



The

# CACDIS Connection

JOURNAL OF CALIFORNIA ACDIS CDI CHAPTER

Welcome to the 18th issue of the CA ACDIS Journal!



## WHAT CAN pH /IMBALANCE DO FOR YOU?

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CDI practice began with a primary focus on Case Mix Index through improved accuracy of provider documentation to allow MS-DRG optimization. While that focus still exists, the advent of Value Based Purchasing reimbursement incentives, Vizient rankings, increased percentage of APR-DRG groupings, public reporting and other “quality based” reimbursement models really broadens the role of CDIs. Capture of accurate documentation supporting secondary diagnoses assigned a Severity of Illness (“SOI”) and/or Risk of Mortality (“ROM”) greater than 1 becomes increasingly more important.

Uncompensated Acid/Base imbalance diagnoses are a category of secondary diagnoses that are usually reportable and usually carry an SOI of 2 *and* an ROM of at least 2. Often these diagnoses also provide an additional complication or comorbidity (“CC”) as well. Further, Acid/Base imbalance diagnoses are *infrequently* specifically documented by providers. In the upcoming FY2023 Official Code Book, we will be seeing new and more specified codes for Acidosis. All these factors make Acid/Base imbalance diagnoses an important area for CDI to understand, query for and capture appropriately.

The following is a table of the most common Acid/Base imbalance ICD-10-CM codes, the conditions with which they are most frequently associated and the most common SOI/ROM assigned with these codes when reported as secondary diagnoses.

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Because these Acid/Base Imbalance diagnoses are most often acute, secondary diagnoses, they are required to meet **ICD-10-CM Section III Official Coding Guidelines** requirements for Reporting Additional Diagnoses, to be coded. This requirement is usually met by treatment of the underlying condition, but may also be met with frequent laboratory monitoring, intravenous fluid infusion, electrolyte replacement or administration of bicarbonate.

| ICD-10 CODE   | CODE NAME   | SOI | ROM | ASSOCIATED Dx   | SYMPTOMS  |
|---------------|---|-----|-----|---|---|
| <b>E87.2</b>  | <b>Acidosis</b>   | 2   | 2   | Metabolic Acidosis, Lactic Acidosis, Respiratory Acidosis, HAGMA or NAGMA<br><br>*Hypercapnic Resp Failure, Sepsis, Shock, Kidney Dz/Uremia, Poisoning with ASA, antifreeze, methanol | tachypnea, hypotension, tachycardia, confusion, fatigue, headache, anorexia, jaundice, hyperkalemia, nausea, vomiting, diarrhea |
| <b>E87.3</b>  | <b>Alkalosis</b>  | 2   | 2   | Metabolic Alkalosis, Respiratory Alkalosis<br><br>*Cystic Fibrosis, Dehydration, Cyclic Vomiting, Poisoning with baking soda, diuretics, antacids                                     | bradypnea, confusion, dysrhythmia, tremors, cramps, irritability, nausea, vomiting diarrhea                                     |
| <b>E87.4</b>  | <b>Mixed Acid/Base Imbalance</b>                                      | 2   | 2   | Usually Metabolic and Respiratory Acidosis, but can be other combinations not including compensating diagnoses.   | Any combination of above.   |
| <b>N25.89</b> | <b>Other Disorders Resulting from Impaired Renal Tubular Function</b> | 2   | 1   | Renal Tubular Acidosis<br><br>*Sjogren, SLE, RA, Cirrhosis, Renal lesions, Poisoning with Lithium or Amphotericin   | Tachypnea, confusion, fatigue, weakness, kidney stones  |

**If the Acid/Base imbalance is**

**“compensated” it does not require treatment or monitoring and may *not* be coded.** If a patient is suffering from acidosis or alkalosis but they are relatively symptom free and/or their pH tested by Venous Blood Gas (“VBG”) or Arterial Blood Gas (“ABG”) is normal (7.35 – 7.45) their body has compensated and they do not have a pH disturbance. It is vital for life that our blood pH not waiver significantly. The body will always attempt to return an abnormal pH to normal when the Acid/Base balance is disturbed. For example, if a patient begins to become acidotic, due to low bicarbonate in the blood or high carbon dioxide in the blood, the respiratory centers will stimulate breathing to remove acidic carbon dioxide and balance the pH. When a patient’s respiratory or renal systems are unable to compensate, they enter a state of imbalance, which may be any of the conditions listed in the table above. As AHA ICD-9 Coding Clinic First Quarter 2010 p. 5-6 advises, “Compensatory Respiratory Acidosis” in a patient with chronic lung disease **cannot** be coded.

