Data Content Standards

AHIMA LEADERSHIP MODEL

Background: Quality information is essential to all aspects of today's healthcare system. Many healthcare errors and adverse events occur as a result of poor data and information. In addition to threatening patient safety, poor data quality increases healthcare costs and inhibits health information exchange, research, and performance measurement initiatives. Improving the squality of data, information, and knowledge is paramount as healthcare organization transition from paper to electronic health records.

Purpose: The challenges associated with maintaining high quality data in electronic information environments require a clear understanding of data content standards and effective coordination and management of the organization's data requirements. As experts in the management and use of health records and secondary data, HIM professionals should serve as the leaders in health care organizations and in their professional community for ensuring that data content standards are identified, understood, implemented and managed.

Leadership Goals	Leadership Characteristics/Behaviors	Sample Management Activities	Tools and Resources
		Local Data Content Standards Leadership	
Increase knowledge and understanding of data content standards	***Initiative*** • Works independently with little or no supervision ***Influence*** • Educates leadership on need for education and training • Convinces leadership to fund and support education and training • Partners with others • Acts as a diplomat, possesses political skills • Facilitates communication ***Independence*** • Accountable to self and others	Educate yourself and others about data content standards • Perform a self assessment to evaluate your knowledge of data content standards • Seek appropriate training related to data content standards • Identify training opportunities and/or conduct training for organization stakeholders, subject matter experts, and others impacted by data content standards • Budget and fund training • Tailor stakeholder training to accommodate different levels of knowledge and experience	**Self Assessments** AHIMA Career Assessments, available online at https://campus.ahima.org/abo/catalog/lms/Index.aspx?CategoryId=186 • Project Manager Self Assessment • HIM Director Self Assessment • Work Flow Data Analyst Self Assessment • HIM Systems Administrator Self Assessment **AHIMA Practice Briefs** • AHIMA e-HIM Work Group on EHR Data Content. "Guidelines for Developing a Data Dictionary." *Journal of AHIMA* 77,

Leadership Goals	Leadership Characteristics/Behaviors	Sample Management Activities	Tools and Resources
	• Naturally inquisitive		no.2 (February 2006): 64A-D.
Assess organizational readiness	**Initiative** • Pioneering • Possesses vision and foresight • Seeks opportunities • Identifies goals and gaps **Influence** • Facilitates communication • Knowledgeable; serves as an expert • Partners with others • Identifies common ground **Independence** • Asks tough questions • Risk taker • Possesses ability to see a business problem from many different angles Maintains balance between competing needs and interests	Evaluate organizational readiness for data content standards initiatives • Conduct an internal environmental scan and risk analysis to assess organizational readiness • Identify key stakeholders and administrative champions to engage in the organization's data content standards initiatives • Identify opportunities to participate in newly created or existing data content leadership teams within the organization • Mentor other staff/colleagues to prepare them for active engagement in data content standards initiatives • Develop and implement communication plan to promote concepts and ideas to individual stakeholders and gauge interest and support	• AHIMA e-HIM Work Group on Core Data Sets for the Physician Practice Electronic Health Record. "Core Data Sets for the Physician Practice Electronic Health Record." (October 2003). • AHIMA Workgroup on Core Data Sets as Standards for the EHR. "E-HIM Strategic Initiative: Core Data Sets (AHIMA Practice Brief)." Journal of AHIMA 75, no.8 (September 2004): 68A-D. • Kallem, C., Burrington-Brown, J., Dinh, A.K. "Data Content for EHR Documentation." *Journal of AHIMA* 78, no.7 (July 2007): 73-76. • Fenton, S., Giannangelo, K., Kallem, C. and Scichilone, R. "Data standards, data quality, and interoperability." *Journal of AHIMA* 78, no. 2 (February 2007): 65-8. **Articles/Proceedings** • AHIMA e-HIM Workgroup on EHR Data Content. "Data standard time. Data content standardization and the HIM role." *Journal of AHIMA* 77, no. 2 (February 2006): 26-30, 32.
Conduct a data content standards requirements analysis	**Initiative** • Positions operational problems and needs at the strategic level • Identifies gaps • Engages and convenes stakeholders • Identifies and achieves goals **Influence** • Partners with others • Knowledgeable; serves as an expert • Bridges gaps • Acts as a diplomat, possesses political skills • Facilitates communication • Emphasizes collaboration and inclusion • Possesses credibility; is trustworthy • Identifies common ground • Cognizant of organizational culture	Understand data standards and data content requirements • Identify data content requirements for all areas of the organization, including clinical, administrative, financial, technical, etc. • Inventory existing data requirements and perform gap analysis between what is currently available versus what is needed • Engage decision makers and subject matter experts from throughout the organization to ensure all data content requirements are identified • Gain access to recognized standards directories Establish a team to research, monitor and recommend data content standards for implementation • Identify rules, regulations, and laws impacting data content standards in your organization • Identify and evaluate existing national and local	• Cimino, J. "Collect once, use many. Enabling the reuse of clinical data through controlled terminologies." *Journal of AHIMA* 78, no. 2 (February 2007): 24-9. • Hanken, Mary Alice, Herbst, Maida, Murphy, Gretchen. Leadership Through Standards: Policy to Practice. AHIMA Convention Proceedings, October 2001. • "Data Content Standards: Part and Parcel of Data Integrity Management" *AHIMA Advantage* 12:2 (March 2008):1,3-5. • Hammond, W. "The Making and Adoption of Health Data Standards." *Health Aff* 24, no. 5 (September 1, 2005): 1205-1213.

