Career Opportunities in Information Technology

Save to myBoK

by Jacqueline Raymond, RHIA, and Carol Ann Quinsey, RHIA, CHPS

The integration of information technology and health information management is creating new career opportunities for HIM professionals.

The journey toward developing and implementing the electronic health record (EHR) continues all over the globe. As healthcare organizations and vendors meet the challenges of developing and implementing these systems, they seek the integration of information technology and information management. This collaboration is creating greater opportunities for health information management (HIM) professionals to have careers in information technology (IT) than any time in the past.

HIM professionals who follow an IT career track work in a range of settings. Some are based within HIM departments, providing systems and technology support to the department. These professionals oversee system implementations, user training, and software upgrades, and they work with IT to resolve network and other technical issues in support of departmental users. Others work within IT departments, implementing or supporting a broad range of clinical information systems. A third group follows IT into product development or sales and implementation, working for vendors of clinical information systems.

The training, skills, and experience that HIM professionals possess are a good match for IT in healthcare. Clinical education, a major portion of the HIM curriculum, facilitates dialog with care providers. Knowledge of data, work flow, and organizational politics and structures are real assets to those designing, implementing, and maintaining EHRs and other clinical information systems.

Following are snapshots of six IT career paths in the US: project management, design and development, marketing and sales, implementation, technical support, and knowledge management. The skills and knowledge needed to move up these career ladders may be obtained on the job or through formal education and training. Many people move into these positions by first proving themselves to their employers in other ways. Salaries vary widely depending on the geographic area, complexity of the system(s), and amount of travel that may be required.

To get started, it never hurts to express interest early and talk with IT professionals. Set up interviews with HIM professionals working in IT and learn what they do. They will likely have good advice on how to take the next step on a given career ladder.

Project Management

Provide leadership to teams developing and implementing electronic health information systems

Core duties: Define business problems, develop alternative solutions, and provide appropriate feedback. Prepare functional design documents. Develop and execute system test plans. Create training materials. Provide ongoing support of live applications. Communicate project status.
Core skills: Analytical, problem-solving, written, and verbal skills. Ability to interact with people at all levels. Knowledge of PC applications (e.g., Microsoft Office Suite and Microsoft Project). Flexibility, versatility, and adaptability. Ability to manage workload and competing priorities in order to complete tasks in a timely manner.
Core-related knowledge: Five or more years' experience in computer systems or healthcare preferred
Salary: $50,000–100,000 annually
Where to look for opportunities: Healthcare institutions and vendors with transcription, document imaging, and electronic health record systems

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Job Title	Education or Certification	Related Knowledge	Skills	Duties
Application Analyst II	Bachelor's degree RHIA or RHIT certification	Core-related knowledge, above	Core skills, above	Core duties, above
Project Specialist	Bachelor's degree RHIA or RHIT certification	Core-related knowledge, above Knowledge of the HIM application being used	Core skills, above Supervisory responsibility at the project level, assigning tasks and ensuring quality of deliverables from project team members	Define business needs, develop alternative solutions, and provide appropriate feedback Provide ongoing support of live applications Utilize project life cycle tools and activities, including definition of project scope; management and status reporting; feasibility and cost-benefit studies; requirements definition testing and quality assessment; training, implementation, post-implementation and ongoing support; and documentation
Team Leader	Bachelor's degree Certification as RHIA or RHIT, CPHIMS, CHS, CHP, or CPHS Preferred: master's degree with certification as RHIA, RHIT, CPHIMS, CHS, CHP, CPHS, or project manager	Five or more years' experience in computer systems or healthcare Preferred: project management experience	Core skills, above Strong project management skills, strong analytical, problem-solving, written, and verbal skills Ability to work with people from all levels through negotiation and diplomacy Ability to understand the work environment and competing priorities Ability to manage a project, its dependencies, team members, resources, and timeline, prioritizing and delegating accordingly	Same as project specialist, above Leadership responsibility for all or specific segments of the project and reporting on behalf of the team to the manager and other leadership groups in the organization
Manager	Same as team leader, above	Project and people management Preferred: eight or more years' experience in	Team leader, above Strong institutional awareness, strong negotiation skills, ability to build consensus, and	Same as project specialist, above Ability to estimate capital and operating funding requirements associated with the project

		computer systems or healthcare	responsibility for budget and staff	Manage project within the allocated budget

Design and Development

Provide technical and leadership knowledge and skills for teams developing, implementing, and supporting software applications for healthcare organizations

Core duties: Respond to requests for changes in existing systems. Code, test, and debug software necessary to maintain systems. Study current systems and develop new systems and procedures. Write and maintain detailed documentation. Create training materials and conduct training.

Core skills: Excellent communication skills, both written and oral. Ability to communicate and negotiate with all levels of staff. Statistical and analytic skills and reasoning. Ability to work under stress due to frequent deadlines and unanticipated changes in project scope. Understand application development, including analysis, coding, testing, and project life cycle methodology.