**Also, when the acidosis or alkalosis is inherent to or integral to a condition,** the Acid/Base imbalance diagnosis may **not** be *separately* coded. For this reason, when the patient has Metabolic Acidosis due only to Diabetes Mellitus with Ketoacidosis, the coder is directed to *only* code E10.10 or E10.11. Likewise a patient who has Diabetes Insipidus or Hyperemesis Gravidarum is excluded by an excludes 1 note from also coding Metabolic Alkalosis or Mixed Acid/Base imbalance. (See also AHA ICD-10-CM Coding Clinic 3<sup>rd</sup> Quarter 2020 p. 30-31).

**An interesting question arises when coding both Sepsis and Acidosis** given that Lactic Acidosis due to tissue hypoperfusion is inherent in Septic Shock or Severe Sepsis. From a clinical standpoint, any patient with Severe Sepsis may be expected to have elevated lactate levels, especially under a Sepsis 3 definition. The patient would not, however, be expected to always have a large anion gap and persistent levels of lactate > 5mmol/l after hydration. To make things even more confusing, no Sepsis diagnoses carry “excludes notes” for Acidosis codes. For this reason, a determination as to whether to separately code a diagnosis of Lactic Acidosis in the presence of Sepsis can only be determined on a case by case basis. As a general rule the following guide can be used:

| ICD-10 CODE      | DIAGNOSIS/SEPSIS TYPE              | "Lactic Acidosis SEPERATELY CODEABLE?" |  |
|------------------|------------------------------------|--|--|
| A41.9            | Sepsis                             | Yes                                    |  |
| A41.9 and R65.20 | Severe Sepsis w Lactate < 4 mmol/L | Possible                               |  |
| A41.9 and R65.21 | Septic Shock                       | No                                     |  |

The final and perhaps most important question is what Clinical Indicators a CDI needs to write a compliant query for a secondary, codeable Acid/Base imbalance diagnosis. Compliant queries for these diagnosis should include:

- Relevant causative or associated diagnoses (see the chart above), *and*
- Associated symptoms (see the chart above), *and*
- Relevant laboratory tests

Table of Laboratory Tests that may be present and can be used as clinical indicators to query for an uncompensated Acid/Base imbalance diagnosis

| DIAGNOSIS              | ABG/VBG <sup>1</sup> |                   |                  | ANION GAP         | OTHER   |
|------------------------|----------------------|-------------------|------------------|-------------------|---|
|                        | pH                   | PaCO <sub>2</sub> | HCo <sub>3</sub> |                   |   |
| Respiratory Acidosis   | Low                  | High              | High/Normal      |                   |   |
| Metabolic Acidosis     | Low                  | Low/Normal        | Low              |                   | High Blood Chloride, Low serum CO <sub>2</sub> <sup>2</sup>                     |
| Respiratory Alkalosis  | High                 | Low               | Low/Normal       |                   |   |
| Metabolic Alkalosis    | High                 | High/Normal       | High             | Low               | Low Blood Cl  |
| Lactic Acidosis        |                      |                   |                  |                   | X ≥ 2mmol/L, High anion gap <sup>3</sup>  |
| Renal Tubular Acidosis | Low                  |                   |                  |                   | Urine pH > 5.5 <sup>4</sup> and or high aldosterone and/or disturbed renal labs |
| HAGMA                  |                      |                   |                  | High <sup>5</sup> |   |
| NAGMA                  |                      |                   |                  | Normal            |   |
|                        |                      |                   |                  |                   |   |

*\*Specific lab values are not provided as "normal" and "abnormal" values may vary by facility.*

The field of Clinical Documentation Integrity continues to change and the role of CDIs becomes even more important. There has never been a time when comprehensive, accurate capture of provider documentation of all relevant diagnoses has been so crucial to accurate portrayal of the complexity of a patient's condition. Patients weakened by acute illness often are unable to balance their pH, which increases the severity of their illness and their risk of mortality. Providers may assume the pH imbalance is a symptom and forgo specific documentation. CDI recognition of clinical indicators Acid/Base imbalance diagnoses will greatly assist in knowing when to query.

