

2010 National Health Insurer Report Card: Statement of methodology

The purpose of the American Medical Association's (AMA) National Health Insurer Report Card (NHIRC) is to provide physicians and the general public a reliable and defensible source of critical metrics concerning the timeliness, transparency and accuracy of claims processing by the health insurance companies that are responsible for paying the majority of claims each year in the U.S. health care system.¹ This report card includes results for Medicare and seven commercial health insurers (payers). The results will be used to identify opportunities to improve the overall efficiency of billing and collections and reduce the cost of doing business between physicians and payers. To accomplish this task, the AMA used its best efforts to ensure that the methodologies employed are sound and defensible and the process is transparent, such that all interested parties are able to understand and duplicate the study.

Health insurer (i.e., payer) selection

Selection of payers was based on their national reach as evidenced by their large numbers of national commercial enrollees. Medicare and the following seven commercial payers were selected for this report card. For purposes of selecting data, the payer was identified from the payer name field in the electronic remittance advice (ERA).²

- Aetna
- Anthem Blue Cross and Blue Shield (BCBS)
- CIGNA Corp.
- Coventry Health Care
- Health Care Services Corporation (HCSC)
- Humana Inc.
- UnitedHealth Group (UHG)

¹ The NHIRC was developed in cooperation with National Healthcare Exchange Services, Inc. (NHXS) and The Frank Cohen Group, LLC.

² See the next section ("Data source") for a description of ERA.

Data source

The AMA's NHIRC reports a total of 17 metrics divided into five focus areas.³ Data for four of the five focus areas (i.e., Payment Timeliness and Type, Accuracy, Code Edit Sources and Frequency⁴, and Denials) was provided by National Healthcare Exchange Services, Inc. (NHXS), headquartered in Sacramento, CA. NHXS is an application service provider that provides contract compliance and denial management solutions that lower the cost of doing business between physicians and payers. The data provided by NHXS for the 2010 NHIRC included approximately 3.49 million services billed on approximately 2.05 million claims with dates of service (DOS) between February 1, 2010 and March 31, 2010. Over 15,000 practicing physicians in 200 practices across 43 states representing 76 specialties contributed to the data. NHXS reports data from claims transactions based on the federally mandated Health Insurance Portability and Accountability Act of 1996 (HIPAA) electronic standard transactions. The technical references for these transactions are the electronic claim submission (HIPAA ASC X12 837 Health Care Claim—professional transactions) and the electronic remittance advice (ERA), (HIPAA ASC X12 835 Health Care Claim Payment/Advice Transaction), which the payer submits to a physician in response to the receipt of an electronic claim submission.

Data for the fifth focus area, Improvement of the Claims Cycle Workflow, was self-reported by the payers, except for Metric 15, which was obtained from the Council for Affordable Quality Healthcare (CAQH), which facilitates the Committee on Operating Rules for Information Exchange (CORE).⁵

Table 1: Import statistics from NHXS: Sample sizes

	Aetna	Anthem	CIGNA	Coventry	HCSC	Humana	Medicare	UHG	Total
Payment timeliness and type									
Rows imported from NHXS	159,357	261,888	74,090	10,907	194,794	85,188	2,331,931	297,165	3,415,320
Excluded due to filters	54,076	73,754	18,501	3,086	57,789	28,323	798,374	67,768	1,101,671
Totals	105,281	188,134	55,589	7,821	137,005	56,865	1,533,557	229,397	2,313,649
Accuracy – Contracted rate									
Rows imported from NHXS	159,357	261,888	74,090	10,907	194,794	85,188	2,331,931	297,165	3,415,320
Excluded due to filters	69,316	114,947	28,870	4,608	90,712	34,661	941,468	110,825	1,395,407
Totals	90,041	146,941	45,220	6,299	104,082	50,527	1,390,463	186,340	2,019,913
Accuracy – ERA									
Rows imported from NHXS	159,357	261,888	74,090	10,907	194,794	85,188	2,331,931	297,165	3,415,320
Excluded due to filters	13,028	24,215	4,217	1,911	17,537	12,750	278,756	11,604	364,018
Totals	146,329	237,673	69,873	8,996	177,257	72,438	2,053,175	285,561	3,051,302
Denials									
Rows imported from NHXS	159,357	261,888	74,090	10,907	194,794	85,188	2,331,931	297,165	3,415,320
Excluded due to filters	156,700	254,584	73,734	10,716	191,128	84,102	2,271,085	292,706	3,334,755
Totals	2,657	7,304	356	191	3,666	1,086	60,846	4,459	80,565

³ These groups (and the corresponding metric numbers on the report card) are: a) Payment Timeliness and Type (1–3A), b) Accuracy (4–6); c) Claim Edit Sources and Frequency (7–10B); d) Denials (11–14) and e) Improvement of Claims Cycle Workflow (15–17).

