Breaking Tradition in ICD-10 Testing

A nontraditional testing approach is required to successfully address ICD-10’s impact on business operations.

Executive Summary

In most cases, determining payer readiness for an ICD-10 transition involves traditional system testing. The results of this strategy, however, do not completely reflect the widespread impact of ICD-10 on a payer’s business operations. A nontraditional testing approach is also required to understand and address ICD-10’s comprehensive effects on a healthcare organization’s people, processes, partners and IT portfolio (see Figure 1, next page).

A comprehensive testing strategy includes nontraditional approaches for testing ICD-9 to ICD-10 mapping, as well as traditional methods for testing the business rules associated with those maps and the system configurations based on the rules. Payers apply nontraditional testing methods to identify ICD-10’s impact on business processes, including medical management; internal staff, such as provider service representatives; providers; and partners. These nontraditional methods require payers and their testing partners to identify key performance indicators (KPIs) and conduct root cause analysis across specific dimensions related to a specific test area.

The ultimate goal of nontraditional testing is to ensure that ICD-10 achieves the business objectives of benefit neutrality, clinical equivalence, financial integrity and operational stability.

The nontraditional test results clearly identify where — and how — payers can mitigate ICD-10’s impact and ensure smooth business operations after the transition to the new codes is complete.

Nontraditional Testing: Going Beyond Well-Defined Issues

Traditional ICD-10 testing addresses a well-defined, well-known set of issues. It gauges whether the IT landscape (both internal and external) functions properly using ICD-10 codes, as well as whether it scales and performs as expected. Such testing also addresses the ability of applications, interfaces, data stores, data warehouses, analytics and reporting to operate properly using ICD-10 codes and data. Traditional testing does cover some processes, such as ensuring that upstream, core and downstream systems maintain a smooth end-to-end workflow under ICD-10, successfully processing 837 claims under ICD-10 and generating explanation of benefits (EOB).

While this testing is critical, it must be augmented by nontraditional testing for these reasons:

- **Traditional testing does not address the business processes in all the areas affected by ICD-10** (see Figure 2, next page). These additional critical processes include medical management; provider management; customer service; reporting and analytics requirements;
and IT operations. Nontraditional testing encompasses these areas, measuring ICD-10’s impact on people, partners and performance, as well as IT operations (see Figure 3, next page).

- **Measuring ICD-10’s impact on areas such as medical management requires the use of KPIs that fall outside traditional system testing metrics.** The nontraditional approach requires payers to understand the key metrics related to a process, such as “time to resolution,” as well as the various factors that influence that metric.

- **Certain functions are beyond the ability of most traditional testing,** including identification of root issues with ICD-9 to ICD-10 maps, the business artifacts that use the maps (including rules, policies and contracts) and system configurations that have a direct impact on clinical equivalencies, benefit neutrality, financial integrity and business operations. For example, a problem with a clinically equivalent ICD-9 to ICD-10 mapping can cause a preauthorization issue that leads to increased provider call volumes, slower service representative

### Traditional and Nontraditional Testing: Scope Comparison

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<tr>
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<td>Map (BN, FI, CE) • Provider (FI, OS) • Process (OS)</td>
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<td>Traditional Testing</td>
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<td>• Rules • System configuration</td>
<td>Interfaces • Integration</td>
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*Figure 1*

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response times and inefficient operations. Such issues might not be at all apparent in a traditional test environment, especially when it is simply gauging whether systems can process data using the new ICD code set.

Nontraditional testing complements and enhances traditional ICD-10 testing, providing complete test coverage of ICD-10’s effects on the business and helping payers avoid operational inefficiencies and their costs.

**Getting to Root Causes with Nontraditional Testing**

Since ICD-10 affects a variety of internal operations for payers, as well as providers and partners, it is critical to identify the cause of an unexpected or unacceptable variance from typical business results. Identifying such root causes is a key tenet of nontraditional testing and occurs through a layered process.

- **Testing the map.** ICD-9 to ICD-10 code maps must guide rules and policies for claims adjudication and also account for the processes and people who carry them out in medical management. This includes preauthorizations, case and disease management, referral management, utilization management, demand management, and quality management. Similarly, the maps affect the credentialing of provider specialty groups and influence whether fraud and abuse are swiftly detected. Problems with ICD-10 code mapping threaten neutrality goals and smooth business operations in any of these areas.

- **Testing the rules.** Creating business rules from code maps is not a straightforward process because the ICD-10 code set is broader and more specific than its ICD-9 predecessor. For example, medical policy ICD-10-related language might need to be edited to reflect changes. An example is a condition formerly described with a single ICD-9 code that is now addressed with multiple ICD-10 codes. Another example is the increased specificity of ICD-10, eliminating the need for or requiring changes in the policy narrative.
In this case, traditional testing addresses whether policies, contracts and other business rules that rely on ICD codes are properly updated based on the ICD-9 to ICD-10 code maps. Tying together the testing of rules with testing of the configuration as described in the following subsection allows the ICD-9 to ICD-10 mapping to be isolated for accurate testing.