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## Volunteerism

### **Shirley Lewis, DPA, RHIA, CHC, CCS, CRCR**

Consultant for Wiggley's Billing, Coding,  
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According to Merriam-Webster dictionary to volunteer means one who renders a service or takes part in a transaction while having no legal concern or interest. Immediately up on reading this definition one would think, why volunteer? Why would I give of myself and time freely, without pay? Here's my story. I've been around volunteers since I can remember as a small child attending, Sunday school. I know now my Sunday School teacher, the man who directed the 3-member choir, that consisted of my sister, my brother and me, where all volunteers. At the time I did not know, why they would give of them selves so freely, teaching, singing, laughing, and always learning with those that they did not know personally in the beginning. My next experience with volunteering would be that as a junior girl scout, in one of the most successful organizations primarily operational by volunteers, Girl Scouts of the United States. I saw others volunteering but at the age of 9 nine, I was also volunteering, taking cookies and drinks to senior citizens and other small task. That did not end my volunteering with the Girl Scouts because I went on to have my own troops and volunteer at camps. During my high school years, as students we where required to volunteer 160 hours per year. The purpose of this volunteer experience was to allow the student to experience different types of opportunities to help influence the decision-making process for career choices. I volunteered at Elias Michael School for the Handicap, the Missouri School for the Blind and several Girl Scout Camps for the disable throughout my high school years. And the lesson from this exercise in volunteering work, my first major in college was special education, psychology, and later physical therapy. The greater lesson learned from volunteering during high school, was the gratification of giving, learning from others, and meeting lifelong friends. So how did I get to where I am today with volunteering.

Volunteering set me on a career path wanting to work with others. Professionally, I did not end up in special education, physical therapy, or psychology but Health Information Management Leadership and still volunteering. Volunteering with my professional organization's allows me the opportunity to grow professional, network with other professionals, and to give back to the emerging professionals. Volunteering for such organization as the Los Angeles Rescue Mission, Faith Church, and simply cooking meals to pass out to the homeless helped to build character in me and my son. In my opinion volunteerism offers many opportunities and rewards, I believe it is inherent to your being, your nature and it is evident to all around you, just as it was for me. In 2019, I was award with the Professional Achievement Award by the California Health Information Association, CHIA. This is the highest award the association gives to one of it's members for making a memorable contribution to the organization through volunteerism.

The next time you are asked to write an article, or make a phone call, or even serve on a committee, don't say no! Give it a try, it's rewarding in many ways.

## Literature Review:

### Patient Safety Indicator 11 (PSI 11) Postoperative Respiratory Failure

“Even though there is debate regarding the definition of true postoperative respiratory failure, it still remains an important patient adverse event. Generally, postoperative respiratory failure is the failure to wean from mechanical ventilation within 48 hours of surgery or unplanned intubation/reintubation postoperatively.”<sup>(1)</sup>

Postoperative respiratory failure (PRF) and its synonyms “acute respiratory failure following surgery” as well as “acute post-procedural respiratory failure” are meant to be appropriate if and only if the reason for this extended mechanical ventilation is related **directly** to the surgery and not to an underlying medical cause such as morbid obesity, COPD, Asthma or pneumonia<sup>(2)</sup>. In either case, this should be documented by the provider.

Postoperative respiratory failure is linked to increasing costs, length of stay and even mortality. The coding of postoperative respiratory failure has garnered increased attention due to these negative outcomes, and is tracked by the Center of Medicare and Medicaid under Patient Safety Indicator (PSI) 11. It is not part of Medicare’s Hospital Value-Based Purchasing program. However, this could change in the future due to the increasing link of quality to payment.

