

## Data Integrity Reports

### Purpose

These reports are provided to aid hospitals with their internal data improvement processes with respect to case completeness and accuracy, and begin the process of data auditing by the Department of Health. We have been encouraging hospitals to use any and all methods for identification of severe sepsis and septic shock patients from their facilities. At the same time, the Department uses a variety of methods to authenticate the integrity of the data and to support hospitals in their data reporting efforts. To assist in efforts to ensure accurate case reporting (preventing over reporting of less severe cases or under reporting of severe sepsis or septic shock cases), we have created the Data Integrity Reports by comparing the severe sepsis and septic shock cases reported through the data submission portal to SPARCS.

### Methodology

Clinical sepsis data submitted to the state for Sepsis Quarter 1 (April 1, 2014-June 30, 2014) were pulled from the IPRO sepsis submission tool on January 5, 2015. These records were compared to SPARCS data for the same quarter, pulled on January 8, 2015, to determine if the matching record could be found in SPARCS. The data sets were matched using various iterations of combinations of unique personal identifier, date of birth, gender, admission date, discharge date, permanent facility identifier, patient control number and medical record number. These are variables that are requested in both the sepsis clinical data and SPARCS. Since these variables are vital to ensure proper matching of records, the values should be reported the same in both data systems.

### Reports

#### Report #1 – SS/SS SPARCS

This report lists cases that were reported as severe sepsis or septic shock using the two ICD-9-CM codes (785.52, 995.92) in SPARCS, but were not found to be reported in the clinical data. This report can serve as a way to investigate cases to determine if they should have been reported in the clinical data. Response back on the first 30 cases is due to the Department. While this is first quarter data, and hospitals may have changed their case reporting processes over the more recent quarters, response is still required.

#### Report #2 – Modified Dombrovskiy SPARCS

This report lists the cases that were identified as severe sepsis/septic shock using a Modified Dombrovskiy definition (see below) in SPARCS, but the record was not found to be reported in the clinical data. This definition has been shown to have a defined probability of identifying some 'true' severe sepsis/septic shock cases in some hospitals. This report is provided as another way to check that all cases that should have been reported in the clinical data were reported. There is no feedback required for this report at this time but it is intended to be used by the hospitals for internal improvement purposes related to case finding.

#### Report #3 – Report in Clinical, not SPARCS

This report lists cases that were reported in the clinical sepsis data, but could not be found in SPARCS. This could be due to inconsistent reporting of the variables used to match the two datasets. If there is a case that should be reported to SPARCS, it is the facility's responsibility to ensure that accurate information is reported to SPARCS.

#### Report #4 – Deaths

This report is provided as an edit check on the patient discharge status. Records submitted in the clinical sepsis data, in which a match was found in the SPARCS data, were evaluated with respect to mortality status. This report lists the records where the patient was reported as a death in the SPARCS data, but was reported as discharged alive in the clinical data.

#### Modified Dombrovskiy Definition

This is different from the standard Dombrovskiy Definition since it removes ICD-9-CM codes for severe sepsis or septic shock (785.52, 995.92).

Any ICD-9-CM diagnosis code of the following–

- 003.1 (salmonella septicemia),
- 020.2 (septicemic plague),
- 022.3 (anthrax septicemia),
- 036.2 (meningococcal septicemia),
- 036.3 (Waterhouse-Friderichsen syndrome),
- 038.0 (streptococcal septicemia)
- 038.1 (staphylococcal septicemia),
- 038.10 (staphylococcal septicemia, unspecified),
- 038.11 (Methicillin susceptible staphylococcal aureus septicemia),
- 038.12 (Methicillin resistant staphylococcal aureus septicemia),
- 038.19 (other staphylococcal septicemia)
- 038.2 (pneumococcal septicemia),
- 038.3 (septicemia due to anaerobes),
- 038.4 (septicemia due to other Gram-negative organisms),
- 038.40 (septicemia due to other Gram-negative organisms, unspecified),
- 038.41 (septicemia due hemophilus influenzae),
- 038.42 (Septicemia due to escherichia coli)
- 038.43 (Septicemia due to pseudomonas)
- 038.44 (Septicemia due to serratia)
- 038.49 (Other septicemia due to gram-negative organisms)
- 038.8 (other specified septicemias),
- 038.9 (unspecified septicemia),
- 054.5 (herpetic septicemia),
- 098.89 (gonococcemia),
- 112.5 (systemic candidiasis),

995.91 (systemic inflammatory response syndrome due to infectious process without organ dysfunction)

And

Any ICD-9-CM diagnosis code of –

286.6 (Defibrination syndrome)

286.9 (Other and unspecified coagulation defects)

287.5 (Thrombocytopenia, unspecified)

293.0 (Delirium due to conditions classified elsewhere)

287.4 (Secondary thrombocytopenia)

287.41 (Posttransfusion purpura)

287.49 (Other secondary thrombocytopenia)

348.1 (Anoxic brain damage)

348.3 (Encephalopathy, not elsewhere classified)

427.5 (Cardiac arrest)

458.0 (Hypotension, unspecified)

458.8 (Other specified hypotension)

458.9 (Hypotension, unspecified)

518.81 (Acute respiratory failure)

518.82 (Other pulmonary insufficiency, not elsewhere classified)

570 (Acute and subacute necrosis of liver)

572.2 (Hepatic encephalopathy)

573.4 (Hepatic infarction)

584 (Acute kidney failure)

584.5 (Acute kidney failure with lesion of tubular necrosis)

584.6 (Acute kidney failure with lesion of renal cortical necrosis)

584.7 (Acute kidney failure with lesion of renal medullary [papillary] necrosis)

584.8 (Acute kidney failure with other specified pathological lesion in kidney)

584.9 (Acute kidney failure, unspecified)

780.01 (Coma)

785.5 (Shock without mention of trauma)

785.50 (Shock, unspecified)

785.51 (Cardiogenic shock)

785.59 (Other shock without mention of trauma)

786.09 (Other respiratory abnormalities)

799.1 (Respiratory arrest)

796.3 (Nonspecific low blood pressure reading)

Response

To help ensure that the data set, which will ultimately be used for public reporting of hospital performance, is both accurate and complete, the Department requests that each facility

reviews the cases listed in the Data Integrity Reports. Each facility has a report that can be downloaded as an Excel file. The facility should review the first 30 cases in Report #1 and record the number corresponding to the reason for the Clinical Data and SPARCS mismatch in the column titled 'Reason Number'. See below for the reason number responses. If a facility has fewer than 30 cases in Report #1, then a reason should be recorded for every case. The Optional Reason Description field can be used if there is need to further describe the reason for mismatch. Facilities may additionally report back on more than the first 30 cases for Report #1, or for any cases in Report #2-4 if desired. The Excel file should then be uploaded back to the same website, with 'response' added to the end of the filename. This process will report the responses back to the Department. We thank you for your dedication in creating a robust, accurate, and complete data set for severe sepsis and septic shock in New York State.

Please describe the major reason this case was identified as severe sepsis or septic shock in the SPARCS data using the ICD-9-CM diagnosis codes, but was not reported in the clinical data (Report #1).

1. Case was submitted to clinical data, error in patient unique personal identifier
2. Case was submitted to clinical data, error in date of birth
3. Case was submitted to clinical data, error in gender
4. Case was submitted to clinical data, error in admission date
5. Case was submitted to clinical data, error in discharge date
6. Case was submitted to clinical data, error in patient control number
7. Case was submitted to clinical data, error in medical record number
8. Case should not have been coded as severe sepsis/septic shock in SPARCS
9. Case should have been submitted in clinical data
10. Other – please describe