Transitioning to a Data-Driven, Informatics-Oriented Department

By Julie A. Dooling, MSHI, RHIA, CHDA; Shannon H. Houser, PhD, MPH, RHIA, FAHIMA; Raymound Mikaelian, RHIA; and Clarice P. Smith, RHIA, CHP

Are you a data-driven individual? Is your health information management (HIM) department focused on becoming data-driven or informatics-oriented?

Today's data analytics and informatics-oriented organizations are the centerpiece of operations and strategic visioning—and HIM professionals are at the center of information lifecycle management. On a daily basis, it is necessary to acquire, manage, analyze, interpret, and transform clinical and financial data into accurate and consistent information.

Information governance (IG) efforts start with data. Data governance efforts will lead to solid IG practices in the future. Being "data-driven" is the first step in bringing meaning and context to any situation.

Drivers for the Informatics Transition

As healthcare organizations have become larger and more sophisticated, the demand for data to make decisions has increased dramatically. Data is required by the C-suite for daily operations, strategic planning, development of new services, for making decisions, deciding when—and when not—to partner with other providers, and for forecasting new services. Analytics are required for many of these purposes as well. The integration of financial and clinical data are challenges being faced by HIM directors, data analysts, data managers, and others assigned responsibility for managing data.

Data eases management of daily operations in an HIM department. Some electronic health record (EHR) systems have dashboards or queue structures that provide the HIM leadership with a daily snapshot of the status of the workload in the department. The dashboard provides a big-picture view of the information the leader needs to start each day. With this data, the HIM director can quickly assess staffing needs for the day and make adjustments accordingly. The data can be used to identify issues and to assist in problem solving. Weekly, monthly, semi-annual, and annual reports can be generated from the daily dashboard to provide aggregate data.

Budgetary processes require the review of historical and current year financial and volume reports. For example, most hospitals in 2016 are experiencing a significant increase in requests for release of information (ROI) for audits. This data can be used to explain extra hours utilized in the ROI section of the department and could be used to justify additional staffing hours depending on the increase and whether it is sustained. What was the impact of ICD-10 on coder productivity? Has there been a change in the case mix index, and why? Has there been a shift in DRGs and why? HIM leaders can use data to answer these questions.

Productivity and quality data on deliverables produced by the HIM staff can be used to manage staff. With appropriate feedback, staff can be made aware on a weekly basis of the quality and quantity of their workload. This feedback creates a "no surprise" environment and makes evaluation much easier.

Data can be used to support HIM operations. For example, a complaint regarding transcription turn-around time (TAT) can be addressed by asking the following questions and providing supporting data:

- Has volume increased/decreased, and why? (Flu season may see an increase whereas physician vacations may see a decrease in volume.)
- Has there been staff turnover?
- Are all transcriptionists meeting their productivity standards?

- Has there been information system downtime?

If TAT is being met, the data can be used to communicate the standard with the administrator or provider. The standard may need to be changed for continuity of care. Changing the standard could also change the staffing model.

Trended data should be used to evaluate and improve processes. For example, coding denials should be tracked and trended. When trends are identified, data should be used to determine the root cause and a correction plan. It may be that coders need additional training on a specific guideline.

Data comparing the healthcare provider with national benchmarks should be utilized in evaluation performance. PEPPER reports are a valuable tool when comparing the hospital's performance to national performance.[1] When utilizing data for any purpose, the data should be evaluated for integrity. Is the data accurate and does it reflect what is occurring within the organization?

Approaches for Transition

Although you may desire to leap into a data-driven world, a well strategized plan will ensure a stronger foundation and data foothold. Begin with support from executive leadership. As HIM leadership establishes the need for a data-driven department, open a dialogue with executive leadership to obtain guidance, support, and justification for a data-driven department. Executives can crucially align departmental goals with those of the entire organization.

Next, identify areas of focus where time utilized to convert data into information will prove most beneficial. One will quickly notice that the list of areas begins to grow exponentially, and within the electronic health record (EHR) system there are numerous sources of data. A committee or workgroup structure focusing on IG and data governance may help consolidate areas of focus.

EHRs normally provide a variety of reporting tools, which vary based on granularity and flexibility. Complex reports or dashboards may require the expertise of a systems analyst or programmer, which is where it becomes crucial to clearly communicate the intent of the report. Miscommunications may lead to inaccurate reports, thus data from reports should always be validated. Validation ensures informed decisions are based on accurate, complete, and reliable data.

For specific examples of data-driven activities see Appendix A below.

Turn Data into Information

The data- and informatics-driven era of healthcare is creating opportunities and demand for HIM professionals who are well versed in IG and data analytics. The transformation of data into information represents the next evolution of the healthcare industry. Information allows organizations to make informed decisions that impact their quality of care, sustainability, and future vitality. Professionals are needed with up-to-date data analytics and informatics skills to impact this ever-changing environment. Focusing on data analytics and informatics will lead to better healthcare delivery and decisions. Who better to lead this charge than you?

