

# Sepsis and Septicemia: Clear Up Coding and Documentation Confusion

## WHITE PAPER



By Jennifer Avery, CCS, CPC, CPC-H CPC-I, senior regulatory specialist for HCPPro, Inc.

● Sepsis. Severe sepsis. SIRS. Septicemia. Unfortunately, this isn't a case of "tomato, tomahto." Coders and physicians need to know how to use these terms accurately, or inaccurate billing and coding is a real possibility. And your facility needs every penny of the reimbursement it deserves.

A strong clinical knowledge of these terms is a good place to start.

Septicemia generally refers to a systemic disease associated with the presence of pathological organisms or toxins in the blood, which can include bacteria, viruses, fungi, or other organisms, according to the *ICD-9 Manual*.

Systemic Inflammatory Response Syndrome (SIRS) is the systemic response to infection, trauma, burns, or other insult such as cancer with symptoms, including fever, tachycardia, tachypnea, and leukocytosis.

Sepsis refers to the "systemic inflammatory response to the infection" and is manifested by three or more of the following SIRS conditions in a patient:

- Body temperature > 38.3°C (101°F) or < 36°C (96.8°F)
- Pulse > 90/min.
- Respirations > 20/min
- White blood cell (WBC) count > 12,000 or < 4,000
- Altered mental status
- Significant edema or positive fluid balance
- Hyperglycemia (without diabetes)

Severe sepsis refers to sepsis associated with organ dysfunction or failure, hypoperfusion (i.e., decreased blood flow through an organ), or hypotension (i.e., abnormally low blood pressure).

There are also two specific types of sepsis of which coders should be aware:

- Urosepsis refers to a localized infection in the urinary tract (i.e., urinary tract infection)
- Line Sepsis refers to an infection of the vascular catheter

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### Causes and treatments

Sepsis can have many causes but is often due to an infection when an unusually large number of microorganisms are present in a body cavity or in a patient's bloodstream for which there is no pathological response. In many cases, the microorganisms are found in a body cavity that is normally sterile.

For example, bacteremia, which refers to the laboratory finding of bacteria in the bloodstream through a positive blood culture only, can progress to septicemia. But note that bacteremia denotes a laboratory finding, whereas septicemia denotes acute illness. Bacteremia progresses to septicemia only when there is a more severe infectious process or an impaired immune system. Coders should be aware of the difference between these two conditions and consult the physician when the diagnosis is not clearly differentiated, according to the *Coding Clinic*, Volume 17, Number 2, second quarter 2000.

Negative or inconclusive blood cultures do not preclude a diagnosis of septicemia or sepsis in patients with clinical evidence of the condition. Prior use of antibiotics by the patient or technical issues surrounding blood sampling can sometimes lead to a negative or inconclusive result. In fact, only 28% of patients with sepsis have positive blood cultures, according to a recent study of eight academic medical centers.

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- Other causes of local inflammation, characterized by redness and inflammation, include:
  - Surgical wounds
  - Endocarditis
  - Cellulitis
  - Burns
  - Trauma

Coders and physicians commonly overlook these causes of septicemia. In these cases, toxins can be released from the localized inflammation into tissues leading to septicemia.

Sepsis can lead to septic shock or organ dysfunction or failure without treatment.

Septic shock is a sudden disturbance of mental or physical equilibrium and is a condition of hemodynamic and metabolic disturbance marked by the circulatory system's failure to maintain adequate blood flow to vital organs. Inadequate blood volume (i.e., hypovolemic shock) may cause septic shock, as can inadequate cardiac function (i.e., cardiogenic shock) or inadequate vasomotor function (i.e., neurogenic shock).

Signs of organ dysfunction or failure include the following:

- **CV-shock:** Systolic blood pressure < 90 or mean arterial pressure < 70 for at least one hour despite adequate fluid resuscitation. Vasopressor use may mask hypotension.
- **Lactic (metabolic) acidosis:** pH < 7.3 and plasma lactate > 1.5 times normal.
- **Renal:** Urine output < 0.5 cc/kg/hr for one hour despite fluid resuscitation or Serum Cr > 0.5 mg/dl.
- **Respiratory:** PaO<sub>2</sub>/FiO<sub>2</sub> ratio < 300 (nl wedge); hypoxemia

- **Hematology:** Plt. Ct. < 80,000 or 50% decrease over the past three days (thrombocytopenia); leukemoid or neutropenic reaction; protein C, D-dimer (hypercoaguable state), activated partial thromboplastin time (aPTT), prothrombin time (hypocoaguable state), hemolysis, anemia.
- **Metabolic and/or septic encephalopathy:** "Altered mental status" progressing to delirium and then coma, bilateral asterixis and myoclonus, hypothermia, and other multiple abnormal signs of incomplete brain dysfunction."
- **Liver failure:** Presence of metabolic encephalopathy in a patient with severe acute liver disease. Reflected by elevation of prothrombin time; other liver enzymes (bilirubin > 2.0, transaminases 2 times normal) suggestive but not definitive.