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	Independence • Possesses ability to see a business problem from many different angles • Maintains balance between competing needs and interests • Accountable to self and others • Naturally inquisitive • Maintains balance between competing needs and interests • Accountable to self and others	data content standards and determine which types of standards your organization will recognize (e.g., HITSP recognized standards, local/national data set standards, etc.) • Evaluating the stability and current industry use of identified standards (e.g., draft standard for trial use, normative standard, etc.) • Identify those data standards currently in use throughout your organization • Assess which data standards are compatible with those used by other organizations in which data exchange may occur • Evaluate and understands the benefits and disadvantages of implementing each of the identified standards • Recommend nationally recognized data content standards for adoption within your institution • Budget for those data standards that impose fees for use • Decide if all legacy data should be standardized or only data from a specified date forward • Prioritize the types of data to be standardized • Identify gaps in requirements and data content standards defined to date • Identify and engage decision makers, subject matter experts and stakeholders to support the process • Assess the scale of data standard implementation based on organizational needs/requirements (e.g., whether to fully implement the standard, map to the standard, etc.) • Establish timeframes for adhering to selected data standards • Eliminate local modifications or customization of data • Establish a single, uniform process for reviewing, approving and implementing data content standards in your organization • Monitor ongoing data content standards development activities to evaluate applicability to new or updated standards	• Hammond, W, and McCourt, B. "Making sense of standards." *Journal of AHIMA* 78, no. 8 (September 2007): 60-1. Shaver, Dave. "HL7 101: a Beginner's Guide" *For the Record* 19:1 (January 22, 2007). • Rollins, G. "Unwrapping data standards." *Journal of AHIMA* 78, no. 1 (January 2007): 24-6, 28-9. • Birnbaum, C. "One-stop Shop: an HIM Department's Journey to Centralize Core Data Services." *Journal of AHIMA* 78, no.8 (September 2007): 40-46. • Bowman, S. and Zeisset, A. "ICD-10 Preparation Checklist, parts 1 and 2." *Journal of AHIMA* 75:6 (June 2004): 58-61; 75:7 (July-August 2004): 58-60. (Updated June 2007) • Just, B. Paul, M. "Organizational Readiness for the EHR." AHIMA's 78th National Convention and Exhibit • Fenton, S., Giannangelo, K., Stanfill, M. "Essential People Skills for EHR Implementation Success (AHIMA Practice Brief)." *Journal of AHIMA* 77, no.6 (June 2006): 60A-D.Proceedings, October 2006. • AHIMA's Coding Products and Services Team. "Destination 10: Healthcare Organization Preparation for ICD-10-CM and ICD-10-PCS" (AHIMA Practice Brief). *Journal of AHIMA* 75, no.3 (March 2004): 56A-D. • Quinsey, Carol Ann. "Using HL7 Standards to Evaluate an EHR." *Journal of AHIMA* 77, no.4 (April 2006): 64A-C. • Egana, N., & Bruinsma, F. (2008). Data dictionaries: what do they have to do with public health? *Australian and New Zealand Journal of Public Health*, *32*(3), 286-7. • Hicken, V. N., Thornton, S. N., & Rocha,

