Apsana, Inc.

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Health Insurance
Testing ICD-10

Oct. 2013

TESTING ICD-10

Executive Summary

ICD-9, the current standard for reporting medical diagnosis and inpatient procedures, is being replaced by ICD-10. The transition from ICD-9 to ICD-10 is complex and far reaching. ICD-10 will affect everyone covered by HIPAA, not just those submitting Medicaid or Medicare claims. The mapping from ICD-9 to ICD-10 codes is not simply one-to-one. It will impact benefits, provider reimbursement, clinical editing, medical management, claims operations and customer service.

This white paper describes the Apsana approach to a comprehensive, focused, efficient and effective Test Approach for testing ICD-10 changes.

- Satish Nagarajan

ICD-10 Overview

ICD-10 CM/PCS (International Classification of Diseases, 10th Edition, Clinical Modification /Procedure Coding System) consists of two parts: ICD-10 CM for coding diagnosis and ICD-10 PCS for inpatient procedure coding. ICD-10 CM is required for use in all healthcare settings while ICD-10 PCS is for inpatient settings only. Outpatient procedure coding using CPT is not changing as part of this mandate.

Why is ICD-9 being replaced?

- ICD-9 is over 30 years old. It was developed by the WHO and implemented in the US with some modifications in 1979. ICD-9 CM includes diagnosis codes and inpatient procedure codes.

- ICD-9 CM is used for a number of purposes including determining benefits, provider reimbursement (DRG based pricing and inpatient facility), statistical analysis, quality reporting etc.

- ICD-9 CM is outdated. Many of the terms don't match current medical practice. Some sections have run out of codes. The current codes are not descriptive or specific enough.

- ICD-10 provides much greater specificity and additional clinical information which required non-standard modifiers and additional claims documentation with ICD-9.

ICD-9 CM and ICD-10 CM are similar in format however there are significant differences. ICD-10 CM diagnosis codes are 3-7 digits while ICD-9 CM codes where 3-5 digits. ICD-10 PCS uses 7 alphanumeric digits which are much more specific and substantially different compared to the 3 or 4 numeric digits used in the ICD-9 CM procedure coding.

Starting October 1, 2014, ICD-10 will need to be used for reporting all US healthcare services. ICD-10 CM is required for reporting diagnosis in all settings. ICD-10 PCS is required for reporting all inpatient procedures. Outpatient and Ambulatory procedures will continue to be coded using CPT. This mandate applies to all entities covered by Health Insurance Portability Accountability Act (HIPAA).

TRANSITION
TO ICD-10

There are two
important
consideration
in the ICD-10
transition:

✓ IMPACT
ANALYSIS

✓ TESTING

IMPACTS OF TRANSITION TO ICD-10

The transition to ICD-10 by October 1, 2014 is a US Federal mandate to all HIPAA covered entities. Over time this transition will provide many benefits to Payers, Providers and other participants in the healthcare. However the immediate challenge to health insurers is to make sure this transition occurs with minimum managed disruption to current customers, members, providers and business processes.

Transition to ICD-10 impacts several health insurance business processes and supporting systems:

- Claims
- Utilization Management
- Provider Pricing/Reimbursement
- Benefits/Product Development
- Customer Service
- Business Intelligence/MIS/Reporting

Several key stakeholders of health insurance companies are impacted

STAKEHOLDERS IMPACT ANALYSIS

MEMBERS

Benefits and Benefit Packages (plans) remain unchanged for members. However internal system changes may be required to accommodate ICD-10 coding.

CUSTOMERS

No Change

PROVIDERS

- For most providers there should be no change as they are reimbursed based on procedure coding.
- Most professional claims are not impacted as they will continue to be coded using CPT codes.
- Facility claims are impacted since even without DRG pricing they will use ICD-10 PCS codes.

EMPLOYEES

- Employees in impacted business processes may experience changes to workflow and desktop procedures.
- Many employees will require additional training to understand ICD-10 related business process and system changes.

TESTING THE TRANSITION TO ICD-10

If the primary business strategy of the health insurance company for the ICD-10 transition is to minimize, mitigate and manage the impact of ICD-10 to key stakeholders then the key testing goals are to prove three "equivalences":

ICD-10 Testing Goals

1 Financial Equivalence
- Provider reimbursement remains unchanged (claims and encounters)
- Member out-of-pocket expenses remain unchanged

2 Benefit Equivalence
- Member's benefit coverage remains unchanged

3 Operational Equivalence
- Claims flow rates are unchanged, e.g. Auto Adjudication rate, error rate
- Customer service metrics remain unchanged, e.g. Average Talk Time, Average Wait Time
- Utilization management process metrics remain unchanged

REGRESSION

This approach involves executing a pre-defined regression suite consisting of professional and facility claims for a set of test members and evaluating the paid claims behavior. In order to get a high pass rate with the regression suite, the claims chosen are the ones most likely auto-adjudicate, i.e. have fewest/no clinical edits and pre-authorization requirements. Regression suites typically use high frequency "clean" claims from high volume submitters.