Skills and Continuing Education for Staff

Transitioning to a more data-driven, informatics-oriented department will require HIM professionals to have up-to-date knowledge and skills that enable them to function in the new dynamic informatics, technologic, and data-driven HIM jobs. Continuing education with a life-long learning approach is the key to keeping up with the exponential growth of knowledge and complexity of healthcare-related information in the informatics age.

For information on specific career paths, visit the AHIMA HIM Career Map at http://hicareers.com/careermap/. This interactive map can help guide those interested in informatics or data analytics roles by offering in-depth information about the many career options for HIM professionals. The map also includes updated salary study results, job data, and self-assessments to measure if an individual is ready for a new role.

What Skills Should Be Obtained?

The knowledge and skills needed for the transition to a data-driven, informatics-oriented profession can be categorized into two major areas. First, technical skills or hard skills that can be quantified or touched—such as skills in informatics, analytics, and data use. Next, of additional importance are soft skills that align with cognitive thinking and problem solving, such as communication and critical thinking.

First, let's examine hard skills. The adoption of EHRs has changed HIM professionals' daily work from traditional operations. CAHIIM Curriculum Requirements indicate three basic areas of technology skills:[2]

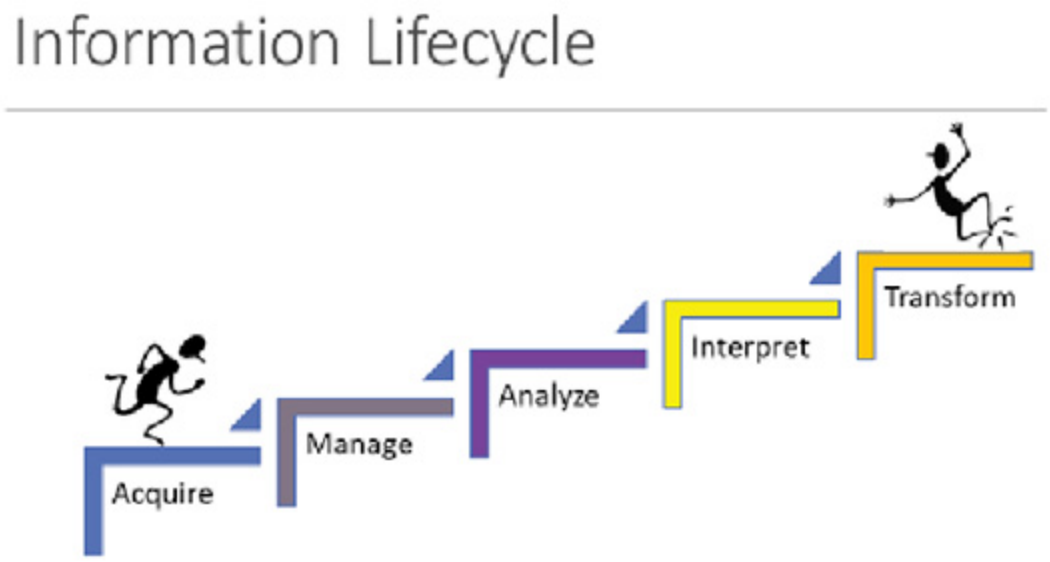
- Informatics skills: Including health information technologies; basic computer literacy skills; applications and programming, such as SQL, HL7; proficient use of computer applications, such as spreadsheets, databases, graphical tools, and decision support systems; the ability to manage processes and systems to support appropriate technology design, infrastructure, and environment.
- Data analytics skills: the ability to use adequate and relevant clinical and administrative data (both financial and operational), healthcare statistics and research methods; utilizing objective (perspective-based in quantifiable and measureable fact) and subjective (interpretation based on personal feeling, emotion, etc.) analytics; analytical skills to provide predictors and trend analysis to executives for decision support and policy making.
- Data use skills: Includes the use of secondary data, different types of data, and knowing how to utilize technology for data collection, storage, analysis, and reporting of information; proficiency of data visualization techniques, such as displaying coder productivity by day, week, and month; ability to distribute and display data to different audiences.

There are also soft skills that are useful in this field. Informatics requires cognitive functions, which means thinking like the human mind reasons and making things logical.[3] Below are skills in critical thinking, logical analysis, and reasoning that are used when attempting to solve problems in real world healthcare practice.[4] These soft skills are actually often more difficult to learn because they are abstract and require structured processes to be applied. They are also subjective and perceptive in nature and may vary with each person's personality and life experiences.

- Communications skills: HIM professionals are often working in collaboration with medical staff, healthcare executives, technicians, and support personnel to share information and make decisions. This requires communication abilities and interpersonal skills. Both verbal and written communication skills are essential.
- Critical thinking skills: Using logic and reasoning to process information, make connections, make decisions, and create new ideas.
- Decision making and judgment skills: Ability to select the most appropriate solution or decision based on relative costs and benefits.

Information Lifecycle

The following graphic of lifecycle stages with associated steps and examples is intended to help departments create and identify processes and gaps within their information lifecycle. Please note: This is not an exhaustive list, but rather one that should be used as a base for the framework.



