Becoming a Data Master

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By Lisa A. Eramo, MA

As an independent contractor and data analytics subject matter expert (SME), Lisa Brooks Taylor, RHIA, spends most of her time working with professional associations and large insurers developing machine-computable algorithms to analyze healthcare data. She works closely with data scientists, many of whom are physician informaticists, to help contextualize the data and provide insight into its meaning.

Having previously worked as a health information management (HIM) director and consultant, Taylor had gradually gained experience with data analytics. She not only interpreted operational data to develop departmental action plans, but also queried hospital databases to answer questions for executive leadership and frequently analyzed hospital-specific DRG data compared to national benchmarks.

Taylor recalls sometimes being the only individual in a meeting who could answer specific questions about the data itself. "It's a professional responsibility to step up and answer those questions," she says.

But honing more advanced analytics skills took time. These skills weren't something she learned in her undergraduate HIM program because she graduated long before Big Data had exploded into the healthcare arena.

"When I was in school, it was about learning Microsoft Office and basic Excel," Taylor recalls. "The students of today have grown up with this knowledge and are ready to learn SQL and more advanced coursework in their undergraduate programs."

To keep up with the changing times, Taylor has taken courses in SNOMED CT and SQL. She also attended clinical terminology management sessions at the AHIMA annual convention, and says she continues to expand her knowledge of analytics and computer programming every chance she gets.

Taylor could be considered a HIM professional "data master"—someone who can use their HIM and data analytics skills to turn healthcare industry data into usable and valuable information. Data analytics is seen by many HIM experts as the future of the profession, with AHIMA calling on members to expand their skill set into data analytics in order to further root their stake as the go-to source for all things health information.

Data Analytics Training on a Shoestring Budget

Want to get your feet wet with data analytics, but don't necessarily have the funds to do so? Consider these free or low-cost methods to start boosting your knowledge of analytics.

1. **Massive Open Online Courses (MOOC).** Search for terms such as "health data analytics," "advanced Excel," or "data visualization."
2. **YouTube**. Search for terms such as "advanced Excel tutorial" or "advanced Excel techniques."
3. **Local AHIMA chapter meetings.** Inquire whether your chapter can bring in a speaker to talk about Excel functions and commands.

Joining the Data Analytics Movement

In today's electronic health record (EHR)-driven environment, proficiency in data analytics is increasingly becoming a requirement for HIM professionals. It's no longer sufficient to just be able to store and retrieve information in the health record. Today's professionals must also know how to interpret and use the data, turning it into information that can improve care and lower costs. This is evidenced by the recent overhaul of HIM professional competencies to include informatics,

information governance, and data analytics. In 2014, AHIMA's Council for Excellence in Education made a formal announcement of this overhaul, urging colleges and universities with HIM programs nationwide to incorporate these new competencies as soon as possible.

It's obvious that healthcare organizations want—and need—individuals who can help make sense of the data, says John Showalter, chief health information officer at the University of Mississippi Medical Center. HIM professionals "fit the bill" because they understand the context of the data and can articulate how and why it's generated, Showalter says.

"It's not just about handing a spreadsheet of data to someone. It's about motivating them to act and telling a story with the data so people can respond to it and make good decisions," says Showalter, who was also the keynote speaker at AHIMA's 2016 Data Institute, held in December in Las Vegas, NV.

Michael Gera, partner at the Healthcare Computer Training Group, agrees that HIM professionals have the background necessary to move into data analytics work. "The nature of gathering and assembling healthcare data can be quite complex… but HIM professionals have been doing this for years," Gera says.

Not only are HIM professionals qualified to move into data analytics roles, it's also a necessity to do so, Showalter says. "If people don't start heading in the direction of analytics, there's a danger that their jobs will be obsolete or lower-paying," he says.

Stepping Out of Your Comfort Zone

Still, moving into data analytics can be intimidating. It requires new training and a willingness to let go of old processes. It's all about embracing change, says Nicole Leonard, FACHE. Nearly a decade into her HIM career, Leonard's current employer, TRICARE, approached her directly to gauge her interest in a healthcare analyst position. She had recently received her master's degree in health administration and says she was open to transitioning from a more "traditional" HIM career into one focused directly on data analytics.

