Data Analytics: The Straight-Lined Labyrinth that Entrapped the HIM Profession

By Ryan Sandefer, PhD, and David Marc, PhD, CHDA

Skills in data analytics are critical to the future of health information management (HIM), yet there has been considerable confusion regarding how to articulate what data analytics means for the profession. In a survey of more than 3,300 HIM professionals, skills in data analysis were ranked among the top five most important skills for future HIM practice.[1] Similarly, the 2014 AHIMA Workforce Study reported that a "skill in analyzing big data" was among the 10 most important skills for future HIM professionals.[2] Data analytics has become more prodigious across the HIM profession as more professionals move into roles to evaluate data related to financial, operational, and clinical performance.[3] HIM professionals are becoming more involved in developing solutions for healthcare organizations to better manage and use data. For instance, HIM professionals are developing the policies, procedures, and best practices to ensure organizations are maximizing the integrity and ethical use of data.[4] Because of the clear need in the industry to support the analysis and use of healthcare data, AHIMA placed analytics as a top priority domain in 2018.[5] Despite these notable trends, data analytics remains an elusive term that has yet to be fully understood by many in the profession.

There is considerable research and evaluation that is being completed by AHIMA's Council for Excellence in Education (CEE) and by members of the AHIMA Foundation Research Network (AFRN) to evaluate workforce trends related to the HIM profession. In 2019, the CEE released an updated HIM Curricula Competencies, including an entire domain for associate, baccalaureate, and graduate program curricula focused on informatics, analytics, and data use. The revised set of curricula demonstrate a commitment by educational institutions to address the shortage of HIM professionals with the necessary skills and abilities to meet industry demand as evidenced by the numerous workforce studies cited above. While there is obviously work needed to design and implement updated curricula and train faculty, this is another step in adapting and re-tooling academic programs to ensure relevance in a rapidly changing healthcare environment where leveraging data as an asset is critical.

Healthcare organizations have recognized the need for data analytics to support strategic and operational goals. Studies have found that investing in data analytics can prevent unnecessary information technology costs, improve the quality and accuracy of clinical decisions, improve the communication between clinical and administrative teams, support interoperability, gain insights into healthcare trends, and optimize business growth by supporting the development of services in a highly competitive healthcare market.[6] For example, organizations that have invested in infrastructure to support the distributed and adaptive storage of unstructured data have accelerated the use of this data—largely through natural language processing—to generate insights into the patients they serve and identify revenue-generating opportunities. Additionally, investing in technology to enhance decision-support capabilities for reporting purposes through smart dashboards have supported real-time evaluation of data, supported long-term strategic decisions, and identified emerging healthcare issues that can impact the care of patients.[7]

Prioritizing Data Analytics in the HIM Profession

HIM professionals are perfectly suited to enhance healthcare organizations' use of data by leveraging data analytics. The HIM profession as a whole acknowledges its current and future identity as a primary steward of data integrity for enterprise-wide health information. Data analytics is integral to the stewardship of data integrity.

The current definition used by AHIMA to define the profession of HIM emphasizes data analysis. According to AHIMA, "Health information management (HIM) is the practice of acquiring, analyzing, and protecting digital and traditional medical information vital to providing quality patient care. It is a combination of business, science, and information technology."[8] AHIMA has previously stated the importance of people in the healthcare industry, in particular that "people will always be central in harnessing the power of information to tear down barriers to better health."[9]

This very idea is critical to understanding the relationship between analytics and HIM. Data analytics is simply a skill that can be used to transform data into information, which can be used to improve decision-making. This is central to the work of HIM professionals.

HIM professionals are the aforementioned "people" who should be "harnessing the power" of data to transform health. There is no other profession that owns analytics. Health information professionals have a responsibility to leverage what we consider the "most powerful currency" in our industry. It is our job to transform ourselves in order to transform healthcare and the overall health of the populations we serve.

