

# Predictive Modeling NEWS

## Code Theory: The Impact of ICD-10 on Predictive Modeling

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**T**he healthcare industry has been abuzz for some time over the arrival of ICD-10-CM/PCS, the expanded diagnosis and procedure coding system that is set to replace the current ICD-9-CM code set.

The benefits of the new system are widely known: ICD-10 will help fuel better care for patients, inform smarter healthcare delivery and streamline administrative processes. But what makes ICD-10 a truly exciting advance is something that is considered less often: the impact it will have on the industry's predictive modeling capabilities.

ICD-10 is different from the old code set because it better reflects current medical technology, offers more flexibility for creating future codes and provides greater detail and specificity in diagnoses and procedure coding. Where ICD-9-CM had about 18,000 entries, ICD-10-CM has more than 69,000. Put another way, ICD-9-CM is a pocket dictionary; ICD-10 is an unabridged Merriam-Webster.

While the scope of this code set might sound like a daunting administrative challenge, ICD-10's precision will prove beneficial to everyone touched by the healthcare system – providers, payers and, most importantly, patients. For example, imagine a patient who needs 10 stitches on his right arm.

The current system doesn't distinguish which arm needs to be treated. Suppose the same patient needs five stitches on the opposite arm a week later; that same "arm/stitches" ICD-9-CM code would be used, and the patient's medical records would never indicate if the second visit was for a new wound, a complication concerning the first or even a second cut to the same arm.

It's possible that this double coding may even delay processing the claims, as the second entry may be incorrectly flagged as a duplicate. ICD-10 provides a new level of detail, enabling doctors to note specifics such as laterality, subsequent encounter or a combination of diagnoses. Comprehensive descriptions help providers keep better records of patients' medical history, and also create more accurate information for billing and administrative purposes.

ICD-10 will provide richer, more meaningful details about virtually every diagnosis and procedure. However, as in any sector, simply gathering more information does not translate into change. The difference between raw data and its meaningful application is similar to the difference between knowledge and wisdom. ICD-10 implementation presents tremendous opportunities to the nation's health system, but better, more effective models must be created to analyze this information, generate actionable insights and deploy them in the real world.

### **ICD-10 and Risk Management**

The more complete data provided through ICD-10 opens the door for more precise predictions related to a patient's overall health and likelihood of developing certain conditions. Revised models can be built to look at existing data, identify predictors, track links between related symptoms and assign levels of importance. The end result is a risk assessment model that provides stronger, clearer signals for patients who are at risk of developing serious health conditions. More often than not, early detection and intervention can enable better, more effective care or – if caught early enough – possibly reverse the diagnosis.

For a patient who might be at risk for developing type 2 diabetes, ICD-10 has the potential to provide richer data about more warning signs and symptoms, such as elevated blood glucose levels, weight gain or high blood pressure. With more complete data from ICD-10, identifying the risk sooner and intervening more quickly might mean the difference between treating a reversible condition, like pre-diabetes, and the development of a chronic health condition.

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**Code Theory continued****ICD-10 and Care Management**

One of the biggest issues facing our healthcare system today is determining how to manage care beyond the initial point of contact in the system. When a patient is being discharged from the hospital, how does the system determine if it is necessary to continue treatment? Is it safe for the patient to return home, or should a specialized care facility be recommended? What steps might yield the best results for the patient given his/her condition? For example, when a patient visits a doctor for removal of sutures, ICD-10-CM clearly identifies the visit as such and associates it with a specific injury. This precision helps improve care direction and claims processing, as it answers what may be typical follow-up questions from insurance companies.

ICD-10 provides a rich pool of data that lets healthcare providers better grasp what the best course of care might be for a given patient, based on historical data and applied modeling. This specificity helps improve discharge planning and case management for patients, which, in the end, helps keep patients healthier and healthcare costs lower.

**ICD-10 and Fraud Detection**

As much as \$100 billion a year is lost to healthcare fraud, waste and abuse, according to the National Health Care Anti-Fraud Association. ICD-10 provides new opportunities to cross-validate information across various providers and assess the total care of a patient. Was the same procedure performed twice? Were conflicting claims filed for the same patient? With greater detail in the ICD-10 codes, payers have better data to analyze in fraud and abuse detection models. One doesn't have to be a coding expert to know that cracking down on fraud will cut down on unnecessary healthcare spending. If weather prediction was like healthcare, we'd say, "It's rainy today, so please wear your rain coat for the next six months and we'll see how you're doing then."

With the 2014 deadline for ICD-10 implementation fast approaching, many organizations gearing up for change and coders across the country have started building models and testing algorithms. But while ICD-10 holds enormous potential for the healthcare industry, it remains a complex system. The benefits will take time to realize.

Experts agree that the industry may not reap the full benefits of ICD-10 for at least two to three years after implementation. The transition will require patience, and there is sure to be a learning curve for all those involved as the industry grapples with tens of thousands more codes and millions more bits of data. This basic premise, however, remains the same: Better data build better models, which fuels better health outcomes.

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