⁴ Payer updates to pricing or edit logic disclosed prior to March 1, 2010 and effective for dates of service prior to March 1, 2010 were reflected in the results.

⁵ Visit the CAQH Web site at www.caqh.org/CORE_step_by_step.php for more information regarding CORE certification.

Payment Timeliness

Sample size and stratification

The definitions below will add clarity when referencing each sample set identified in the Payment Timeliness study.

The master database for the 2010 NHIRC includes approximately 3.49 million services (i.e., lines on claims) with DOS between February 1, 2010 and March 31, 2010.

Sample universe: 2,313,649 records extracted from the master database representing the eight payers evaluated for this study. Of these, 80,565 were used for the Denial analysis, 2,019,913 were used for the Match rate analysis, and 3,051,302 for the Accuracy and contract matching studies. For the first remittance response time analyses, we used 10,000 randomly selected records⁶ for each payer. This mirrors both the 2008 and the 2009 NHIRC methodology, with the exception of Coventry⁷.

Validation test: 10 random samples of 1,000 records from each reported payer were obtained from the final sample to ensure data was consistent with the population parameters.

Once the final samples were validated (i.e., the first remittance response time metric median values yielded by the test samples were not statistically different from those yielded by the sample universe), we used them to conduct the statistical analysis to produce the final metrics used for this study.

The data for Medicare was used as a benchmark for central tendency and variability measurements and was compared to the other payers' statistics. Once the Medicare data was validated (i.e., the median and inter-quartile range (IQR) values were not statistically different from those yielded by the final sample) we felt comfortable that the data for the remaining payers' sample sets were also validly selected, because the methodology for processing and selection of the records was the same for each payer.

For the response time metrics, a random sampling of 10,000 claim lines was extracted for each payer. State level statistics were generated for states that met the minimum sample size of 10,000 with an error rate of 1 day, since the results were reported in median rather than average days.

The metrics related to Electronic Funds Transfer (EFT) was based on the practices within the sample⁸ as the goal was to identify EFT utilization by practice rather than by claim line, as well as, the percentage of physician practices receiving EFT that also received payments by check from the payer during the analysis period. For each payer, the EFT ratio was calculated as the number of practices that received payments via EFT (EFT Adopters) divided by the total number of practices within the respective sub-sample during the analysis period. Among EFT adopters, for each payer the EFT check ratio was calculated as the number of practices that received checks divided by the total number of practices.

Accuracy

The first two metrics reported in this section, Allowed Amount Disclosed and Contracted Fee Schedule Match Rate (by major CPT code categories and by state), used the same filters in order to establish the sample and the third metric, which measures ERA accuracy used a different filter set.⁹ State level statistics were generated for states that met the minimum sample size of 10,000. Based on the accuracy criteria described above, there were 2,019,913 claim lines in the universe of services with the DOS during February 1 through March 31, 2010. In addition to the standard statistics, sample size, sample error, and confidence intervals are made available to allow the reader to determine validity of each of the stratified results.

⁶ This sample size mirrors both the 2008 and 2009 NHIRC.

⁷ Coventry's sample size had 7,821 available records; therefore, all 7,821 available records were used.

⁸ There were a total number of 672 physician practices within the sample.

⁹ Visit the Step-by-Step document for detailed information on filters.

Payer Allowed Amount Disclosed

Payer allowed amount disclosed was calculated by taking the total claim lines where the payer allowed amount was disclosed divided by the total claim lines within the sample.

Contracted Fee Schedule Match Rate

For a service reported in an electronic remittance advice (ERA) to meet the criteria for this metric, the payer's stated allowed amount for the service must match the contracted fee schedule amount per the physician's contract with the payer. We define "contracted fee schedule match rate" as the number of records in which the reported allowed amount equaled the contracted fee schedule amount as a percent of all records.¹⁰ Contracted fee schedule amounts were acquired in the following priority order: 1) obtaining electronic file of the fee schedule from the payer; 2) building the fee schedule from the payer's Web site; or 3) building the fee schedule from the plain English description in the physician contract. For Medicare, fee schedule transparency was not an issue because the complete Medicare Fee Schedule allowed amounts are published each quarter.

