Health Insurance
Testing Provider Pricing

Sept 2013

HEALTH INSURANCE PRODUCT UPDATES

Executive Summary

Nine out of every ten dollars in health insurance premiums are paid out to health care providers in terms of medical claims. These payments are covered by a complex set of rules that are governed by provider contracts, state and federal laws and industry practice. These conditions are constantly evolving and require periodic testing support. Major current changes include the implementation of ICD-10 and the evolution of Accountable Care Organizations.

This white paper describes the Apsana approach to a comprehensive, focused, efficient and effective Test Approach for testing changes to Provider Contract Pricing.

- Satish Nagarajan

PROVIDER CONTRACT PRICING

Paying for medical claims accounts for 85-90% of health insurance costs; the rest are administrative costs related to managing the related financial flows. When a valid claim is received by the health insurance company it is “priced” according to the current contract between the insurer and the provider – Provider Contract. Provider contracts can change annually. There are reasons to test provider contracts even when there is no change to the legal contract document. Provider contracts also change and should be tested when:

- Implementing or upgrading the claims or provider pricing system requires revalidation of provider pricing
- Annual changes required by CMS for Medicare plans occur
- Periodic changes required by states for Managed Medicaid plans occur
- Major new mandates like ICD-10 are implemented
- State or federal laws change
- Upgrading the clinical editing or care management systems
- Significant changes to the benefit packages occur
- Significant changes to the provider network occur
- Changes are made to shared risk arrangements like ACO, Patient Centered Medical Home, Pay For Performance (P4P), etc.

Most health care provider contracts have annual or other periodic review requirements. Many provider contracts are renegotiated annually. Nearly all health insurers upgrade some part of their claims processing system infrastructure every year.

It is common for a health insurer covering a large service area (state or region) to have a couple of hundred thousand contracted providers. A fraction of these contracts are being updated every month to balance the workload of the network management department. Significant initiatives (like ICD-10) create additional demand for contract updates and pricing validation.

TRADITIONAL TESTING APPROACHES

There are three common approaches to testing provider pricing changes:

- ✓ REGRESSION
- ✓ PARALLEL TESTING
- ✓ AD HOC

TRADITIONAL APPROACHES TO TESTING PROVIDER PRICING

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 involves 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 large, that the test approach must be scalable, efficient, repeatable and cost effective.

Regression Approach

PROS

1. Schedule and budget are well defined
2. Executed only within system and environment limitations
3. If automated then, less reliant on resource skills / knowledge

CONS

1. Very limited coverage. To be cost effective, regression suites have to focus on high volume/high value transactions
2. Post execution analysis is still time consuming and very knowledge and resource intensive

Parallel Testing Approach

PROS

1. If the environment is properly setup this can be very easy to execute
2. If there are big problems they can be easily detected
3. Very low cost to execute – however very high cost to analyze unless highly specialized tools are available

CONS

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. Coverage is unknown because a given day of production claims is unlikely to provide complete coverage
3. Very low signal-to-noise ratio. Very hard to detect the actual problems in the volume of transactions
4. Difficult to isolate the impact of provider contract pricing changes from other test data conditions that affect claims adjudication

AD HOC Approach

PROS

1. Best control in terms of determining test coverage

CONS

1. Highest cost / schedule required
2. Often not possible to provide the required coverage because of schedule constraints
3. Does not scale well. Very hard to provide coverage for the 1000s of impacted providers

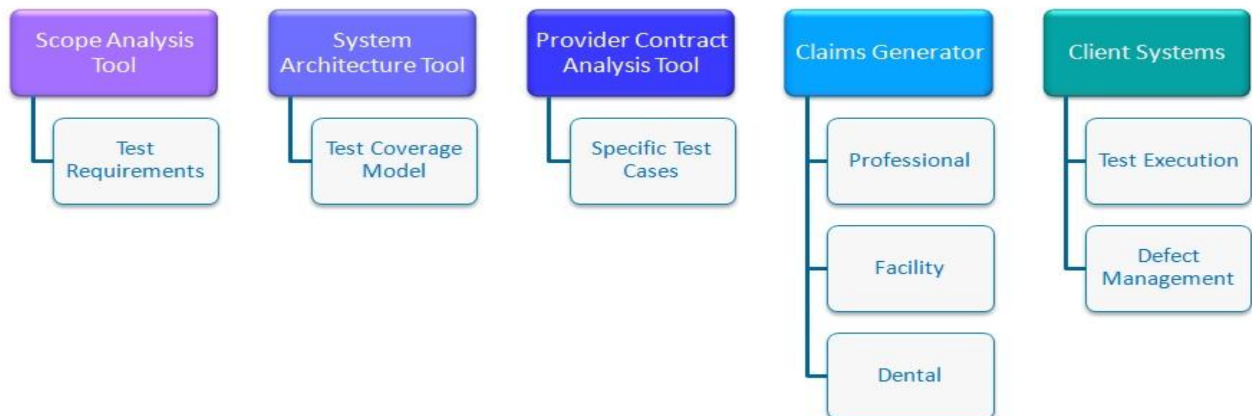
Please contact Apsana for more information.

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 Provider Pricing changes:

- ☐ We have a developed an analysis tool that can assist in quickly determining the scope and nature of provider pricing changes. This provides test requirements.
- ☐ The test requirements are then mapped into our multi-process and multi-system test architecture to determine specific test case designs. This allows us to create a defined comprehensive test coverage model.
- ☐ The test case designs are then elaborated and decomposed to specific test cases using a provider contract pricing decomposition model that takes into account the medical procedure, pricing algorithm and associated factors (units, network status, etc).
- ☐ We use our test data methodology to isolate the test conditions to test provider pricing and limit the impacts of other aspects of claims adjudication including benefits, eligibility etc.
- ☐ We then use proprietary and vendor supplied tools to generate appropriate claims to test specific pricing scenarios.



BENEFITS OF THE APSANA TESTING APPROACH

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

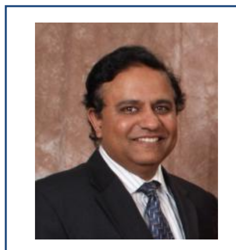
- ☐ The analysis tools and provider contract decomposition model reduces the time required to do comprehensive provider contract change analysis.
- ☐ The testing is comprehensive and we develop a client and project specific coverage model that is verifiable and auditable.
- ☐ There is no need to use 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.

If you would like to learn more about the Apsana's Approach to Testing Provider Contract Changes, please contact us.

About the Author

Satish Nagarajan is a Principal with Apsana, Inc. a management and IT consulting firm. He has over 20 years of experience in health insurance System Implementations. His clients include some of the largest health insurance companies in the US.

Mr. Nagarajan has a MS in Computer Science and an MBA from the Kellogg Graduate School of Management.



214 302 7286
www.apsana.com
consulting@apsana.com