Leadership Goals	Leadership Characteristics/Behaviors	Sample Management Activities	Tools and Resources
Develop a local data dictionary to support enterprise-wide interoperability	**Initiative** • Engages and convenes stakeholders • Anticipate tough questions • Positions operational problems and needs at the strategic level • Possesses vision, foresight and courage to challenge the status quo • Identifies goals and gaps • Adaptable • Seeks opportunities • Identifies gaps • Identifies and achieves goals **Influence** • Possesses credibility; is trustworthy • Knowledgeable; serves as an expert • Acts as a diplomat; possesses political skills • Facilitates communication • Emphasizes collaboration and inclusion • Cognizant of organizational culture • Remains flexible; open to alternatives • Bridges gaps • Maintain balance between competing interest • Partners with others • Identifies common ground • Understands and empathizes with people **Independence** • Possesses ability to see a business problem from many different angles • Maintains balance between competing needs and interests • Accountable to self and others • Keeps an eye on the big picture	Garner executive and organizational support for development of an enterprise-wide data dictionary. • Develop a business case demonstrating a return on investment when implementing and maintaining an enterprise-wide data dictionary • Create an educational program that describes the advantages of developing and maintaining an enterprise-wide data dictionary • Request executive level commitment to support and adequately fund development and ongoing maintenance of an enterprise-wide data dictionary • Anticipate potential stakeholder conflict, struggles or disagreements • Communicate the value of HIM involvement in the development and maintenance of an enterprise-wide data dictionary Design a plan to develop, implement, and maintain the enterprise-wide data dictionary • Develop and document project methodology, objectives, and timelines • Incorporate an interdisciplinary approach to data dictionary development • Design a program budget to request and secure adequate funding and staffing for development and ongoing maintenance of the enterprise-wide data dictionary • Appoint a core team to facilitate development and ongoing maintenance of the enterprise-wide data dictionary • Inventory the organization's current electronic systems, data elements, data sets, definitions, value sets, and terminologies in use and/or available for use • Design an enterprise information model to align the workflow with information flow (including data required, data uses, users of data, and information flow) • Assess whether the organization should create its own or purchase an existing metadata registry to manage the data dictionary	R. A. (2004). Integration challenges of clinical information systems developed without a shared data dictionary. *Studies in Health Technology and Informatics*, *107*(Pt 2), 1053-7. • Rynberg, S. Data Dictionary Standardization in a Single or Multi-Hospital System. In *2004 IFHRO Congress & AHIMA Convention Proceedings*. Washington, D.C. Retrieved from http://library.ahima.org/xpedio/groups/secure/documents/ahima/bok3_005601.hcsp • Wilson, P. S. (2007). What mapping and modeling means to the HIM professional. *Perspectives in Health Information Management.* http://www.pubmedcentral.nih.gov/articlerender.fcgi?tool=pubmed&pubmedid=18066352 • National Committee on Vital and Health Statistics. *Information for Health: A Strategy for Building the National Health Information Infrastructure* (Washington, DC: NCVHS, 2001). Available online at http://library.ahima.org/xpedio/groups/secure/documents/government/bok1_016083.pdf • American Medical Informatics Association Board of Directors. "Standards for medical identifiers, codes, and messages needed to create an efficient computer-stored medical record. American Medical Informatics Association," *Journal of the American Medical Informatics Association: JAMIA* 1, no. 1: 1-7. • AHIMA e-HIM® Workgroup on the RFP Process for EHR Systems. "The RFP Process for EHR Systems." *Journal of AHIMA* 78, no.6 (June 2007): 73-76.

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		• Assess the type of media (spreadsheet, relational database, etc.) that will be used to develop and maintain the data dictionary • Design flexibility and growth capabilities into the data dictionary so that it will accommodate architecture changes resulting from clinical or technical advances or regulatory changes • Disseminate project plan and conduct staff education (see also "2.h. Communication Strategy") • Identify, develop and utilize the capabilities and strengths of individuals appointed to the core team by performing a skills assessment. • Coordinate additional training for team members to fulfill gaps in skills required for the project Deploy the plan to develop an enterprise-wide data dictionary • Promote the use of standard terminology/classification systems (e.g., SNOMED, LOINC, ICD, ICNP, etc.) as a foundation for the development of the enterprise-wide data dictionary • Establish a decision-making and approval framework comprised of teams and committees (e.g., standards oversight group responsible for approval of standards, clinical oversight group for approval of clinical data content, etc.) • Define metadata requirements for your organization's data dictionary using the established ISO/International Electrotechnical Commission (IEC) 11179 guidelines for metadata registry construction • Identify relevant local, regional and/or national industry data standards that pertain to the development of a data dictionary • Guide development of policies and procedures that address the defined decision-making/approval framework and documentation trail (including data versions across applications and databases) for all initial enterprise-wide data dictionary decisions and ongoing updates and	**AHIMA Online Courses** Available online at https://campus.ahima.org/abo/catalog/lms/ • Introduction to Clinical Terminology Systems • SNOMED-CT$^®$ Basics • Using Clinical Terminology Systems • Introduction to Logical Observation Identifiers, Names and Codes (LOINC$^®$) • Data Management Concepts: Applying the Fundamentals • Data Mapping in Electronic Health Records **AHIMA Audio Seminars** Available online at http://imis.ahima.org/orders/productByType.cfm?t=1 • Useful Applications for SNOMED-CT$^®$ • Clinical Vocabulary Basics **Publications** • Giannangelo, K. (2006). *Healthcare Code Sets, Clinical Terminologies and Classification Systems*. AHIMA. Chicago, IL. • AHIMA's Health Information Management Technology: An Applied Approach, 2nd edition • AHIMA's Health Information Management: Concept, Principles and Practice, 2nd edition • Electronic Health Records: A Practical Guide for Professionals and Organizations **Industry Resources** • National Library of Medicine, Unified Medical Language System (UMLS) available online at www.nlm.nih.gov/research/umls/

