Are You a Data Analyst and Don't Know It?

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By Lou Ann Wiedemann, MS, RHIA, CHDA, CDIP, CPEHR, FAHIMA

Do you analyze case mix? Have you been asked to run a report on patients seen in the emergency department with dog bites? Do you report monthly physician query trends? Have you ever been asked to "pull that information out of the EHR?" Do you know that revenue code 361 often requires a connecting classification to drop a bill? If you answered "yes" to any of these questions, then you may be a data analyst without even knowing it.

While some consider the role of a data analyst new to healthcare, many individuals have already been and continue to review and analyze data—never realizing that they have become the data analyst of today.

The book *10 Days That Unexpectedly Changed America* does a good job of chronicling 10 events whose importance and impact have been undervalued in America history. The book doesn't go for the obvious tipping points in history like July 4, 1776, or the attack on Pearl Harbor. Instead it focuses on lesser historical events that provide a tipping point, such as the Mystic Massacre of the Pequot War or the infamous Scopes Trial.

The book is a reminder that the recent move to health information technology (IT) may be considered a tipping point in the healthcare industry. However, it is the single point of data, such as a principal diagnosis, that often receives the most attention. Because information is not always in a form that is easily understood, data analysts are needed to transform information into meaningful data.

Health Data Analyst Role Evolving

As electronic health record (EHR) advances cause an increase in available data, one should always remember that data, and the analysis of that data, have always been an integral part of healthcare's business. Within healthcare, data is limitless. It comes in a variety of forms such as clinical, administrative, financial, and patient-generated. Terms such as "Big Data," "enterprise data warehouse," and "data revolution" tend to make people feel that this sudden influx of data is brand new.

Although EHRs have made the days of tracking voluminous reports disappear, the need for quality data remains. The need to link clinical and financial data from a variety of systems or from one system is ongoing. If successful, an organization can leverage both types of data in a way to drive concrete decisions.

Prior to EHRs, the ability to review and compare multiple data points rested with a variety of individuals. The HIM professional may pull all records coded with an adverse reaction to medication by isolating the appropriate ICD-9 code. This required the coding professional to identify the appropriate codes, and the HIM director to create a report that included these patients, their medical record number, and date of visit.

A file clerk then pulled the record and sent it to the pharmacy. The pharmacist reviewed the record for the medication that the patient reacted to and identified how the patient was treated (i.e., Benadryl for itching). Because the medication record was not automated, the review was a manual process. The pharmacist would then report on the outcomes at the pharmacy committee meeting.

Today, the data analyst can simply pull information from the diagnoses codes and cross reference those patients with an adverse reaction code with the other medications listed on their electronic medication administration record (eMAR) to quickly identify the treatment. From this point, it is easy to provide a list of patients with an adverse reaction and stratify how many were treated with Benadryl, versus some other type of medicine without reviewing the health records.

In reality, the steps required to obtain a report of patients with adverse medication reactions and their course of treatment are the same—it just now requires much less time. Between 2008 and 2018, the need for health data analysts is expected to grow

20 percent, according to the Bureau of Labor Statistics. The need for qualified professionals who understand health information and its ability to transform into meaningful data will continue.

What are You Doing Today that Makes You the Data Analyst of Tomorrow?

The list below contains just a few of the tasks that may be asked of a data analyst. Many professionals in the healthcare industry complete these tasks on a daily basis, never making the connection between their work and its impact on data.

- Calculate average wait time in the emergency department
- Calculate readmission rates
- Analyze case mix index
- Monitor complication (MCC/CC) rates
- Monitor mortality rates
- Analyze patient evaluation scores
- Measure the cost per episode of care
- Monitor data dictionary statistics
- Trend public health data
- Analyze performance improvement trends
- Identify MS-DRG changes as a result of ICD-10-CM/PCS
- Trend the average length of stay
- Identify the primary zip code of patients
- Identify patients for follow up with stratified random sample

As healthcare continues to move towards a fully electronic environment, capitalizing on these skills can be of great benefit.

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Lou Ann Wiedemann (lou-ann.wiedemann@ahima.org) is vice president of HIM practice excellence at AHIMA.

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