To determine PSI 11, the numerator is divided by the denominator. For a chart to fall into the numerator, the it must fall into one of the following criteria:

- any secondary ICD-10-CM diagnosis code for acute respiratory failure not present on admission
- any ICD-10-PCS procedure codes for a mechanical ventilation for 96 consecutive hours or more that occurs zero or more days after the first major operating room procedure code (based on days from admission to procedure) if the day of both procedures is available, otherwise any secondary ICD-10-PCS procedure codes for a mechanical ventilation for 96 consecutive hours or more
- any ICD-10-PCS procedure codes for a mechanical ventilation for less than 96 consecutive hours (or undetermined) that occurs two or more days after the first major operating room procedure code (based on days from admission to procedure) if the day of both procedures is available, otherwise any secondary ICD-10-PCS procedure codes for a mechanical ventilation for less than 96 consecutive hours (or undetermined);
- any ICD-10-PCS procedure codes for a reintubation that occurs one or more days after the first major operating room procedure code (based on days from admission to procedure) if the day of both procedures is available, otherwise any secondary ICD-10-PCS procedure codes for a reintubation

AHRQ has exclusion categories that exclude postoperative respiratory failure numerators:

- Patients under 18 years
- Cases with a principal diagnosis of acute respiratory failure
- Cases with secondary diagnosis for acute respiratory failure present on admission
- Cases in which a tracheostomy is the only operating room procedure or the first operating room procedure
- Cases with laryngeal, oropharyngeal or craniofacial surgery involving significant risk of airway compromise
- Esophageal resection
- Lung cancer
- Lung transplant
- Degenerative neurological disorders
- Cases with respiratory or circulatory diseases
- Obstetric discharges

The denominator includes the following:

- Elective surgical discharges for patient 18 years and older with any listed ICD-10-PCS code<sup>(3)</sup>

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## CDI Validation

In 2020, The American Journal of Surgery published an article entitled “Postoperative respiratory failure: An update on the validity of the Agency for Healthcare Research and Quality Patient Safety Indicator 11 in an era of clinical documentation improvement programs”<sup>(4)</sup>. The authors did a retrospective cross-sectional study of all eligible discharges from 5 major medical centers between 2012 and 2015. They wanted to determine if the adoption of Clinical Documentation Improvement (CDI) programs improved the validity of PSI 11. They also analyzed reasons why PSI 11 was falsely triggered.

Of the 59,073 records of eligible discharges, 437 were flagged with PSI 11 (7.4/1,000).

There were three false positive from a coding perspective, flagged due to the diagnosis code for acute respiratory failure following trauma and surgery. According to the authors, the records did not have objective clinical criteria or explicit documentation to support the diagnosis.

There were 23 false positives from a clinical perspective (table 2 shown below):

Intubation and/or mechanical ventilation for airway protection not respiratory failure  
Lack of explicit clinical documentation to support a diagnosis of respiratory failure

**Table 2**  
PSI 11 diagnosis and procedure code criteria for the 437 total records flagged positive by the indicator.

| PSI 11 Numerator Criteria, n (%)  | All Flagged Records (n = 437) | True Positives Coding (n = 434) | False Positives Coding (n = 3) | True Positives Clinical (n = 414) | False Positives Clinical (n = 23) |
|---|-------------------------------|---------------------------------|--------------------------------|-----------------------------------|-----------------------------------|
| Diagnosis code only (518.51, 518.53)  | 94 (21.5)                     | 91 (21.0)                       | 3 (100)                        | 88 (21.3)                         | 6 (26.1)                          |
| Procedure code only (96.72, 96.71, 96.70, 96.04)                                | 217 (49.7)                    | 217 (50.0)                      | 0 (0)                          | 201 (48.6)                        | 16 (69.6)                         |
| Diagnosis code (518.51, 518.53) and Procedure code (96.72, 96.71, 96.70, 96.04) | 126 (28.8)                    | 126 (29.0)                      | 0 (0)                          | 125 (30.2)                        | 1 (4.3)                           |
| Total   | 437                           | 434                             | 3                              | 414                               | 23                                |

Key.  
518.51: Acute Respiratory Failure Following Trauma and Surgery.  
518.53: Acute and Chronic Respiratory Failure Following Trauma and Surgery.  
96.70: Continuous Mechanical Ventilation of Unspecified Duration.  
97.71: Continuous Mechanical Ventilation for Less Than 96 Consecutive Hours.  
96.72: Continuous Mechanical Ventilation for 96 Consecutive Hours or More.  
96.04: Insertion of Endotracheal Tube.

The study discussed the fact that implementation of CDI programs in departments of surgery has coincided with improvements in “accuracy of documentation, better compliance with surgical quality measures, and a reduction in the false positive rate for PSI 11 specifically”<sup>(5)</sup>.