Leadership Goals	Leadership Characteristics/Behaviors	Sample Management Activities	Tools and Resources
		maintenance • Incorporate a process to address rapid changes in clinical care and evidence-based medicine • Develop a common integrated data and terminology model • Normalize field definitions across data sets through a consensus driven process to accommodate multiple end user needs • Develop a process to test information systems to demonstrate conformance to standards as defined in the data dictionary Implement a process for ongoing maintenance of the enterprise-wide data dictionary • Implement adequate controls over the enterprise-wide dictionary so that it cannot be altered outside approved policies/procedures to assure quality/integrity of data • Adopt a uniform change management/control process for modification or addition of data content standards • Adopt a process where stakeholders can request changes or enhancements to the data dictionary • Develop indicators for measuring effectiveness of data content standardization efforts (e.g., turnaround time for responding to requests for additions/changes to the data element values, timely file maintenance, ease of data dictionary use, etc.) • Establish a formal process for data dictionary maintenance to insure adherence of approved standards (including methods to communicate changes through formal channels and a process to retire terms when necessary) • Conduct timely updates to the data dictionary with approved changes Establish a communication strategy to keep all organization stakeholders informed of data dictionary development • Assign staff to implement and maintain the communications strategy	• Health Information Technology Standards Panel (HITSP) Webinars, available online at www.hitsp.org/webinars.aspx • United States Health Information Knowledgebase (USHIK), available online at www.ushik.org • National Cancer Institute Center for Bioinformatics (NCICB) Cancer Data Standards Repository (caDSR), available online at http://ncicb.nci.nih.gov/NCICB/infrastructure/cacore_overview/cadsr • ISO/International Electrotechnical Commission (IEC) 11179 guidelines for metadata registry (data dictionary) construction to promote interoperability and automate data sharing. Available for purchase at http://www.iso.org/iso/iso_catalogue.htm • Health Level Seven. "What is HL7?" http://www.hl7.org/about/ • HL7 Standards. Available online at http://www.hl7.org/Library/standards.cfm • HIMSS. Taxonomy of Standards. Available online at http://www.himss.org/content/files/2008_Taxonomy_of_Standards_STF_law.pdf • Connecting for Health. Data Standards Working Group. (2003) Report and Recommendations. http://library.ahima.org/xpedio/groups/public/documents/external/bok1_024236.pdf

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		• Identify the best mode(s) of communicating information throughout the organization • Periodically survey stakeholders on adequacy of communication process and use feedback to modify strategy Provide staff access to the enterprise-wide data dictionary • Develop key views and reports of the data dictionary to facilitate education and training • Conduct ongoing education and training for all staff as appropriate to their use of data elements and corresponding definitions • Develop plan to update education and training program in conjunction with changes made to the data dictionary	
Advance the development of data content standards	***Initiative*** • Positions operational problems and needs at the strategic level • Pioneering • Possesses vision, foresight and courage to challenge the status quo • Seeks opportunities • Identifies gaps ***Influence*** • Partners with others • Identifies common ground • Acts as a diplomat; possesses political skills • Facilitates communication ***Independence*** • Possesses ability to see a business problem from many different angles • Maintains balance between competing needs and interests • Anticipate tough questions	Incorporate standards-related activities into the organizational lifecycle • Collaborate with internal and external partners to meet interoperability and health information exchange agreements • Develop a coordinated standards development engagement strategy for your organization • Ensure broad organizational participation in standards development activities • Influence development of standards to meet organizational needs	