Treatment options for sepsis include:

- IV antibiotics
- Vasopressors
- Activated protein C (APC) (i.e., Xigris®)
- Corticosteroids for glucose levels
- IV fluids
- Oxygen

The medical and pharmacy communities carefully monitor the use of Xigris to treat severe sepsis.

- Xigris (i.e., drotrecogin alfa) (activated) is a new biological agent used to treat severe sepsis. It is a recombinant version of naturally occurring APC. APC ensures the control of inflammation and clotting in blood vessels. Patients with severe sepsis cannot convert protein C to the activated form in sufficient amounts. Drotrecogin alfa (activated) is thought to be able to bring blood clotting and inflammation back into balance and restore blood flow to the organs, according to the October 2002 *Coding Clinic*.

The medical and pharmacy communities carefully monitor the use of Xigris to treat severe sepsis. Specific clinical indicators are required to be present (e.g., multiple system organ failure) to use it, and use is limited to infectious disease and pulmonary physicians treating patients with severe sepsis. The cost of this drug is approximately \$7,000 per dose, according to the Xigris Web site ([www.xigris.com](http://www.xigris.com)).

## Coding and billing

In general, coders may refer to their *ICD-9 Manual* for sepsis and septicemia coding guidance.

When sepsis or severe sepsis is present on admission and meets the definition of principal diagnosis, the systemic infection code is the principal diagnosis (from category 038.xx). The fourth and fifth digits identify the specific causative organism. However, no additional organism code is necessary when a combination code exists to identify both the condition and the cause.

Coding for SIRS, sepsis, and severe sepsis requires a minimum of two codes: A code for the underlying cause (such as infection or trauma) and a code from subcategory 995.9 (SIRS).

The *ICD-9 Manual* tabular index states that coders should report the additional code 995.9 to identify SIRS, and the chapter-specific official coding guidelines further state that the physician must have documented either sepsis or SIRS to report the code. When the physician documentation merely states septicemia is present, it is inappropriate to report a code from subcategory 995.9x without querying the physician.

Coders can reflect the source of the infection by the use of codes within the 995.9x subcategory when appropriate. Coders should report codes 995.91 or 995.92 as an additional code to identify SIRS due to infectious process, depending on whether there is organ failure/dysfunction. Codes 995.93 and 995.94 are used to report SIRS due to noninfectious process (e.g., trauma, burns). Again, the decision regarding which of the two to report depends on the presence of organ failure or dysfunction. E codes are unnecessary with codes 995.91 and 995.92.

If a patient admits for a localized infection and the sepsis, severe sepsis, or SIRS develops after admission, the localized infection would be the principal diagnosis with an additional code for sepsis, severe sepsis, and SIRS.

Septic shock cannot occur in the absence of severe sepsis.

When a physician documents septic shock, coders should report the systemic initiating infection first, then either code 995.92 or 995.94 and then 785.52 for the septic shock. Coders must report the code from subcategory 995.9x before the code for septic shock. Septic shock cannot occur in the absence of severe sepsis.

For patients with severe sepsis with organ dysfunction or failure, coders must also remember to identify the specific organ dysfunction or failure (e.g., renal or respiratory failure).

Other code options to note include the following:

- Code 790.7 for bacteremia that is not further defined
- Code 799.89 for toxemia that is not further defined
- Code 599.0 for urosepsis that is not further defined
- Code 996.62 for line sepsis that is not further defined
- Code 771.81 for newborn sepsis

Urosepsis is a nonspecific term. If it is the only term documented, coders should report code 599.0 based on the default for the term in the *ICD-9 Manual* index. In addition, coders may report the code for the causal organism if known, according to the *Coding Clinic*, Volume 24, Number 4, fourth quarter 2007. Note also that a medical executive committee may not legislate that urosepsis means sepsis as a substitute for physician documentation per

the *Coding Clinic*, second quarter 2004.

Looking ahead, it is interesting to note that “septicemia” does not exist in the ICD-10 codes. When you reference it in ICD-10, it leads you to R78.81 (bacteremia NOS). Sepsis codes have become more defined in ICD-10 and documentation will be critical. For example, the term sepsis alone takes you to code A41.9 (other sepsis). However, depending on the modifying term, the code may change. For example, when the physician documents the causative organism, such as group B strep, the code changes to A40.1. Also, when the physician documents severe sepsis in ICD-10, it takes you to code R65.20 (severe sepsis without septic shock).

Finally, it may be beneficial to note the following DRGs, which are relevant to sepsis coding and billing and are found within the major diagnostic category 18, Infectious and Parasitic Diseases, Systemic or Unspecified Sites:

- DRG 870: Septicemia with mechanical ventilation 96+ hours
- DRG 871: Septicemia without mechanical ventilation 96+ hours with MCC
- DRG 872: Septicemia without mechanical ventilation 96+ hours without MCC

### Documentation and querying

Even when a patient meets the criteria for sepsis, if the documentation does not support how sick the patient is, auditors may question whether the sepsis codes were an appropriate choice.

