

Appendix D

Review of HIM Certification Tasks Demonstrating Alignment with STEM Occupations and Occupation Types

HIM Certification Tasks	STEM Occupations	STEM Occupation Types
CHPS Professionals - Identify different technology solutions such as break the glass to protect sensitive data sets	Information Security Analysts	Research, Development, Design, and Practitioners
CHPS Professionals - Define processes for backing up systems with protected health information	Information Security Analysts	Research, Development, Design, and Practitioners
CHPS Professionals - Identify processes and requirements for data restoration of different types of systems	Database Architects	Research, Development, Design, and Practitioners
CHPS Professionals - Conduct a system criticality analysis	Information Security Analysts	Research, Development, Design, and Practitioners
CHPS Professionals - Define different solutions to safeguard protected health information such as instruction detection, encryption, audit logs	Information Security Analysts	Research, Development, Design, and Practitioners
CHPS Professionals - Determine appropriate safeguards on different applications such as locked access after failed attempts and audit logs	Information Security Analysts	Research, Development, Design, and Practitioners
CHPS Professionals - Become familiar with different types of solutions for clearing and purging data from hardware	Database Architects	Research, Development, Design, and Practitioners
CHPS Professionals - Create different audit programs to determine potential inappropriate access to protected health information	Information Security Analysts	Research, Development, Design, and Practitioners
CHPS Professionals - Create an information security plan that encompasses both technical and physical safeguards established	Information Security Analysts	Research, Development, Design, and Practitioners
CHPS Professionals - Establish appropriate processes for safeguarding protected health information while transmitted	Information Security Analysts	Research, Development, Design, and Practitioners

CHPS Professionals - Define processes for secure transmission such as encryption, virtual private networks, secure connections, remote access	Information Security Analysts	Research, Development, Design, and Practitioners
CHPS Professionals - Know different types of triggering systems such as intrusion detection, failed log ins, break the glass access, denial of service	Information Security Analysts	Research, Development, Design, and Practitioners
CHPS Professionals - Identify different types of encryption	Information Security Analysts	Research, Development, Design, and Practitioners
CHPS Professionals - Differentiate encryption for data at rest and data in motion	Information Security Analysts	Research, Development, Design, and Practitioners
CHPS Professionals - Describe the process for encryption and decryption	Information Security Analysts	Research, Development, Design, and Practitioners
CHPS Professionals - Become familiar with the different types of encryption keys	Information Security Analysts	Research, Development, Design, and Practitioners
CHDA Professionals - Knowledge of data models (conceptual, logical, and physical)	Database Architects	Research, Development, Design, and Practitioners
CHDA Professionals - Basic knowledge of various architecture platforms (such as Oracle, SQL server)	Database Architects	Research, Development, Design, and Practitioners
CHDA Professionals - Knowledge of relational database structure (primary key, secondary key)	Database Architects	Research, Development, Design, and Practitioners
CHDA Professionals - Knowledge of electronic health record (EHR) systems	Clinical Data Managers	Research, Development, Design, and Practitioners
CHDA Professionals - Knowledge of database language (SQL, XML, etc.)	Database Architects	Research, Development, Design, and Practitioners
CHDA Professionals - Establish uniform definitions of data captured in source systems to create a reference tool (data dictionary)	Database Administrators	Research, Development, Design, and Practitioners

