 | 0.00% |
| Hospital discharge date | 2219 | 24 | 1.08% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| Hospital mortality status | 2219 | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| Tube fed at hospital discharge | 2124 | 43 | 2.02% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| New permanent feeding tube | 416 | 14 | 3.37% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| **Cardiothoracic Surgery** |  |  |  |  |  |  |  |  |  |  |  |
| Any cardiothoracic surgery | 2219 | 4 | 0.18% | 2 | 0.09% | 2 | 0.09% | 0 | 0.00% | 0 | 0.00% |
| Surgery count | 1611 | 13 | 0.81% | 2 | 0.12% | 6 | 0.37% | 0 | 0.00% | 0 | 0.00% |
| Surgery dates | 1592 | 1 | 0.06% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| Postop ICU/PACU admit dates | 1592 | 4 | 0.25% | 24 | 1.51% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| **Cardiac Cath** |  |  |  |  |  |  |  |  |  |  |  |
| **Any cardiac cath** | 2219 | 33 | 1.49% | 6 | 0.27% | 2 | 0.09% | 0 | 0.00% | 1 | 0.05% |
| Cath count | 424 | 6 | 1.42% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| Cath dates | 418 | 3 | 0.72% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 1 | 0.24% |
| **CICU Encounter** |  |  |  |  |  |  |  |  |  |  |  |
| **CICU admit date** | 2219 | 1 | 0.05% | 8 | 0.36% | 0 | 0.00% | 1 | 0.05% | 0 | 0.00% |
| **Critical care end date** | 2219 | 13 | 0.59% | 5 | 0.23% | 0 | 0.00% | 1 | 0.05% | 1 | 0.05% |
| **CICU discharge date** | 2219 | 9 | 0.41% | 14 | 0.63% | 0 | 0.00% | 4 | 0.18% | 1 | 0.05% |
| **Reason for encounter** | 2219 | 36 | 1.62% | 10 | 0.45% | 0 | 0.00% | 1 | 0.05% | 0 | 0.00% |
| **Medical diagnosis**† | 2219 | 66 | 2.97% | 28 | 1.26% | 0 | 0.00% | 8 | 0.36% | 0 | 0.00% |
| **Existing pacemaker/AICD on admit** | 2219 | 20 | 0.90% | 1 | 0.05% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| **Any non-cardiothoracic surgery** | 2219 | 6 | 0.27% | 1 | 0.05% | 3 | 0.14% | 0 | 0.00% | 1 | 0.05% |
| **CICU mortality status** | 2219 | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| **Invasive Vent** |  |  |  |  |  |  |  |  |  |  |  |
| **Any mechanical vent** | 2219 | 5 | 0.23% | 1 | 0.05% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| Count of mechanical vent episodes | 1266 | 9 | 0.71% | 1 | 0.08% | 0 | 0.00% | 0 | 0.00% | 1 | 0.08% |
| Any vent began at CICU start | 1256 | 35 | 2.79% | 0 | 0.00% | 0 | 0.00% | 1 | 0.08% | 0 | 0.00% |
| Earliest intubation date | 1256 | 3 | 0.24% | 10 | 0.80% | 0 | 0.00% | 10 | 0.80% | 0 | 0.00% |
| Any vent at CICU end | 1256 | 5 | 0.40% | 0 | 0.00% | 0 | 0.00% | 1 | 0.08% | 0 | 0.00% |
| Latest extubation date | 1256 | 10 | 0.80% | 6 | 0.48% | 0 | 0.00% | 1 | 0.08% | 0 | 0.00% |
| Any unplanned extubation | 1256 | 6 | 0.48% | 2 | 0.16% | 0 | 0.00% | 1 | 0.08% | 0 | 0.00% |
| Any reintubation in 48hr | 1256 | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| **Lines / Foleys** |  |  |  |  |  |  |  |  |  |  |  |
| **Any venous lines** | 2219 | 7 | 0.32% | 0 | 0.00% | 2 | 0.09% | 0 | 0.00% | 0 | 0.00% |
| Count of venous lines | 1606 | 32 | 1.99% | 2 | 0.12% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| Any venous line at CICU start | 1574 | 3 | 0.19% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| Earliest venous line start date | 1574 | 4 | 0.25% | 3 | 0.19% | 0 | 0.00% | 1 | 0.06% | 0 | 0.00% |
| Any venous line at CICU end | 1574 | 13 | 0.83% | 1 | 0.06% | 0 | 0.00% | 1 | 0.06% | 0 | 0.00% |
| Latest venous line end date | 1574 | 10 | 0.64% | 2 | 0.13% | 0 | 0.00% | 7 | 0.44% | 0 | 0.00% |
| **Any intracardiac lines** | 2219 | 5 | 0.23% | 0 | 0.00% | 1 | 0.05% | 0 | 0.00% | 0 | 0.00% |
| **Any arterial lines** | 2219 | 6 | 0.27% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| Thrombosis on any line (if ANY lines) | 1804 | 14 | 0.78% | 2 | 0.11% | 6 | 0.33% | 0 | 0.00% | 0 | 0.00% |
| Thrombosis on each line (if thrombosis) | 42 | 2 | 4.76% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| **Any Foley catheter** | 2219 | 5 | 0.23% | 1 | 0.05% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| **Other Therapies** |  |  |  |  |  |  |  |  |  |  |  |
| **Any vasoactive infusion** | 2219 | 20 | 0.90% | 0 | 0.00% | 2 | 0.09% | 1 | 0.05% | 8 | 0.36% |
| Initial vasoactive infusion start date | 1449 | 13 | 0.90% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| Final vasoactive course end date | 1449 | 47 | 3.24% | 0 | 0.00% | 5 | 0.35% | 4 | 0.28% | 0 | 0.00% |
| Vasoactive agents† | 1449 | 81 | 5.59% | 2 | 0.14% | 4 | 0.28% | 0 | 0.00% | 1 | 0.07% |
| **Any RRT**† | 2219 | 10 | 0.45% | 0 | 0.00% | 7 | 0.32% | 0 | 0.00% | 0 | 0.00% |