## CDI Success

CDI programs rely upon physician education for success. The Brundage Group, a leading company that provides CDI and revenue cycle solutions, provides an educational suggestion in their PRF tip sheet: “Pulmonologists and Hospitalists document ‘Expected Vent time after surgery’, which will support their physician billing, but will not trigger the PSI#11 Quality Metric Alert”<sup>(6)</sup>.

Through clinical validation and education of the physicians in the proper documentation of postoperative respiratory failure, the hospital will experience better outcomes with PSI 11.

## Footnotes:

- (1) Toolkit for Using the AHRQ quality Indicators Tool D 4<sup>th</sup> pp1-3
- (2) Brundage Postoperative Respiratory Failure [www.brundagegroup.com](http://www.brundagegroup.com)
- (3) AHRQ QI™ ICD-10-CM/PCS Specification v2020 PSI 11 Postoperative Respiratory Failure Rate [www.qualityindicators.ahrq.gov](http://www.qualityindicators.ahrq.gov)
- (4) Stocking J et al. Postoperative respiratory failure: An update on the validity of the Agency for Healthcare Research and Quality Patient Safety Indicator 11 in an era of clinical documentation improvement programs. The American Journal of Surgery 220 (2020) 222-228.
- (5) Ibid
- (6) Brundage

# EDUCATION – A NECESSITY IN CLINICAL DOCUMENTATION INTEGRITY GROUPS



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Think about this question for a minute: As a Clinical Documentation Specialist (CDS), is it our due diligence to educate providers regarding diagnosis specificity on a routine basis?

Many CDS's would agree that education is part of their role when completing chart reviews and submitting queries/clarifications to providers in order to capture specific diagnoses on each inpatient record, thereby capturing the most accurate picture of the patient from admission to discharge for quality data analytics.

Not only does a CDS provide education to hospital providers, but we also provide education to coders in the form of clinical indicators to support the specified diagnosis documented by the provider. A CDS has a "dual role" when it comes to the education topic: improve diagnosis specificity with providers through education **AND** provide clinical indicators to coders through education. For this particular article, we will be focusing on provider education through diagnosis specificity.

## DIAGNOSIS SPECIFICITY

How would you define "diagnosis specificity?" According to the online Webster dictionary, a **diagnosis** is defined as "the determination of a disease from its signs and symptoms." In addition, **specificity** is defined as "the quality of being specific rather than general; add a desirable note of specificity to the discussion; the specificity of the symptoms of the disease."

Some examples of diagnosis specificity may include acute on chronic diastolic heart failure, chronic respiratory failure with hypercapnia, MRSA sepsis with acute hypoxic respiratory failure and acute kidney injury secondary to aspiration pneumonia as well as Wernicke encephalopathy.

How do we educate providers on "diagnosis specificity" within the hospital setting?

There are several ways one can educate providers – provide tip sheets/pocket guides to all providers, have a 2-minute face to face or telephone conversation with the provider on one particular diagnosis, or send the provider a query/clarification for additional specificity of the diagnosis.

As we all know, providers can have a number of patients admitted within the hospital as well as handling patients within their office setting. Sometimes, a quick verbal conversation with the provider may assist the CDS to obtain the specificity that is needed for a particular diagnosis. When speaking directly with the provider, whether on the phone or face-to-face, is to have the key points outlined prior to the meeting in order to save time and frustration between the CDS and the provider. As a CDS, one can observe other team members struggling with speaking directly with providers because of their lack of preparedness with education.

Providers would prefer specific data points relating to a particular subject in order to complete a certain task. CDS's need to

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have their “game plan” in place by having the information at hand when directly speaking with the provider. This not only saves times for the CDS and the provider but will assist the CDS in obtaining the information that is needed by the end of the conversation between the CDS and provider.

Now, let us look at tip sheets/pocket guides as another educational tool.

Tip sheets or pocket guides (whatever your facility may call them) is a great tool for providers because the CDS team is providing the diagnosis specificity in black and white! The question lies: do the providers use the tips sheets/guides as a resource in the daily routine? Some providers do utilize them on a regular basis while other providers do not.