Great care was taken by NHXS to ensure that all available criteria were used to assign an ERA to the correct fee schedule, including plan product type (e.g., HMO vs. PPO), fee schedule effective date, physician specialty, type of service, place of service (i.e., non-facility vs. facility), locality, etc. Data was based on dates of service from February and March 2010 because fee schedules typically do not change during these months.¹¹ NHXS pulled 100 percent of all claims reported for the eight payers, which resulted in an initial file containing 3,415,320 records. However, only certain records were selected in an attempt to control for modifiers, place of service, procedure code and allowed amount. Specifically:

- Only position one modifiers 26 (professional component), TC (technical component), 53, or where the modifier field was blank were included in the analysis because these three modifiers typically have specific allowed amounts in the fee schedule. Services with all other modifiers in the first position were excluded.
- Place of Service indicators were restricted to those identifying the following:
 - Medical Practice (11)
 - Inpatient Hospital (21)
 - Outpatient Hospital (22)
 - Emergency Room (23)
 - Skilled Nursing Home (31)
 - Nursing Facility (32)
- We excluded the following CPT codes: anesthesia (0000-9999) and the new CPT tracking codes (ending with a T or an F).
- Finally, only allowed amounts > \$0.99 were included.

These sample selection restrictions left us with a total of 3,051,302 records representing the seven reported payers, ranging from 8,996 for Coventry to 2,053,175 for Medicare. For additional sample sizes, refer to Table 1 on page 2. In order to control for the possibility that major code categories might influence the results, this sample was divided by the following procedure codes:

¹⁰ Neither the magnitude nor the direction of the difference in the allowed amount was considered in this metric because any difference was considered to be a deviation from a proper ERA.

¹¹ In the majority of cases, contracts undergo review for fee schedule modification every calendar quarter. Data for the first month of each quarter (e.g., January) may not be appropriately updated by January 1 and include fees from the last month of the prior quarter. Therefore, comparisons may be inappropriate due to the additional time necessary to update any fee schedule modifications. By using the second and third month of any quarter (e.g., February and March), there is enough time to update fee schedule modifications in the previous month, which generally avoids inconsistencies in fees due to out-dated fee schedules.

- Surgical procedures – 10000 through 69999
- Radiological procedures – 70000 through 79999
- Pathology and Lab procedures – 80000 through 89999
- Medicine: 90000 to 99999 (excluding 99201 – 99499)
- E/M procedures – 99201 through 99499

For each payer, the analytical process involved subtracting the contracted fee schedule from the payer’s reported allowed amount¹² and grouping these values by procedure code category. The number of records with a zero difference was then divided by the total number of records for that category. The result is a percent that represents our contracted fee schedule match rate.

ERA Accuracy

For a service reported in an electronic remittance advice (ERA) to meet the criteria for this metric, the payer’s stated allowed amount for the service must match the physician practice’s expected allowed amount. In essence, how often can a practice predict how much it will be paid for each service provided. We define “ERA accuracy” as the number of records in which the reported allowed amount equaled the physician practice’s expected allowed amount as a percent of all records.¹³ For this metric, it was necessary to obtain the actual contracted allowed amounts (i.e., fee schedule) for each claim line. These allowed amounts were obtained using the following hierarchy: (1) an electronic copy of the fee schedule was obtained from the payer; (2) the fee schedule was obtained from the payer’s Web site; and (3) the fee schedule was created based on language contained in the physician contract. The fields reported in Table 4 were utilized for this metric. It was also necessary to obtain the payer’s clinical edit and pricing rules. These rules were obtained from the payer’s disclosed policy documents and were compiled by NHXS.

Great care was taken by NHXS to ensure that all available criteria were used to assign an ERA to the correct fee schedule, including plan product type (e.g., HMO vs. PPO), fee schedule effective date, physician specialty, type of service, place of service (i.e., non-facility vs. facility), locality, etc. Data was based on dates of service from February and March 2010 because fee schedules typically do not change during these months.¹⁴ NHXS pulled 100 percent of all claims reported for the eight payers, which resulted in an initial file containing 3,415,320 records. However, only certain records were selected in an attempt to control for modifiers, place of service, procedure code and allowed amount. Specifically:

- As opposed to the contracted fee schedule match rate metric, all claim lines were considered irrespective of HCPCS Level I or Level II or modifier inclusions.
- Place of Service indicators were restricted to those identifying the following:
 - Medical Practice (11)
 - Inpatient Hospital (21)
 - Outpatient Hospital (22)

¹² If the Actual Allowed Amount was not available, the Actual Allowed Amount was calculated as follows: [Line Item Charge Amount (X12 835: SVC02) less the sum of the adjustments for Claim Adjustment Reason Codes (X12 835: CAS02) = 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 24, 41, 42, 45, 47, 54, 57, 58, 59, 65, 94, 97, 103, 107, 110, 112, 122, 128, 131, 134, 146, 150, 151, 152, 153, 154, 155, 163, 164, 170, 171, 172, 173, 174, 175, 176, 181, 182, 184, 185, 186, 189, 194, 203, 231, 234, A1, A2, B10, B14, B15, B16, B17, B18, B22, B6, D21, W1].

¹³ Neither the magnitude nor the direction of the difference in the allowed amount was considered in this metric because any difference was considered to be a deviation from a proper ERA.

