National ICD-10 Coding Contest Results

HIM Directors Keep a Careful Watch

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Background

October 1, 2016 marked the one year anniversary of the implementation of ICD-10. The new code set effectively grew the number of diagnosis and procedure codes more than fivefold. Given coding's vital role for health care providers to deliver accurate quality reporting under value-based care, market concern for coding accuracy remains a top priority.

The library of research conducted thus far on ICD-10 coding quality has drawn mainly on findings from self-reported telephone and survey responses assessing HIM director and coding manager perceptions. These subjective studies produced relatively positive findings for coder accuracy and productivity as commonly alluded to in the research.1

However, none of these studies or reports used a data-driven, objective approach to measure coder accuracy in ICD-10. Without quantifiable data to back up industry results, further analysis of coding quality was warranted.

In an effort to establish objective, quantifiable coding accuracy benchmark data, AVIANCE Suite, Inc., launched the nation's first ever ICD-10 coding contest utilizing Central Learning, an online coding assessment and auditing tool. Central Learning simulates a true ICD-10 medical coding production environment utilizing real medical record cases. Initial results were published on October 16, 2016 during the 2016 AHIMA Convention & Exhibit in Baltimore, Maryland. This report provides a methodology overview, detailed participant results, and important data discoveries from the Central Learning open coding contest.

Data included here represents one source of coder accuracy information—a snapshot in time, reflecting national coder accuracy averages after one year of ICD-10 coding experience. Provider organizations, HIM directors, coding directors and compliance managers should use data revealed in this report as an objective benchmark for coder accuracy and use the same methodology to assess the performance of their coders, as the industry enters its second full year of ICD-10 coding.

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Methodology Overview

For a 30-day period in September of 2016, Central Learning measured the ICD-10 coding accuracy and DRG accuracy of coder participants who coded a total of 1,859 real medical record cases using a uniform, online coding platform. Inpatient, ambulatory and emergency department cases were all included in the contest, separated by the contestant's choice of speciality.

Once coded, the de-identified cases were electronically graded against Central Learning's standardized answer keys to remove any subjective bias for accuracy scoring. Prior to contest initiation, the Central Learning answer keys for each case were vetted, validated and approved through a rigorous process:

- Based on AHA Official Coding Guidelines for ICD-10 and other published coding guidelines and advice
- Initially reviewed and approved by a forum of 14 certified coders
- Verified by multiple external AHIMA-Approved ICD-10-CM/PCS Trainers
- Extended testing by 140 coding professionals from October 2015 through September 2016

Collectively, the contest data results offer the industry's first electronically measured look into coding performance benchmarks in ICD-10. The contest gauged raw knowledge of a broad range of coders nationwide.

> "The contest provided the industry's first real glimpse into baseline ICD-10 accuracy and productivity for a broad range of coders nationwide and included the coding of 10 inpatient, 30 ambulatory surgery and 30 emergency department cases.
>
> The contest measured raw knowledge of coders in an open setting. All participants were new to Central Learning and the selection of cases."
> – Manny Pena, Founder and CEO, AVIANCE Suite, Inc.

Key Findings: Red Flags for Accuracy

Overall, the National ICD-10 Coding Contest performance findings revealed accuracy ratings far below the 95 percent accuracy standards touted under ICD-9. Coding accuracy was strongest among inpatient cases and weakest among emergency department cases.

Average Accuracy by Inpatient Type

55% Average accuracy for inpatient cases

46% Average accuracy for ambulatory surgery cases

33% Average accuracy for emergency department cases

The contest also monitored DRG accuracy with lower-than-expected accuracy percentages, resulting in a potential impact of $1.149 million across 612 inpatient cases, or an average of $1,877 lost per inpatient case. Extrapolated across an organization's average number of inpatient discharges per month, the benchmark loss per case represents a significant financial red flag for healthcare providers.

Based on data gathered, the top two inpatient DRGs with the most concerning revenue losses due to poor coding accuracy are DRG 226 and DRG 455. DRG 226, cardiac defibrillator implant without cardiac cath with MCC carries a potential reimbursement loss of $8,790 per case. Considering that every month approximately 10,000 Americans have a defibrillator implanted,[3] over $87M may be lost nationally for this DRG alone.

Inpatient DRG Accuracy

DRG	Description	Average DRG Accuracy (%)	Total Reimb/ Impact ($)	Avg Reimb/ Impact ($)
766	CESAREAN SECTION W/O CC/MCC	97%	-$4,050	-$65
470	MAJOR JOINT REPLACEMENT OR REATTACHMENT OF LOWER EXTREMITY W/O MCC	95%	-$14,476	-$219
236	CORONARY BYPASS W/O CARDIAC CATH W/O MCC	93%	-$15,976	-$275
419	LAPAROSCOPIC CHOLECYSTECTOMY W/O C.D.E. W/O CC/MCC	90%	$14,401	$232
064	INTRACRANIAL HEMORRHAGE OR CEREBRAL INFARCTION W MCC	85%	-$41,853	-$686
292	HEART FAILURE & SHOCK W CC	72%	-$34,202	-$503
226	CARDIAC DEFIBRILLATOR IMPLANT W/O CARDIAC CATH W MCC	70%	-$536,207	-$8,790
247	PERC CARDIOVASC PROC W DRUG-ELUTING STENT W/O MCC	60%	-$32,327	-$567
331	MAJOR SMALL & LARGE BOWEL PROCEDURES W/O CC/MCC	60%	$21,976	$354
455	COMBINED ANTERIOR/POSTERIOR SPINAL FUSION W/O CC/MCC	53%	-$505,755	-$9,196

More About the Participants

Central Learning's National ICD-10 Coding Contest participants were recruited via email and advertising through various HIM and coding publishing organizations. Contestants were given specific coding guidelines for each patient type and online access to the Central Learning software.