When it comes to tip sheets/pocket guides, several providers have stated to the CDS that it would be easier to have the tip sheets/guides within their computer programming, instead of actually carrying around a laminated card. If your facility is able to provide tip sheets/pocket guides online while the provider is in the specific electronic medical record, this will not only save time for the provider and will also enhance provider self-learning.

Last but certainly not least is the query/clarification opportunity. Clarification/query opportunities present themselves after a patient has been in the hospital for a minimum of two to three days. As the provider completes the initial workup of the patient to figure out what is causing the patient’s signs/symptoms, the provider formulates a diagnosis.

As a CDS, ask yourself this question: Is the diagnosis specified to the *nth degree* or is a clarification/query warranted? As stated earlier, diagnosis specificity is needed by the provider for all inpatient diagnoses in order to accurately capture the “patient’s picture from admission to discharge.”

Would a CDS send a query/clarification to a particular provider for the diagnosis of “acute toxic encephalopathy due to lithium overdose?” If the CDS answered “no” to this question, this is correct. Why? The provider documented the type of encephalopathy and the underlying etiology associated with the encephalopathy within his/her documentation.

Would a CDS send a query/clarification to a particular provider based on the following scenario: 76-year-old male underwent bronchoscopy with BAL and transbronchial needle aspiration to confirm the right upper lobe mass that was found on CT. The provider documents in the OP report BAL of RUL, biopsy performed and sent for pathology. In this particular scenario, the CDS would send a clarification/query to the provider in order to accurately capture the procedure of the bronchoscopy/BAL as well as the “transbronchial” or “fine needle biopsy of the right upper lung” as this would impact the MS-DRG assignment.

### **SUMMARY**

Diagnosis specificity is key for all inpatients relating to the principle and secondary diagnoses. This not only provides quality data to external organizations but also assists the coders and hospital organizations to receive the most accurate reimbursement for each inpatient encounter. A CDS has several ways to educate providers as discussed within this article, whether it be a verbal conversation or the use of pocket guides/tip sheets as well as query/clarification opportunities. One item to always remember: education is a priority for Clinical Documentation Integrity teams in order to capture an accurate picture of a patient’s hospital stay for quality data analytics which leads to accurate hospital reimbursement.

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# Coding Evolution

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Coding, coding technology and the level of training the professional coder needs have gone through a very intense development. Coding began as a paper based medical record with hard backed books. Diagnostic and procedural codes were updated in the book with pen and ink or taped in from paper updates. Diagnostic and procedural codes were written on lined paper in binders. Any reports needed were all done laboriously by hand. ICD codes did not affect reimbursement, so the emphasis was “get the codes on the bill and get it out the door.” The lack of emphasis on quality coding and clear and complete medical documentation would have long lasting effects around documentation of medical quality, accurate and complete coding, and complete reimbursement.

The hardback code books of ICD-8 gave way to ICD-9 and the ability to utilize structured computerized input sheets which could reflect patient demographics and diagnostic and procedural codes. These sheets were processed, and the data was returned in large “green bar” computer sheets with patient data. These were easier to use but did not make report creation any easier.

It was a paper-based system which was prone to error. There were very few real alternatives such as personal computers, as these were financially out of reach for all but the largest health care systems. The 1980 technology boom started to change this – but it would be 35 years before the change to ICD-10 CM/PCS. This change to ICD-10 CM/PCS would forever change how much patient information was collected and managed. Typewriters, dot matrix printers and fax machines would give way (for the most part) to digital records, clearinghouses and portals for immediate and secure health information exchange between medical providers, payers and patients. It is interesting, however, to note that fax machines are still used in many health care facilities.

The next major step in evolution for the coders was the rise of the encoder technology. These accelerated searches, increased coding accuracy (for the coder who knew how to code) and streamlined the entire process using a terminology tree that starts at the main levels and branches out with each selection until the most specific codes are identified. There are encoders which are “book based” which are easier for newer coders as they are structured more like the ICD-10 CM/Code Books and there are the logic-based systems which will work well for experienced coders. It is important to understand, however, that encoders do not automatically lead the coder to the correct codes without the judgement that experience brings (despite what the salesperson may say).