- **Testing the systems configuration.** Nontraditional testing methods are not required for systems configuration of the rules, policies and contracts. Traditional systems configuration testing identifies errors or defects introduced when configuring the systems. When these and the creation of business rules from code maps are eliminated as causes, any deviations are then known to be a result of the ICD-9 to ICD-10 map itself, and not how the map is used to create ICD-10 versions of rules, policies and contracts, nor how the system is configured based on these business artifacts.

Nontraditional testing is used, as described above, to pinpoint problems with the map associated with business decisions made during its creation (see Figure 3, previous page).

### The Role of KPIs in Nontraditional Testing

Fully testing the map, rules and configuration layers ensures that business objectives are met, including benefits neutrality, financial integrity and clinical equivalency. People and processes testing can ensure operational stability. That said, providers and other partners can affect whether payer organizations achieve those goals. By identifying the KPIs for each of these groups in relation to a specific business objective, payers can proactively monitor for unexpected variances. Further, payers can quickly identify the causes of variances by analyzing specific dimensions that influence the KPIs.

KPI thresholds can be defined for benefit neutrality, financial integrity, clinical equivalencies and operational stabilities:

- **Benefit neutrality:** KPIs could include co-pays, co-insurance, deductibles, maximums and coverage.
- **Clinical equivalencies:** KPIs could be pre-authorizations, authorizations/denials and case and care management participation.
- **Operational stability:** KPIs could include volume, productivity and resolution time for provider service representatives, as well as errors and resubmissions, support calls and auto-adjudication rates for providers.

### Financial integrity:

- **KPIs could include reimbursement by provider or facility and co-pay by condition.**

Variances in one or more of these KPIs are then analyzed further by such metrics as plan, product, member, ICD code, mapper/approver, geography, location, facility/provider, even date and time. With nontraditional testing, KPIs and root cause analysis, it is possible for a payer to identify that a single provider is generating a high volume of calls pertaining to a specific product and that the calls are about one or two codes; meanwhile, such testing may also provide an alert that internal service representatives based at one location are showing unacceptable variances in closing investigations related to the calls.

Armed with such specific data about root causes, payers can take effective steps to address them, such as training service representatives and provider staff. Without KPIs and cause analysis, as well as the foundational nontraditional testing of maps, rules and configurations, a payer would not be certain of the problem's source or how best to address it.

### Setting Nontraditional Testing Priorities

Budgets, resources and time can constrain both traditional and nontraditional testing. Not every process can be completely vetted with the rigors of nontraditional testing before the ICD-10 deadline. It is critical, therefore, to identify the most critical functions and scenarios to test.

Nontraditional testing with providers should be a priority. Coding errors or identifying fraud in this area can prevent payers from reaching financial integrity and operations stability goals. Nontraditional testing with high-dollar, high-volume providers involves dual coding and assessment of neutrality results, as well as KPIs among key internal groups. For smaller volume providers, statistical sampling of high-impact codes is effective.

### Next Steps: Taking the Nontraditional Approach to ICD-10 Testing

Many payers already have key prerequisites in place to support nontraditional ICD-10 testing in the form of existing KPIs and variance thresholds for a variety of business processes. Organizations...
Quick Take
ICD-10 and Payer Business Objectives

The goal of combined traditional and nontraditional ICD-10 testing is to ensure the following business objectives are met during and beyond the transition to ICD-10 code use. These include:

- **Clinical equivalency**: Achieved when equivalent ICD-10 codes define the same characteristics of patient care as ICD-9 codes.
- **Benefit neutrality**: Achieved when the use of ICD-10 codes achieves member coverage equivalent to that under ICD-9 codes, with no increases in premiums or out-of-pocket expenses.
- **Financial integrity**: Achieved when reimbursements and co-pays/co-insurance meet acceptable targets under ICD-10 codes.
- **Operational stability**: The business operates successfully, with steady or improved operational metrics after the transition to ICD-10.

can also layer analytics over these KPIs to pinpoint root causes of metrics that exceed acceptable levels.

It is critical for payers to accept that the results of traditional ICD-10 testing do not reveal ICD-10’s potential effects on key processes, people and partners well beyond claims adjudication. Nontraditional testing must be integrated into an overall testing program to achieve efficiencies in areas such as test data creation and management and environment management. After the transition, nontraditional testing will help payers – and their partners – maintain high levels of operational performance. In turn, that should help ensure that ICD-10 coding delivers on its potential of creating the high-quality, detailed health data the industry will use to reinvent care delivery and reimbursement models.

About the Author

Bill Hamilton is a Principal with Cognizant Business Consulting’s Healthcare Practice, with nearly 20 years of experience in management and IT consulting across various industries. Bill has extensive experience in health plan strategy, operations and program management in the areas of transformation, modernization, information management and regulatory compliance. Technical areas of expertise include enterprise system design and development, mobile and distributed computing, database and data warehouse design and development, analytics, cloud computing and software development lifecycle management and governance. Bill has written seven books and published articles about software development and database technologies. He can be reached at William.Hamilton@cognizant.com.

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