"I was intimidated by the term 'analyst' because it automatically meant 'math' to me," she says. "But I took a chance, tried it, and have been here ever since."

Today, Leonard works as a senior healthcare data analyst, spending most of her time performing complex database queries to help answer questions that drive important business decisions. For example, she recently correlated Centers for Medicare and Medicaid Services (CMS) data with complication and comorbidity/major complication and comorbidity trends to determine whether it would be cost effective for TRICARE to expand its annual physical exam coverage to all beneficiaries. Previously, it had only covered well-children exams, well-woman exams, certain cancer screenings, immunization, and eye exams.

Another project was helping a military hospital in the San Antonio, TX network maintain its competitive edge by identifying the types of services it needed to market more effectively to beneficiaries. Leonard particularly raved about a recent HIPAA provider taxonomy project in which she helped standardize all 845 HIPAA provider taxonomies into 29 major specialties for two national TRICARE regions.

"This is the kind of thing I enjoy about being an analyst—to take a problem and say, 'Look, here's a solution,'" Leonard says. "Historically, hospitals would have paid a consultant a lot of money to come in and help it determine what it needed to do to save money, make money, increase patient satisfaction, or help with the quality of care. Now—at least where I work—they employ us full time."

She credits much of her progress to having excellent mentors and being willing to move in a new direction. "You need to be open to trying new things that scare you," she says.

Don't let a fear of mathematics hold you back, Showalter says. "HIM thinks they need to be theoretical mathematicians and data scientists to be effective and bring value in analytics, and that's not true," he says. "We're reaching the point where the data scientists are doing amazing things, but we need to have what they do exist in an effective and safe paradigm.

"The HIM professionals can come in and be very effective in that space and not need to do any of the math."

Don’t Underestimate the Power of Education and Credentials

A 2014 AHIMA workplace assessment showed that even despite the shift toward EHRs, data analytics is one of the biggest skill gaps facing the HIM industry today. So how can HIM professionals gain data analytics experience and move into more data-driven roles? Several HIM experts weigh in on this question.

Erin Head, MBA, RHIA, CHDA, CHTS-TR, director of HIM and quality at Parrish Medical Center in Titusville, FL, says it wasn’t until her facility’s EHR implementation that she started to dig more deeply into data analytics, quickly realizing that her skills could use a boost.

Her undergraduate education preceded the world of EHRs, and she wanted to be able to automate reports and create executive-level dashboards that would be operationally meaningful. Her top data priorities were length of stay, case-mix index, physician compliance, and CMS’ “meaningful use” program compliance. She also wanted to join what was then an IT-dominated information governance team.

To accomplish these goals, she not only attended on-site EHR vendor training, but also took courses on data mining, advanced Excel, and Crystal Reporting so she could design and generate reports from a wide range of data sources. In addition, she obtained her Certified Health Data Analyst (CHDA) credential from AHIMA.

“I knew that having my RHIA was good to show that I had the HIM background, but I wanted to make sure I could prove my competencies in data analytics,” she says, regarding why she obtained the CHDA credential.

Luckily, her employer paid for all of this additional education—something she advocated for personally. When approaching executive leadership, she said, “If you give me the tools, I can go out and get the data myself and do the entire process of analysis and presentation. If I take this course, think of all of the great things I can do beyond what I already do.”

Not only has the organization benefitted from Head’s additional training, but she says data analytics knowledge has also made her own job a lot easier. She spends less time worrying about compiling the data and more time digging into the meaning behind it, or even expanding the analysis itself to encompass a longer period of time or additional parameters.

At the University of Mississippi Medical Center, data analytics education was a top priority during its ICD-10 implementation, says Showalter, who was the executive sponsor during the transition. That’s because the medical center wanted to be able to predict DRG shifts and identify areas of documentation vulnerabilities.

“There are few people who you can hire who have all the skill sets that you need. So we had to have a very aggressive training program,” Showalter says. This included training related to data visualization, data models, and EHR vendor-specific reporting tools. Two individuals from the HIM department underwent this training so they could serve on the organization’s data analytics team. Today, one of these individuals works with operational directors to create visualization apps and self-service reports. The other is an intelligence program manager who coordinates various analytics projects.