¹⁴ In the majority of cases, contracts undergo review for fee schedule modification every calendar quarter. Data for the first month of each quarter (e.g., January) may not be appropriately updated by January 1 and include fees from the last month of the prior quarter. Therefore, comparisons may be inappropriate due to the additional time necessary to update any fee schedule modifications. By using the second and third month of any quarter (e.g., February and March), there is enough time to update fee schedule modifications in the previous month, which generally avoids inconsistencies in fees due to out-dated fee schedules.

- Emergency Room (23)
- Skilled Nursing Home (31)
- Nursing Facility (32)

■ Additional filters were applied as described within the Step-by-Step document.

Code Edit Sources and Frequency

Sample size and stratification

We selected a sample of records from NHXS' master database that were billed to health insurers by physicians representing most specialties¹⁵ for dates of service between February 1, 2010 and March 31, 2010 and for which an electronic remittance advice was dated no later than April 27, 2010. These selection criteria resulted in 3,115,473 records, ranging from 8,201 for Coventry to 2,189,351 for Medicare.¹⁶

A claim line edit is a payment rule that always results in an allowed amount of \$0 for that service. An example of an edit is "this service is included in the payment/allowance for another service/procedure that has already been adjudicated."

Edits were sourced to one or more of the following authors. If the edit occurred in multiple sources, the following hierarchy was used to assign the edit:

- AMA CPT codes, guidelines and conventions
- National Correct Coding Initiative (NCCI)
- Centers for Medicare & Medicaid Services (CMS) Publication 100-04
- American Society of Anesthesia (ASA) Relative Value Guide
- Payer-specific edit (i.e., an edit disclosed and used by the payer and not found in one of the other sources)

Of the 3,115,473 records analyzed, edit adjustments were made to 65,288 records. For each payer we present the percentage of records both: (1) reduced by disclosed edits along with the author for the disclosed edit; and (2) reduced by undisclosed edits.

This metric reported the total number of available edits for each payer. Available claim edits were assigned to one of five sources: CPT, American Society of Anesthesia, National Correct Coding Initiative, Medicare Reimbursement Policies, and disclosed Payer-specific edits, following the hierarchy stated in metric seven.

Denials

Many denials are not errors, including denials for non-covered service. For the purpose of the NHIRC, a denial has been defined as a claim line where the allowed amount was equal to billed charges and the paid amount was equal to \$0.

First, denied services were reported as a percentage of total services. Second, the denials were rank-ordered by the frequency of the reason for the denial. The Claim Adjustment Reason Codes (CARCs) were used for the first level grouping of denial reasons. When a Remittance Advice Remark Code (RARC) was reported in addition to the CARC, these were rank ordered by frequency as well.

There are 290 ANSI reason codes, of which 213 were valid during the data period. There are 741 active ANSI remark codes that could be used in combination with any reason code. An ERA can report one or more CARCs and RARCs for a service. Note: at least one CARC is required for every service. RARCs are optional with the exception of four CARCs discussed below.

¹⁵ 62 specialties including: Anesthesiology, Cardiovascular, Dermatology, Emergency Medicine, Family Practice, Internal Medicine, Multispecialty, Neurology, Neurosurgery, Ophthalmology, Orthopedics, Pathology, Pediatrics, Pulmonology, Radiology, Surgery and Vascular Surgery.

¹⁶ The number of records for each payer is as follows: Aetna, N=138,508; Anthem BCBS, N=202,532; CIGNA, N=64,460; Coventry Health Care, N=8,201; HCSC=162,196; Humana, N=67,035; UnitedHealthcare; N=283,190; Medicare, N=2,189,351.

Based on the denial criteria described above, there were 80,565 denials in the universe of services with the DOS during February 1 through March 31, 2010. The number of denials ranged from 191 for Coventry to 60,846 for Medicare. For additional sample sizes, refer to Table 1 on page 2.

To examine whether there was a pattern of use between these two levels (i.e., CARCs and RARCs), a Pareto analysis was conducted to determine which CARCs and RARCs made up the top 80 percent of the denials reported in the first ERA. This was done for each payer and then by both payer types (i.e., all private payers and Medicare). We present Pareto graphs¹⁷ that show, in descending order, the number of data points associated with a particular value as both raw volume and a percent of total CARCs and RARCs, respectively. These graphs represent the frequency reported by payer. These Pareto graphs illustrate the difference between each payer's use of CARCs and RARCs. Rank orders of CARCs and RARCs are illustrated using these Pareto graphs.

Improvement of the Claims Cycle Workflow

These results were self-reported by the payers on a survey sent to the payers on May 13, 2010. Metric 16 results were obtained from CAQH CORE.¹⁸

¹⁷ A Pareto graph is a representation of the proportion ranking of a given set of data.

¹⁸ Visit the CAQH Web site at www.caqh.org/CORE_step_by_step.php for more information regarding CORE certification.