| CRRT for ARF | 38 | 2 | 5.26% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| **Complications - Cardiovascular** |  |  |  |  |  |  |  |  |  |  |  |
| **Cardiac arrest y/n** | 2219 | 5 | 0.23% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| Arrest count | 62 | 5 | 8.06% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| Arrest dates | 57 | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| CPR durations | 57 | 3 | 5.26% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 1 | 1.75% |
| ECPR for any arrest | 57 | 3 | 5.26% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| **Arrhythmia y/n** | 2219 | 46 | 2.07% | 5 | 0.23% | 2 | 0.09% | 0 | 0.00% | 0 | 0.00% |
| Arrhythmia types | 302 | 37 | 12.25% | 1 | 0.33% | 7 | 2.32% | 0 | 0.00% | 0 | 0.00% |
| Earliest arrhythmia start date | 302 | 6 | 1.99% | 2 | 0.66% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| Latest arrhythmia end date | 302 | 22 | 7.28% | 2 | 0.66% | 0 | 0.00% | 1 | 0.33% | 0 | 0.00% |
| Any arrhythmia treated with drug | 302 | 5 | 1.66% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| Any arrhythmia treated with cardioversion/defib | 302 | 3 | 0.99% | 1 | 0.33% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| Any arrhythmia treated with cooling | 302 | 2 | 0.66% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| Any arrhythmia treated with permanent pacemaker | 302 | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| Any arrhythmia treated with temporary pacemaker | 302 | 3 | 0.99% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| **MCS** | 2219 | 1 | 0.05% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| Count of MCS runs | 74 | 1 | 1.35% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| Any MCS at CICU start | 73 | 1 | 1.37% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| MCS start date(s) | 73 | 1 | 1.37% | 4 | 5.48% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| Any MCS at CICU end | 73 | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| MCS end dates | 73 | 0 | 0.00% | 1 | 1.37% | 0 | 0.00% | 0 | 0.00% | 1 | 1.37% |
| Any ECMO run w/active CPR at cannulation | 73 | 1 | 1.37% | 1 | 1.37% | 0 | 0.00% | 2 | 2.74% | 0 | 0.00% |
| Any ECMO run w/CPR within 2hrs | 46 | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| **PHTN** | 2219 | 20 | 0.90% | 10 | 0.45% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| **Endocarditis** | 2219 | 3 | 0.14% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| **Pericardial effusion** | 2219 | 7 | 0.32% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| **Listed for heart transplant** | 2219 | 5 | 0.23% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| **Complications - Procedural** |  |  |  |  |  |  |  |  |  |  |  |
| **Bleeding requiring reop** | 2219 | 3 | 0.14% | 1 | 0.05% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| **Unplanned reop/reintervention** | 2219 | 27 | 1.22% | 1 | 0.05% | 1 | 0.05% | 3 | 0.14% | 0 | 0.00% |
| **Sternum left open** | 2219 | 12 | 0.54% | 0 | 0.00% | 3 | 0.14% | 0 | 0.00% | 0 | 0.00% |
| **Intraop/intraproc death** | 2219 | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| **Complications - Respiratory** |  |  |  |  |  |  |  |  |  |  |  |
| **Chylothorax** | 2219 | 12 | 0.54% | 2 | 0.09% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| **Pleural effusion** | 2219 | 8 | 0.36% | 1 | 0.05% | 0 | 0.00% | 1 | 0.05% | 0 | 0.00% |
| **Pneumothorax** | 2219 | 6 | 0.27% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| **Hemothorax** | 2219 | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| **ARDS** | 2219 | 3 | 0.14% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| **Pulmonary embolism** | 2219 | 2 | 0.09% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| **Complications - Infectious** |  |  |  |  |  |  |  |  |  |  |  |
| **Pneumonia** | 2219 | 3 | 0.14% | 4 | 0.18% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| **Sepsis** | 2219 | 4 | 0.18% | 7 | 0.32% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| **Meningitis** | 2219 | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| **Superficial SSI** | 2219 | 2 | 0.09% | 2 | 0.09% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| **Deep SSI** | 2219 | 0 | 0.00% | 1 | 0.05% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| Deep SSI count | 7 | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| **CA-BSI** | 2219 | 2 | 0.09% | 1 | 0.05% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| CA-BSI count | 12 | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| **UTI** | 2219 | 4 | 0.18% | 3 | 0.14% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| UTI count | 16 | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| **Complications - Neuro** |  |  |  |  |  |  |  |  |  |  |  |