Showalter says individuals don’t necessarily need a higher education to perform data analytics work. “I definitely think it’s possible to succeed without the graduate training, but you need the technical training on either data visualization or other data reporting tools,” he says.

To get started in data analytics, he suggests the following:

- Review the curriculum for the CHDA credential. With what topics are you unfamiliar, and how can you obtain necessary training?
- Read through the 10 competencies outlined in AHIMA’s Information Governance Adoption Model™. What area interests you the most, and what skills do you need to work in this area?
- Talk with hospital executives to gain a better understanding of the organization’s goals. How can additional analytics training help you enable those goals?

Build Knowledge Using Excel

As with any major undertaking, it's best to start small. That means before you venture into more complicated data visualization tools like Tableau, Click, or Power BI, consider taking a course in Excel, Showalter says. "Knowing how to do a pivot chart in Excel can take you from someone who's thought of as not having analytics prowess to 'Whoa, you're amazing!' I've seen it happen," he says.

An in-depth knowledge of Excel can also make work a lot easier and more efficient for HIM professionals, Gera says. "The amount of analysis you can do expands immeasurably, and the amount of time it takes to perform that analysis contracts immeasurably," he says.

This is especially true for dashboards. "If you understand how to integrate data from one department to another department, you can have independent sources of data gathering in those various departments and consolidate those sources in one central spreadsheet that links to those other spreadsheets for their source material," Gera says.

At a minimum, HIM professionals should be able to perform the following tasks using Excel:

1. Data reconciliation using the VLOOKUP function
2. Data validation to control the type of data allowed in a cell
3. Pivot tables and pivot charts
4. Filtering data
5. Sorting data, including multi-level sorting
6. Subtotals

Solve 'Pain Points'

Identify a pain point within your organization, then provide a solution. That's what Tiffany Hudack, systems analyst at Ashland (WI) Memorial Medical Center, says worked for her. In particular, she developed an E/M auditing tool using Excel to help coding professionals code more efficiently. She's currently building an Excel tool to help her organization identify providers who will—and won't—qualify for the Physician Quality Reporting System. In addition, she recently started a project in which she is integrating the hospital's EHR with a status board in the perioperative waiting room so patients' families can track the surgery from start to finish.

Pain points are usually easy to find—especially in hospitals without academic affiliations, Gera says. He refers to these organizations as "data rich and analysis poor" because providers and others don't have the time or the resources to perform in-depth data analytics.

If, for some reason, you can't identify a specific pain point, consider asking the chief nursing officer for input, Gera says. "A brief conversation with any experienced nursing administrator or clinician will yield a treasure trove of potential data analytics projects," he says. Also get involved with your hospital's morbidity and mortality meetings where "data issues are typically discussed in a very candid way," he says.

HIM professionals don't need to wait for a data analytics project to come their way—they can create one, Showalter says. "For example, must you frequently follow up with queries for certain physicians? If so, quantify the number of times this occurs daily by physician and provide education about the results and how to document more effectively," he says.

Using tools to automate this information is even better, Showalter says. "You can hand [hospital executives] a 15-page spreadsheet that lists the query response rates by every physician, or you can build them a dashboard in Excel," he says. "When you start getting into data analytics, you're recognized at a different level because you're viewed as making a different kind of contribution to the organization."

To start gaining additional analytics experience, experts say to run the following reports and provide executive-level education:

- Billing outliers by physician
- Hospital DRG data compared with national benchmarks
- Hospital DRG shifts post-ICD-10
- Physician CC/MCC capture rate

- Physician query response rate

Looking Ahead to the Future

HIM professionals must be prepared to evolve as needed, Gera says. As hospitals continue to generate data, opportunities to perform analyses and gain new insights will only increase.

“I’m always trying to stay on top of where the industry is going and what tools and knowledge I’ll need to meet the new demands,” Taylor says.

Head agrees and says she’s even trying to evolve the HIM and quality departments within her organization so that they’re more focused on data analytics and information governance. “We don’t want to be overlooked for projects, and we want everyone to know that we can transform as needed,” she says.

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