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Select integrated electronic systems that support data content requirements	***Initiative*** • Positions operational problems and needs at the strategic level • Pioneering • Possesses vision, foresight and courage to challenge the status quo • Identifies gaps ***Influence*** • Knowledgeable; serves as an expert • Bridges gaps • Identifies common ground • Acts as a diplomat; possesses political skills • Facilitates communication • Possesses credibility, is trustworthy ***Independence*** • Asks tough questions • Possesses ability to see a business problem from many different angles • Maintains balance between competing needs and interests	Select and implement electronic systems that support your organization's data content requirements • Identify organizational data content needs/requirements (see also activities under "2. Data dictionary to support enterprise-wide interoperability") • Identify system functionality required to support the enterprise-wide data content requirements • Incorporate data content and corresponding system functionality requirements into the organization's request for information (RFI) or request for proposal (RFP) issued to EHR or component system vendors	

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		Regional/State/National Data Content Standards Leadership	
Contribute to domain knowledge by participating in relevant professional association work and mentoring others	*Initiative* • Pioneering • Possesses vision, foresight and courage to challenge the status quo • Seeks opportunities *Influence* • Knowledgeable; serves as an expert • Possesses credibility; is trustworthy • Understands and empathizes with people • Bridges gaps • Communicates effectively with all organizational levels and diverse groups • Partners with others • Acts as a diplomat; possesses political skills • Facilitates communication • Emphasizes collaboration and inclusion *Independence* • Naturally inquisitive • Accountable to self and others Asks tough questions	Share experiences regarding data content standards development and/or implementation • Submit an abstract or paper describing benefits of HIM leadership in data content standards initiatives, including personal resume describing your knowledge and experience with the topic, to CSA board of directors or state association annual program chair • Write an article describing your experiences with developing or implementing data content standards for your local CSA newsletter • Serve as a mentor for other healthcare organizations assessing or implementing data content standards • Serve as data standards subject matter expert in regional or statewide health information exchange initiatives • Nominate yourself for the AHIMA Action Community for e-HIM® Excellence (ACE) program • Share your experiences regarding data content standards initiatives by speaking at national meetings (e.g., AHIMA's National Convention, HIMSS, etc.) • Review and provide feedback to AHIMA on proposed regulations or other requirements relating to data content standards • Support development of AHIMA member resources surrounding data content standards • Volunteer for AHIMA e-HIM® Workgroups addressing issues surrounding data content standards • Mentor a student • Volunteer to be nominated for national committees or task forces that develop or review standards for data content	**Articles:** • Siegel, B. "Taking the Lead: Volunteer Opportunities Abound." *Journal of AHIMA* 74, no.9 (October 2003): 8. • Mangin, W. "Getting Engaged for Life" *Journal of AHIMA* 79, no.11 (November–December 2008): 8. • Buck, S., et al. "The Value of Mentoring" *Journal of AHIMA* 79, no.9 (September 2008): 38-40. • "Mentoring with Passion: ACE Member Hands Down HIM Knowledge" *AHIMA Advantage* 12:2 (March 2008). • " ACE Member Shares Her Passion for HIM" *AHIMA Advantage* 12:2 (February 2008). **AHIMA Resources** • Guidelines for Submitting Manuscripts for the Journal of AHIMA, available online at http://journal.ahima.org/the-journal/ • AHIMA Action Community for e-HIM® Excellence (ACE), available online www.ahima.org/ace/ • AHIMA Application to Serve, available online at http://www.ahima.org/directory/vsapptoserve.asp • AHIMA Legislative Advisory Council, GRQ, Inc. Guidebook for Effective Interaction with Federal and State Governments. http://library.ahima.org/xpedio/groups/public/documents/ahima/bok1_013553.pdf • AHIMA Advocacy and Public Policy Center, available online at http://www.ahima.org/dc/
Contribute to the development and harmonization of industry and	*Initiative* • Anticipate tough questions • Positions operational problems and needs at the strategic level	Participate in standards development initiatives • Participate in the development of standards to address local and national industry needs • Review draft standards and provide input during	

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professional standards	• Pioneering • Adaptable • Possesses vision, foresight and courage to challenge the status quo • Seeks opportunities • Identifies gaps ***Influence*** • Possesses credibility; is trustworthy • Knowledgeable; serves as an expert • Bridges gaps • Partners with others • Identifies common ground • Acts as a diplomat; possesses political skills • Facilitates communication • Emphasizes collaboration and inclusion • Cognizant of organizational cultures ***Independence*** • Naturally inquisitive • Asks tough questions • Risk taker • Possesses ability to see a business problem from many different angles • Maintains balance between competing needs and interests • Accountable to self and others	standards development balloting cycles • Identify gaps in national standards to inform standards development • Review and provide input to the Office of the National Coordinator national use cases and extensions/gaps • Review and provide input to the Health Information Technology Standards Panel (HITSP) specifications • Seek funding to support participation	