PARALLEL TESTING

Parallel Testing copying production membership (or a subset) to a test environment and running a recent production claims feed into the test environment -- the production claims feed can be several days to a week's worth of recent claims -- then evaluating the claims behavior of this sample to determine if there are any unexpected variances.

AD HOC

The "Ad Hoc" approach would be to review documentation associated with the change and then determine specific test cases that need to be executed to validate the change.

Health insurers typically use a combination of these approaches. The specific combination is determined by the size, scope and nature of the change, available budget, schedule, resources and capabilities and environment and system limitations.

EVALUATION OF TRADITIONAL TESTING APPROACHES

A valid approach to testing provider pricing changes must satisfy these constraints:

1. Errors in the configuration of provider contracts can have a material financial impact on providers, members and the health insurer. Defects in provider pricing – if undetected – can cause an adverse news event.

2. Claims pricing is determined by a complex set of interacting factors of which provider pricing is one big factor. It is important to understand the other factors when conducting these tests so that pricing impact can be isolated and evaluated.

3. Pricing testing is high volume as there are typically several hundred thousand contracted providers and each contract could have thousands of pricing terms. Even if each test cycle only involves a small volume of providers the combination can create significant volumes.

4. The volume of pricing changes is so that large the test approach must be scalable, efficient, repeatable and cost effective.
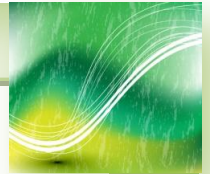
Regression Approach

PROS	CONS
1 Schedule and budget are well defined	**1** Very limited coverage. To be cost effective, regression suites have to focus on high volume/high value transactions
2 Executed only within system and environment limitations	**2** Post execution analysis is still time consuming and very knowledge and resource intensive
3 If automated then, less reliant on resource skills / knowledge	

Kitchen Sink Approach

PROS	CONS
1 If the environment is properly setup this can be very easy to execute	**1** Significant environment and data preparation issues. Since this requires copies of production data there may be PHI protection issues and environment size issues
2 If there are big problems they can be easily detected	**2** Coverage is unknown because a given day of production claims is unlikely to provide complete coverage
3 Very low cost to execute – however very high cost to analyze unless highly specialized tools are available	**3** Very low signal-to-noise ratio. Very hard to detect the actual problems in the volume of transactions
	4 Does not cover non-claims related functionality – e.g. UM, customer service, web etc.

AD HOC Approach

PROS	CONS
1 Best control in terms of determining test coverage	**1** Highest cost / schedule required
	2 Often not possible to provide the required coverage because of schedule constraints and lack of documentation

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Apsana consulting has focused on Health Insurance industry and for over a decade we have assisted our clients with all aspects of software testing. After repeatedly encountering difficulties with traditional testing approaches, we have developed and implemented a unique testing approach, one that is:

- ✓ Business Process Oriented
- ✓ End to End Architecture
- ✓ Intelligently Managed Test Data

The Apsana Testing Approach has been designed to address all the constraints of effective and efficient testing of benefit changes:

- To validate Financial Equivalence we use Apsana Provider Pricing Testing approach. This proprietary methodology and toolkit is used to select a representative sample of provider contracts and derive a set of claims test cases. These claims are then executed using ICD-9 CM and ICD-10 CM/PCS codes to validate provider reimbursement.

- We validate Benefit Equivalence using Apsana Benefit Testing approach. This is another Apsana methodology and toolkit used to test insurance benefit configuration. Here we analyze benefit packages and create specific test cases to validate benefit behavior with a focus on member out-of-pocket costs. These test cases are run using ICD-9 and cross walked ICD-10 claims to validate equivalence.

- To validate Operational Equivalence of each impacted business process we use a combination of testing approaches. The claims process is typically best validated using a Kitchen Sink type strategy, if appropriate test environment and tools are available. The UM and Customer Service processes are validated using the Apsana End-to-End test approach.

Apsana Testing Approach to ICD-10
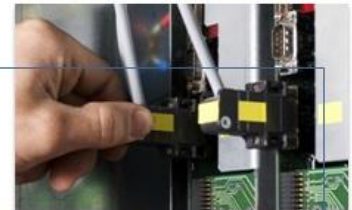
Financial Equivalence

Provider Pricing Toolkit

Benefits Equivalence

Benefits Testing Toolkit

Operational Equivalence

End to End Testing

BENEFITS OF THE APSANA TESTING APPROACH

The Apsana Testing Approach has the following benefits over the traditional approaches:

☐ The analysis tools and methodology reduces the time required to do comprehensive change analysis.

☐ The testing is comprehensive and we develop a client and project specific coverage model that is verifiable and auditable.

☐ There is no need to use production PHI.

☐ Tools and automation is leveraged to make the process repeatable, fast and cost effective. We can plug into many existing test automation tools.

☐ Using Apsana testing approach and toolkits can lead to significant savings on time, resources and money as compared to traditional testing approaches.

Contact us, if you would like to learn more about the Apsana's Approach to Testing ICD-10 Transition and how you can save 50% of your testing time, effort and costs.

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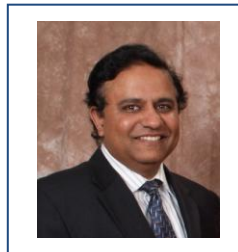
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