Filtering Our Data to Ease Consumers' Search

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by Lorraine Tully, RHIT

HealthMarket, Inc., is a Norwalk, CT-based company offering "self-directed health plans" to employers and insurers as a new choice in health benefits. Founded in 1999, the company aims to shift healthcare decision making from insurance intermediaries to physicians and patients. As part of its business model, HealthMarket (HMI) established an Internet-based Web design that allowed consumers to search by procedure or by specialty, including the specialist's pricing for that procedure.

The company's health information specialists were essential in completing this project. The project plan also required a team of system and database administrators, as well as input from the medical director and customer service. Here's how:

The team used a robust claims database supplied by a vendor. The health information department first mapped all the specialty codes in the database to specialty codes used by HMI. This proved to be one of the first challenges within medical claims data. Many questions needed to be answered: What are the specialty codes? Are they similar to the American Board of Medical Specialties' boarded and subboarded certifications? Or are they mixed with the American Medical Association self-designated practices such as general practice, gynecology, or obstetrics? Do the specialty codes indicate the practices of cardiology versus cardiovascular disease or cardiothoracic surgery?

These considerations are important to quality data output, especially if data will be sorted according to the specialty as well as by volume within each of the CPT codes related to that specialty. The end result was to be simple: What does the specialty do most often, and what does it cost?

Data Output

This seemingly simple goal turned out to be less than easy to achieve. The data architect team wanted to populate the top 30 CPT codes. HMI had the CPT codes arranged in "service sets," or ranges of CPT codes that are clinically homogeneous. These sets were then indexed into a data table that could be merged with claims data. This allowed the breakdown of more than 20,000 CPT codes into a manageable 1,900 service sets. The data was then sorted by specialty to create the top 30 service sets for each specialty.

Gastroenterology serves as a good example to demonstrate a top service area with a mix of procedures combined with specialty and sub-specialty groupings. Top service sets within gastroenterology included chemistry, chest x-ray, colonoscopy/treatment, drawing blood, electrocardiogram, hematology/coagulation, hospital inpatient care visits, immunization administration, miscellaneous services, office consult, office/outpatient visit, preventive counseling, sigmoidoscopy, urinalysis, and so on. This breakdown volume sort was not very user friendly. Consumers cannot be expected to examine 15 or 20 lines of CPT code service sets to find the service they are interested in, the procedure that a specialist performs.

The data output for gastroenterology showed CPT code 36415 (drawing of blood) as the high-volume service in this specialty. But this is the top service performed in all specialties, as well as other services such as office visits, consultations, routine labs, and radiology testing. These high-volume services were mixed in with specific gastroenterology procedures (diagnostic sigmoidoscopy, colonoscopy, lesion removal, or upper gastrointestinal endoscopy) for which a consumer chooses a specialist.

The health information specialists understood that the "usual services" had to be weeded out so as not to obscure the procedures. This would require filtering of the data. When properly filtered, the data could, when sorted by specialty code, actually identify a physician. In the case of another top service area, cardiology, an undefined cardiology specialty may show 93510-93514 (heart catheterization service set) in the top volume, which could differentiate an interventional cardiologist from a cardiologist.

Quality Data Output through Data Filtering

A data filter was created to remove the following: 99201-99429 (all Evaluation and Management [E/M] service sets), 92002-92004 (E/M ophthalmology service sets), and 90801-90802 (E/M psychiatric service sets), all of which would later be added in as a default service set in "frequently used services." Other filters were: 99000-99090 (miscellaneous service set), 36000-36248 (vascular injection service sets), and so on. This filtering would allow the data to maximize services performed per specialty.

Once the data filter was applied, the results for gastroenterology enabled the specialty to drive the data volume. The top service sets were now 45330-45339 (sigmoidoscopy and treatment), 45378-45385 (colonoscopy and treatment), 43234-43259 (upper gastrointestinal endoscopy and treatment), 47000-47011 (needle biopsy of liver), etc. These are the procedures that patients searching specifically for a gastroenterologist might be looking for.

This QI initiative, while seemingly so simple, helped HMI answer the need for an "internal" knowledge-based system that would meet consumers' need for information. As a result, HMI's customers can access a database to search for providers by procedure or procedure set, by specialty, or with linkage to cost by specialty.

References

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The *Journal of AHIMA* would like to thank **Carolyn Valo, MS, RHIT**; **Veral Rulon, BS, RHIT, CCS;** and **Matthew Schuller, BS, RHIA**, for their guidance and contribution to this series.

Article citation:
Tully, Lorraine. "Filtering Our Data to Ease Consumers' Search." *Journal of AHIMA* 72, no.10 (2001): 65-66.