Technology:

Access to encoder software was not provided within the contest, but coders were able to use their own individual encoder tools and coding references. All participants were new to the Central Learning online coding platform and the cases provided.

Specialty:

Each coder chose their area of case specialty, coding 10 inpatient, 30 ambulatory surgery, or 30 emergency department cases online. Of the 1,859 cases coded, 54% were inpatient cases, 20% were ambulatory cases, and 26% were emergency cases.

Certification & Experience:

Coding contest participants self-reported their primary coding certification. Among contest coders, 59% were AHIMA certified, 28% were AAPC certified, and 13% were unspecified. An average 13 years of experience was reported by inpatient coders participating in the contest. Those coding ambulatory surgery cases reported an average of 9 years of coding experience. Emergency services coders averaged 8 years of coding experience.

Winners:

Winners for each patient type (inpatient, ambulatory, emergency) were determined by calculating the highest average accuracy scores for their assigned cases. The winner in each of the three areas was awarded $5,000.

Digging into the Data: Close Monitoring Still Indicated

Data findings captured during the Central Learning coding contest offer first-time, quantitative insight into coding performance after the first full year of ICD-10. While the findings establish a baseline for coding accuracy, quantitative analysis marks important areas for monitoring and improvement.

Based on average accuracy scores reported, organizations and HIM directors are encouraged to maintain a watchful eye on coder accuracy. This is especially critical as increases in third party/payer coding denials and recovery audits due to ICD-10 coding errors are expected to climb in 2017 and beyond.

Accuracy ratings were highest among inpatient coders, followed by ambulatory coders.

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Specific Targets for Coding Improvement in 2017

Data findings show that emergency department coders did not consistently assign external cause codes leading to under-performing scores in the emergency services coding accuracy. Other low accuracy code categories discovered during the contest include:

- Congenital malformations, deformations and chromosomal abnormalities – 14.8% average accuracy
- Certain infection and parasitic diseases – 25.8% average accuracy
- Disease of the blood and blood-forming organs and certain disorders involving the immune mechanism – 29.2% average accuracy
- Diseases of the skin and subcutaneous tissue – 33.1% accuracy
- Pregnancy, childbirth and the puerperium – 35.3% accuracy

These bottom five diagnosis-specific coding areas should be targeted for ongoing coder assessment, training and monitoring initiatives in 2017.

Discoveries and Next Steps

Overall, results indicate a much lower level of coder accuracy than previously "self-reported" coding performance surveys have estimated. Coding performance metrics captured during the coding contest are reminiscent of findings from an early HIMSS pilot program originally testing the ICD-10 coding system, which was met with sub-par initial accuracy ratings, and even worse ratings in productivity.2

Coding accuracy will become increasingly important under value-based payment models as ICD-10 codes form the foundation for accurate DRG assignment and quality reporting. Central Learning researchers will continually monitor coding accuracy and provide ongoing benchmarks to measure industry performance and to promote improved coding quality nationwide.

Based on contest data, Central Learning advises the following next steps for provider organizations:

- Assess coder knowledge in ICD-10 using real medical records; the same records per patient type to each coder
- Identify each coder's specific area(s) of weakness and skill gap
- Prepare and provide targeted ICD-10 education and training to address knowledge gaps
- Supplement internal coding reviews with monthly external coding audits
- Balance coding productivity and accuracy performance metrics
- Monitor coding denials from third parties/payers as they are predicted to increase in 2017

While the coding industry may have a way to go to reach the 95 percent accuracy threshold established over decades of ICD-9 coding, objective measurement and analysis of coding data are the first steps to achieving greater coder accuracy in ICD-10.

Sources

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3. "Living With Your Implantable Cardioverter Defibrillator (ICD)" American Heart Association (2014). Available online: http://www.heart.org/HEARTORG/Conditions/Arrhythmia/PreventionTreatmentofArrhythmia/Living-With-Your-Implantable-Cardioverter-Defibrillator-ICD_UCM_448462_Article.jsp#.WFrCo7HMxsN

About

AVIANCE Suite is an integrated platform of web-based software applications that help hospitals and health systems make better revenue cycle and clinical coding decisions. The AVIANCE Suite solution includes capabilities for DNFB management, Coding Analytics, Audit Management, and Central Learning—an online coding assessment tool. Central Learning automatically grades and scores coder skills using real cases and actual clinical documentation—versus hypothetical coding scenarios and traditional check-the-box tests. Central Learning assesses an organization's progress with ICD-10 coding quality and productivity without the expense of manual and labor-intensive coding audits. For more information about Central Learning, visit the company website at: www.centrallearning.com.