Encoders began to include a computer assisted coding (CAC) element that suggested codes associated with diagnoses that may otherwise have been overlooked in the documentation, which can further accelerate the coding process and increase accuracy. The CAC element can have some disadvantages too, as it can depend on what is documented. If the clinician says, for example, that the patient has diabetes with no complications, but four paragraphs down says

that the patient is being referred to a vascular surgeon, the CAC may not necessarily derive a code for “vascular complications of diabetes,” and instead derive a code for diabetes and one for gangrene.

The CAC (computer assisted coding) application is also often integrated with CDI applications, helping to prioritize which patients should be reviewed by the CDI specialist. It is vitally important that the coding specialist and clinical documentation specialist work closely together to ensure that the CAC application is being used appropriately and efficiently. The CAC can mis prioritize CDI specialist assignments if used incorrectly.

By the second decade of the 21<sup>st</sup> century, electronic health record (EHR) systems were increasingly in the mainstream, even in smaller hospitals. Smaller hospitals now had access to simpler versions of the “big” EHRs. Physicians and other clinicians were documenting electronically and CPOE (computerized patient order entry) was now more or less the norm. Physician documentation forms were developed to make documentation “easier” for physicians, but these forms often did not assist the physician in documenting what was required. The forms often did not include ICD-10 CM/PCS required data elements as they did not have the input of CDI specialists and coders. Patient data management systems enabled automated management of patient records, which could be connected to patient monitoring devices to record and interpret patient data. Departments including pharmacy, laboratory, surgery, radiology, respiratory therapy, and infectious diseases were interfaced with records systems although the requirement for manual authentication was still required.

These advances brought with them new tools that bolted onto EHRs and allowed coders to work directly in the patient’s electronic record, aggregating data and quickly looking up information to populate codes for diagnoses, procedures, and billing. While EHRs and associated tools made the coding process light-years faster than its precursor, it still had major challenges. Coders were working with third-party modules on legacy EHRs, requiring them to shift between multiple systems to collect required information, reference code books and other reference books to verify the correct codes for the case.

The ongoing challenges for coders in the EHR are shared with the Clinical Documentation Specialists. CDI has been in hospitals for at least 20 years in the inpatient arena and is now moving swiftly to the outpatient area. Clinical Documentation Specialists were originally usually Registered Nurses, but there has been a shift to CDI specialists who are either Nurses or foreign trained medical graduates or Coders . This combination is the most effective and efficient, as the knowledge for CDI crosses skill sets. It is also incredibly important that the Coders and Clinical Documentation Specialists collaborate very closely together and function as a team. If they do not, it is a guarantee that both CDI and Coding will not function at their best.

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6 ACDIS CEUs which  
can be used for  
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Returning to Liberty Station, San Diego

**In Person Conference: Friday October 21<sup>st</sup>**

**Meet & Greet: Thursday October 20<sup>th</sup>**

**Virtual Conference: Friday November 4<sup>th</sup>**

The virtual event will be accessible beginning  
November 4, 2022 for one month.

**Attend either or both!**

**Live Conference:  
Venue: Liberty Station  
Conference Center  
2600 Laning Road  
San Diego, CA 92106**



**Live Event Agenda TBA**

**FEATURED TOPICS:**

- \*Population Health and CDI**
- \*Patient-Centered CDI**
  - \*Remote CDI**
  - \*Outpatient CDI**
- ...more to come!**



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### **Resources**

ICD-10-CM Official Coding Guidelines (FY 2022)

AHA ICD-9 Coding Clinic First Quarter 2010 p. 5-6

AHA ICD-10-CM Coding Clinic 3<sup>rd</sup> Quarter 2020 p. 30-31

<https://icd10monitor.com/icd-10-codes-for-lactic-acidosis/#:~:text=Lactic%20acidosis%20shares%20the%20ICD,4>.

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(1) ACDIS 2022 Pocket Guide p. 319 et seq

(2) <https://www.ncbi.nlm.nih.gov/books/NBK308/>

(3) <https://www.ncbi.nlm.nih.gov/books/NBK470202/>

(4) <https://www.merckmanuals.com/professional/genitourinary-disorders/renal-transport-abnormalities/renal-tubular-acidosis#:~:text=Diagnosis%20of%20RTA&text=Serum%20electrolytes%2C%20blood%20urea%20nitrogen,remains%203E%205.5%20during%20systemic%20acidosis.>

(5) <https://medlineplus.gov/lab-tests/anion-gap-blood-test/>



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