| **Stroke** | 2219 | 12 | 0.54% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| **Seizure** | 2219 | 4 | 0.18% | 2 | 0.09% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| **IVH** | 2219 | 1 | 0.05% | 0 | 0.00% | 0 | 0.00% | 1 | 0.05% | 0 | 0.00% |
| **Intracranial hemorrhage** | 2219 | 1 | 0.05% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| **Brain death** | 2219 | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| **Paralyzed diaphragm** | 2219 | 2 | 0.09% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| **Vocal cord dysfunction** | 2219 | 2 | 0.09% | 1 | 0.05% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| **Complications – GI/Other** |  |  |  |  |  |  |  |  |  |  |  |
| **Hepatic failure** | 2219 | 2 | 0.09% | 3 | 0.14% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| **NEC** | 2219 | 1 | 0.05% | 3 | 0.14% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| NEC count | 20 | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| **Pressure ulcer** | 2219 | 1 | 0.05% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| **Hypoglycemia** | 2219 | 5 | 0.23% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| **Risk Group** |  |  |  |  |  |  |  |  |  |  |  |
| **Any CPB/no-CPB cardiovascular surgery** | 2219 | 4 | 0.18% | 1 | 0.05% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| **Surgical Encounter** |  |  |  |  |  |  |  |  |  |  |  |
| First CPB/no-CPB cardiovascular surgery | 1511 | 4 | 0.26% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| Any ECMO prior to surgery | 1511 | 3 | 0.20% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| Any CPR prior to surgery | 1511 | 4 | 0.26% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| Preop viral respiratory infection | 1511 | N/A | N/A | 11 | 0.73% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| Inotrope/vasopressor infusion at time of surgery | 1511 | 7 | 0.46% | 0 | 0.00% | 2 | 0.13% | 0 | 0.00% | 0 | 0.00% |
| ECMO initiated in OR | 1511 | 2 | 0.13% | 0 | 0.00% | 2 | 0.13% | 0 | 0.00% | 0 | 0.00% |
| Left OR with open sternum | 1511 | 13 | 0.86% | 0 | 0.00% | 1 | 0.07% | 2 | 0.13% | 0 | 0.00% |
| Postop lactate | 1511 | N/A | N/A | 89 | 5.89% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| Postop chest tube output | 1511 | N/A | N/A | 206 | 13.63% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| Postop inotrope/vasopressor support | 1511 | 13 | 0.86% | 2 | 0.13% | 5 | 0.33% | 1 | 0.07% | 0 | 0.00% |
| Max postop VIS | 1038 | N/A | N/A | 93 | 8.96% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| **Non-Surgical Encounter** |  |  |  |  |  |  |  |  |  |  |  |
| Any prior cardiothoracic surgery | 702 | 11 | 1.57% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| Current surgical status | 349 | 30 | 8.60% | 0 | 0.00% | 4 | 1.15% | 0 | 0.00% | 0 | 0.00% |
| High-risk diagnoses | 702 | N/A | N/A | 80 | 11.40% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| BNP | 702 | N/A | N/A | 19 | 2.71% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| Creatinine | 702 | N/A | N/A | 67 | 9.54% | 0 | 0.00% | 0 | 0.00% | 2 | 0.28% |
| Pupil reflex | 702 | N/A | N/A | 8 | 1.14% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| Inotrope/vasopressor support in first 2h y/n | 702 | 14 | 1.99% | 1 | 0.14% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| Max VIS in first 2h | 102 | N/A | N/A | 12 | 11.76% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |

†Fields with both major and minor discrepancies:

DOB: 5 minor / 4 major

Gestational age: 14 minor / 8 major

Medical diagnosis: 66 minor / 1 major

Vasoactive agent list: 72 minor / 9 major

Any RRT y/n: 7 minor / 3 major

1 all discrepancies that meet the criteria for a major or minor discrepancy; N/A in this column indicates no defined major or minor discrepancy in that category. Only major and minor discrepancies affect the audit score.  
  
2 for fields with major or minor criteria defined, this column records incorrect data entered that did not meet the scoring criteria and any data about which the auditor noted uncertainty.  
  
3 consistent, incorrect data entry due to a misunderstanding of a definition/option; following the audit, sites receive a list of EVERY case that may be affected by the systematic error and are instructed to review/update/resubmit as necessary.  
  
4  an error in one field lead to an error in another field; these are not included in the overall error rate on the audit score to avoid “double counting”.

5  includes software issues and electronic medical record issues