- Acquire:
    - Capture: Images via scanning
    - Create: Document in the EHR
    - Enter: Structured data
    - Dictate: Using voice
    - Write: Unstructured data
    - Receive: Continuity of Care Document (CCD)
- Manage:
    - Use: Consuming information, Access
    - Process: Workflow
    - Completion: Chart completion
    - Interfaces/Integrate: HL7 merges, transcription interface, encoder interface
    - Exports/Imports: Reports
    - Release: Release of Information
    - Transmit: Billing
    - Exchange/Share: Health Information Exchange (HIE), Patient Portal
- Analyze:
    - Confirm/Validate: New ICD-10 codes
    - Modify: Addend/Append
    - Quantify
    - Discover: Audit
    - Study: Gathering Information
    - Evaluate: Data Dictionary
    - Examine: Data structures such as LOINC for lab, DICOM for radiology and NDC for National Drug Codes
- Interpret:
    - Code: Assignment of Codes
    - Classify: Various classifications, such as CPT, PCS
    - Assign: Queues
    - Report: Financial, Clinical, Operational
    - Qualify: Records in a research study

- Transform:
    - Transition: Trusted data
    - Levitate: The profession

Obtaining These Skills

The following offers suggestions on just how to obtain the necessary hard and soft skills for work in informatics and data analytics.

- Higher education and specialized programs: AHIMA's Reality 2016 promoted four priority areas to HIM professionals for higher level education by obtaining master's level degrees; encouraging individuals with associate's degrees to complete expedited professional degree programs; expanding faculty opportunities to develop expertise in health informatics, data use, and data analytics.
- On-the-job training with internal education opportunities: Look for opportunities in your current job to take on informatics and data analytics projects—and find a mentor willing to guide you.
- Introductory formal training and classes: If you previously avoided or shunned a basic statistics course they are easy to find in community colleges, colleges, universities, and even online. Successful statistics coursework provides a toolkit which underlies much of the above discussion. Likewise, many HIM professionals may not have taken a basic Introduction to (Health) Informatics class, or computer science, data analytics, or computer literacy classes. Like statistics, these types of classes are readily available.
- Several online resources such as OpenStax and Khan Academy offer free academic courses. In addition, AHIMA's Informatics and Data Analytics Service Line brochure offers many educational offerings, available at www.ahima.org/service-line-brochures.

Notes

[1] Program for Evaluating Payment Patterns Electronic Report. "Welcome to PEPPER Resources." www.pepperresources.org/.

[2] Commission on Accreditation for Health Informatics and Information Management Education. "Curriculum Requirements." 2014. www.cahiim.org/him/curriculumrequirements.html.

[3] Mastrian, Kathleen and Dee McGonigle. *Informatics for Health Professionals.* Burlington, MA: Jones & Bartlett Learning, 2017.

[4] Ibid.

Appendix A: General Data-Driven Activities

Coding/Clinical Documentation Improvement (CDI):

- Charts to be coded by area such as inpatient, outpatient surgery, observation, ancillary, and clinics
- Coder productivity by day, week, month
- Turn-around time by patient type, facility location
- Identify critical performance measurements
- Examine financial and quality impact
- Monitor mortality and readmission rates
- Audit tracking and trending such as RAC, ZPIC, MIC
- Querying practice and response rates
- Interface/integration work status/queues/logs/transactions

Chart Completion:

- Completion analysis (turn-around time)
- Number of incomplete records
- Provider delinquency list

Revenue Cycle:

- Patient visits/inpatient days/census
- Physician relative value units (RVUs)
- Case Mix Index (CMI)
- DRG Shift
- Daily DNFB to monitor unbilled receivables
- Claim denials including LCD/NCD

Transcription

- Minutes to transcribe
- Turn-around time
- Reports to be completed by types (i.e. ED, discharge summaries, history and physicals)
- Interface/integration work status/queues/logs/transactions

Data Integrity:

- Volume of duplicate records to be worked
- Number of overlays and overlaps
- Number of records merged
- Overall creation and duplicate rate
- Number of duplicates created and by whom
- Interface/integration work status/queues/logs/transactions

Release of Information:

- Number of outstanding authorizations to work
- Monitor common requestors and identify optimizing workflows, such as batch releases
- Turn-around time
- Outstanding invoices and collections
- Interface/integration work status/queues/logs/transactions

Privacy and Security:

- Risk management and information governance
- Access and controls
- Disaster recovery
- Network and telecommunication security
- Cryptography and information security (for example: data confidentiality, data integrity, authentication, and non-repudiation are central to modern cryptography)
- Monitor and analyze privacy logs to ensure data integrity

Julie A. Dooling (jdooling@justassociates.com) is a senior consultant at Just Associates, Inc. Shannon H. Houser (shouser@uab.edu) is an associate professor, Health Services Administration, at the University of Alabama at Birmingham. Raymound Mikaelian (Raymound.Mikaelian@gmail.com) is an Epic HIM business systems analyst at Memorial Care Health Care. Clarice Smith (clarice.smith18@anmedhealth.org) is the HIM director at AnMed Health.

Article citation:
Dooling, Julie A; Houser, Shannon H.; Mikaelian, Raymound; Smith, Clarice Pittillo. "Transitioning to a Data-Driven, Informatics-Oriented Department" *Journal of AHIMA* 87, no.10 (October 2016): 58-62.