● Appropriate physician documentation is critical for coders and billers to accurately report sepsis and septicemia and to ensure that facilities receive the reimbursement to which they are entitled. Unfortunately, documentation requirements for these conditions aren’t necessarily easy to meet.

For example, it doesn’t matter whether a patient meets the clinical criteria for having the conditions based on official coding guidelines, but that documentation supports how “sick” the patient was. For example, when the physician can demonstrate that the patient was admitted and was “very sick,” the coder can still use the physician’s supporting documentation to code for sepsis and/or SIRS even if the patient was able to get better in less time than what is usually considered an acceptable time frame for sepsis.

However, the opposite can also hold true. Even when a patient meets the criteria for sepsis, if the documentation does not support how sick the patient is, auditors may question whether the sepsis codes were an appropriate choice.

For a physician to validate that a patient “looks septic” or “looks sick,” the physician must communicate the relevant information in the history and physical and progress notes. Information that the physician may include to support the diagnosis includes general variables such as the following:

- Fever (i.e., a core temperature higher than 38.3°C [101°F])
- Hypothermia (i.e., a core temperature lower than 36°C)
- Tachypnea
- Heart rate higher than 90 beats per minute or two standard devia-

tions (SD) above the normal for age

- Altered mental status
- Significant edema or positive fluid balance (i.e., 20 mL/kg over 24 hrs)
- Hyperglycemia (i.e., plasma glucose higher than 120 mg/dL or 7.7 mmol/L) in the absence of diabetes

In addition, the physician should document any present inflammatory variables, such as:

- Leukocytosis (i.e., WBC count greater than 12,000/L)
- Leukopenia (i.e., WBC count less than 4,000/L)
- Greater than 10% immature forms
  - Includes “bands,” “matamyelocytes,” “myelocytes”
  - Also known as “bandemia”—“left shift”
- Plasma C-reactive protein over two SD above the normal value
- Plasma procalcitonin over two SD above the normal value

- The physician should also be sure to note any variables present that may help qualify possible organ dysfunction.
- The physician should also be sure to note any variables present that may help qualify possible organ dysfunction:
    - Arterial hypotension
    - Systolic blood pressure less than 90 mm Hg
    - Mean arterial pressure less than 70 mm Hg
    - A systolic blood pressure decrease of greater than 40 mm Hg in adults or two SD below normal for the patient’s age
    - SvO<sub>2</sub> less than 70%
    - Cardiac index greater than 3.5 L/min/M<sup>2</sup>

This also includes other organ dysfunction variables. For example:

- Arterial hypoxemia (i.e., PaO<sub>2</sub>/FiO<sub>2</sub> ratio less than 300)
- Acute oliguria (i.e., urine output less than 0.5 mL/kg\*hr or 45 mmol/L for at least two hours)
- Creatinine increase of 0.5 mg/dL
  - A definition of acute renal failure
  - Acute kidney injury (585.9) requires only 0.3 mg/dl rise
- Coagulation abnormalities (INR [international normalized ratio] > 1.5 or aPTT > 60 seconds)
- Ileus (i.e., absent bowel sounds)
- Thrombocytopenia (i.e., platelet count < 100,000/L)
- Hyperbilirubinemia (i.e., plasma total bilirubin > 4 mg/dL or 70 mmol/L)

The physician should also document any tissue perfusion variables that may be present, such as hyperlactatemia (i.e., over 1 mmol/L) or decreased capillary refill or mottling. Coders should also recognize that some physicians may understand sepsis differently. For example, physicians who attended medical school 30 years ago may refer to a condition as “sepsis” or “sepsis syndrome,” but may actually be describing what is now known as “severe

sepsis.” Similarly, some physicians mistakenly still understand fever and leukocytosis as inherent to the underlying cause of SIRS, instead of a manifestation of it. (And unfortunately, some commercial payers also struggle with these concepts.) Remind physicians who struggle with these terms that the Centers for Disease Control and Prevention classified sepsis in this manner.

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Coders should also recognize that some physicians may understand sepsis differently.

- The best offense when it comes to sepsis and documentation is physician education rather than the query process. However, realistically, queries will be necessary. Keep them clear and concise. State only the facts. And phrase the question with a multiple-choice format to respond, always including “other” as an option to use when the multiple-choice answers are incorrect for the case being queried.

In many cases, coders are caught in the middle of a battle between the clinical and insurance worlds when it comes to this topic: The physician documenting sepsis means the coder codes the condition. But in recent years, that has not been enough documentation for insurance companies to accept the diagnosis. This is forcing coders into trying to ensure that the condition is supported by the documentation without questioning the physician’s clinical judgment. It comes down to physicians needing to understand the importance of documentation that supports “how sick” the patient is in the absence of clinical data. ■

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