CHDA Professionals - Knowledge of applicable data standards (such as ASTM, CDISC, HL7)	Database Administrators	Research, Development, Design, and Practitioners
CHDA Professionals - Knowledge of systems testing (integration, load, interface, user acceptance)	Database Administrators	Research, Development, Design, and Practitioners
CHDA Professionals - Evaluate existing data structures using data tables and field mapping to develop specifications that produce accurate and properly reported data	Computer Network Architects	Research, Development, Design, and Practitioners
CHDA Professionals - Integrate data from internal or external sources in order to provide data for analysis or reporting	Computer Network Architects	Research, Development, Design, and Practitioners
CHDA Professionals - Facilitate the update and maintenance of tables for an organization's information systems in order to ensure the quality and accuracy of the data	Computer Network Architects	Research, Development, Design, and Practitioners
CHDA Professionals - Knowledge of industry-standard maps between classification systems	Clinical Data Managers	Research, Development, Design, and Practitioners
CHDA Professionals - Knowledge of appropriate use of data mining techniques	Clinical Data Managers	Research, Development, Design, and Practitioners
CHDA Professionals - Design metrics and criteria to meet the end users' needs through the collection and interpretation of data	Information Technology Project Managers	Research, Development, Design, and Practitioners
Source for rows below is the Health Data Analysis Toolkit, 2017, AHIMA:		
CHDA Professionals - Data mining to determine which value-based purchasing (VBP) metric is causing a reduction in a hospital's payment (from payers that pay for value and performance)	Clinical Data Managers	Research, Development, Design, and Practitioners
CHDA Professionals - Design sampling plans for abstracted quality measures	Clinical Data Managers	Research, Development, Design, and Practitioners
CHDA Professionals - Specify data extract parameters for administrative data-driven measures	Clinical Data Managers	Research, Development, Design, and Practitioners
CHDA Professionals - Identify data problem areas and conduct research to determine best course of action	Database Administrators	Research, Development,

		Design, and Practitioners
CHDA Professionals - Analyze and solve issues with legacy, current, and planned systems as they relate to the integration and management of patient data (e.g., review for accuracy in record merge and unmerge processes)	Database Administrators	Research, Development, Design, and Practitioners
CHDA Professionals - Analyze reports of data duplicates or other errors to provide ongoing appropriate interdepartmental communication and monthly or daily data reports (e.g., related to the enterprise master patient index [EMPI])	Database Administrators	Research, Development, Design, and Practitioners
CHDA Professionals - Monitor metadata for process improvement opportunities (e.g., monitoring orders for successful computerized physician order entry [CPOE] implementation)	Clinical Data Managers	Research, Development, Design, and Practitioners
CHDA Professionals - Identify, analyze, and interpret trends or patterns in complex data sets	Database Administrators	Research, Development, Design, and Practitioners
CHDA Professionals - Monitor data dictionary statistics	Database Administrators	Research, Development, Design, and Practitioners
CHDA Professionals - In collaboration with others, develop and maintain databases and data systems necessary for projects and department functions	Computer and Information Systems Managers	Managerial
CHDA Professionals - Acquire and abstract primary or secondary data from existing internal or external data sources	Computer and Information Research Scientists	Research, Development, Design, and Practitioners
CHDA Professionals - In collaboration with others, develop and implement data collection systems and other strategies that optimize statistical efficiency and data quality	Computer and Information Research Scientists	Research, Development, Design, and Practitioners
CHDA Professionals - Work collaboratively with data and reporting and the database administrator to help produce effective production management and utilization management reports in support of performance management related to utilization, cost, and risk with the various health plan data; monitor data integrity and quality of reports on a monthly basis	Computer and Information Research Scientists	Research, Development, Design, and Practitioners
CHDA Professionals - Develop and maintain claims audit reporting and processes	Document Management Specialists	Research, Development, Design, and Practitioners

CHDA Professionals - Develop and maintain contract models in support of contract negotiations with health plans	Document Management Specialists	Research, Development, Design, and Practitioners
CHDA Professionals - Develop, implement, and enhance evaluation and measurement models for the quality, data and reporting, and data warehouse department programs, projects, and initiatives for maximum effectiveness	Data Warehousing Specialists	Research, Development, Design, and Practitioners
CHDA Professionals - Work actively with information technology to select and/or develop tools to enable facility governance and leadership to monitor the progress of quality, patient safety, service, and related metrics continuously throughout the system	Information Technology Project Managers	Research, Development, Design, and Practitioners
CHDA Professionals - Engage and collaborate with information technology and senior leadership to create and maintain a succinct report (e.g., dashboard), as well as a balanced set of system assessment measures, that conveys status and direction of key system-wide quality and patient safety initiatives for the trustee quality and safety committee and senior management; present this information regularly to the quality and safety committee of the board to ensure understanding of information contained therein	Information Technology Project Managers	Research, Development, Design, and Practitioners
CHDA Professionals - Lead analysis of outcomes and resource utilization for specific patient populations as necessary	Clinical Data Managers	Research, Development, Design, and Practitioners