Clarifying Data Analytics for HIM Professionals

A question that continues to arise in the field of HIM is "What is the difference between analytics and informatics?" Let us be very clear on this topic: data analytics and informatics are not two separate disciplines. Similarly, data analytics and health information management are not two separate disciplines. Data analytics refers to a set of skills used by individuals to drive meaning from data—typically, raw data. Healthcare data analytics has been defined as "the practice of using data to make business decisions in healthcare."[10] Data analytics cuts across all professions and disciplines. It is not unique to HIM, informatics, computer science, or, for that matter, banking, aviation, or cartography. The techniques and procedures used to carry out different analyses are drawn from statistics, mathematics, computer science, sociology, and philosophy, among other entities. So in this way, data analytics and informatics are not two separate disciplines. The two are interrelated. HIM professionals (and informatics professionals) rely on data analysis to carry out the basic functions of their various roles and responsibilities. However, health informatics professionals are often required to have more advanced skills in data analytics. Some of these functions use complex analytical procedures like machine learning and other data mining techniques. Others use inferential statistical analyses to demonstrate statistical differences while others use more basic descriptive statistics and visualization methods to summarize information. These techniques are not contingent on credentials in one professional association or another.

The CEE's work to promote higher levels of competence in analytics among those graduating from accredited academic programs is exciting. Domain III of the 2018 curricular competencies includes multiple standards related to analytics at the undergraduate and graduate levels. Additionally, the data management track at the associate level supports the enhancement of data analytics skills. Managing health information in an electronic era requires foundational skills in data acquisition, extraction, preparation, and use in multiple electronic formats. The new curricular competencies provide flexibility for academic programs to leverage the skills of their faculty and the relative needs of their primary industry partners to create curricula that has the most impact.

Analytics is Part of HIM

The ultimate takeaway is that analytics is not somehow removed from core HIM skills. Instead, it is a core HIM competency. There is not "analytics for the HIM profession," but rather analytics for "harnessing the power of information to tear down barriers to better health." Because analytics and HIM practice are inseparable in today's environment, the skill of analysis needs to be seen as a priority. Individuals need to develop that skill through enhanced training and professional development. Further resources that assist individuals and organizations to better meet their outcomes need to be developed. Analyses of leading indicators clearly demonstrate data

analytics as a priority for the profession. Are health infor-mation management professionals committed to interpreting these findings and responding accordingly?

Notes

1. Sandefer, Ryan et al. "Survey Predicts Future HIM Workforce Shifts: HIM Industry Estimates the Job Roles, Skills Needed in the Near Future." *Journal of AHIMA* 86, no. 7 (July 2015): 32-35.
2. AHIMA. "Results of the AHIMA 2014 Workforce Study." March 2015. http://bok.ahima.org/doc?oid=300801.
3. Marc, David et al. "What the Data Say About HIM Professional Trends." *Journal of AHIMA* 88, no. 5 (May 2017): 24-31.
4. Sher, Ming-Ling et al. "How can hospitals better protect the privacy of electronic medical records? Perspectives from staff members of health information management departments." *Health Information Management Journal* 46, no. 2 (2017): 87-95.
5. Butler, Mary. "Eight Predictions for '18: Experts Prognosticate the Top HIM Topics for the Year Ahead, and Advise on How to Prepare." *Journal of AHIMA* 89, no. 1 (January 2018): 14-19.
6. Wang, Yichuan, LeeAnn Kung, and Terry Anthony Byrd. "Big data analytics: Understanding its capabilities and potential benefits for healthcare organizations." *Technological Forecasting and Social Change* 126 (2018): 3-13.
7. Ibid.
8. AHIMA. "Health Information 101: What is Health Information?" https://www.ahima.org/careers/healthinfo.
9. AHIMA. "Who We Are." https://www.ahima.org/about/aboutahima?tabid=story.
10. White, Susan. "Healthcare Data Analytics." In Oachs, Pamela K. and Watters, Amy L. (Eds.). *Health information management: Concepts, principles, and practice*. Chicago, IL: AHIMA Press, 2016.

Ryan Sandefer (rsandefe@css.edu) is associate professor and assistant vice president of academic affairs, department of health informatics and information management, at the College of St. Scholastica. David Marc (dmarc@css.edu) is associate professor and department chair, department of health informatics and information management, at the College of St. Scholastica.

Article citation:
Sandefer, Ryan. "Data Analytics: The Straight-Lined Labyrinth that Entrapped the HIM Profession" *Journal of AHIMA* 90, no.8 (August 2019): 16-19.