Salary: $40,000–100,000, depending on system complexity and travel

Where to look for opportunities: Healthcare institutions and vendors of transcription, release of information, coding, database management, cancer registry, and document imaging systems

Job Title	Education or Certification	Related Knowledge	Skills	Duties
Application Programmer	Preferred: bachelor's degree or equivalent experience	Up to two years' experience in programming, healthcare preferred	Core skills, above	Core duties, above
Programmer Analyst	Same as application programmer, above	One to three years' experience in programming, healthcare required	Core skills, above Ability to assume high level of authority and responsibility	Core duties, above Develop and report project plan, specifications, schedules, and technical parameters to management
Systems Designer	Same as application programmer, above	Five or more years' experience in programming or systems design, healthcare required	Core skills, above Ability to assume a high level of authority and responsibility Strong technical skills, including programming, systems analysis, design, and testing	Same as programmer analyst, above Designs systems independently or as part of a team Acts as backup for other system designers in their absence
Software Engineer	Bachelor's degree	Five or more years' experience in programming and systems design Experience in healthcare and project management	Core skills, above Ability to assume a high level of authority and responsibility Experience with application design, intersystem cache database, proficiency in HTML and JavaScript	Design, code, test, and debug software Provide technical leadership and support
Team Leader	Bachelor's degree	Same as programmer analyst,	Core skills, above Ability to assume a high	Same as programmer analyst, above

| | | above | level of authority and responsibility Strong technical skills, including programming, systems analysis, design, and testing Demonstrated leadership ability | Design, code, test, and debug software Provide technical leadership and support Write and maintain detailed internal documentation on systems Work with manager to prepare capital and operating budgets Supervise and train systems designers and programmer analysts |
| Manager | Bachelor's degree in computer science Preferred: graduate degree | Eight or more years' experience in programming or systems design, healthcare required Experience managing projects and people | Able to agree on design and functionality with multidisciplinary technical, administrative, and clinical teams Ability to articulate complex design and technology issues to broad range of technical and operational staff | Architecture and development of systems Lead project and process management |

Marketing and Sales

Present vendor products, services, and systems to potential customers and support current vendor clients

Core duties: Analyze the market and market trends and identify potential markets and clients. Develop relationships and alliances important to the business.

Core skills: Outstanding written and oral communication skills. Ability to think strategically and translate strategic vision into products and marketing plans. Ability to think creatively and visualize how products might be seen by target audiences.

Salary: $55,000–200,000 annually. Commissions can make sales financially rewarding for HIM professionals.

Where to look for opportunities: Healthcare vendors of systems for transcription, release of information, coding, database management, temporary staffing, record storage, cancer registry, regulatory compliance, and document imaging

Job Title	Education or Certification	Related Knowledge	Skills	Duties
Marketing Associate	Bachelor's degree Specialized training in sales or marketing	Preferred: up to three years' experience in sales and marketing Desirable: experience developing Web pages and sales software	Ability to convince others of the worth or value of a specific product or service Ability to identify market differentiation strategies Ability to communicate value of products in letters,	Core duties, above Develop brochures and other sales tools to market the business

			advertisements, and Web sites	
Sales Associate	Same as marketing associate, above	Preferred: up to three years' experience in sales or marketing	Ability to listen and understand client's needs, explain how the product or service will help the client, and articulate what makes the product different or better for this client than a similar product	Core duties, above Identify potential clients Make cold calls via phone, letter, or in person Respond to incoming inquiries Listen to client's needs Prepare written proposals and contracts and manage client concerns Transition to implementation team smoothly Monitor progress and customer satisfaction and provide feedback to imple-mentation team as needed

Implementation Specialist

Lead or assist with the implementation of clinical information systems

Core duties: Define business problems, develop alternative solutions, provide appropriate feedback. Prepare functional design documents. Develop and execute system test plans. Create training materials. Provide ongoing support of live applications. Communicate project status. Complete work assignments in a timely way. Follow project management life cycle. Develop project and system documentation. Provide high-quality customer service.

Core skills: Analytical, problem-solving, written, and verbal skills. Ability to interact with people at all levels. Knowledge of PC applications (e.g., Microsoft Office Suite, Microsoft Project). Flexibility, versatility, and adaptability.

Salary: $37,000–100,000, depending on system complexity and travel requirements

Where to look for opportunities: Healthcare institutions, healthcare vendors of systems for transcription, release of information, coding, database management, temporary staffing, record storage, cancer registry, regulatory compliance, and document imaging

Job Title	Education or Certification	Related Knowledge	Skills	Duties and Supervision
Associate Applications Analyst	Preferred: bachelor's degree with certification as RHIA or RHIT	Up to three years' experience in computer systems, similar application, or healthcare	Core skills, above	Core skills, above Some supervision
Application Analyst I	Preferred: bachelor's degree with certification as RHIA or RHIT	One to three years' experience in computer systems,	Core skills, above Excellent written and oral communication skills	Core skills, above Minimal supervision

		similar application, or healthcare	Ability to manage workload and competing priorities in order to complete tasks in a timely manner Ability to work independently	
Application Analyst II	Preferred: bachelor's degree with certification as RHIA or RHIT	Five or more years' experience in computer systems, similar application, or healthcare	Same as application analyst I, above	Core skills, above Supervisory responsibility at the project level, assigning tasks and ensuring quality work delivered by project members

Technical Support

Provide vital support to customers during system implementation and maintenance periods

Core duties: Respond to and access technical problems, define and implement solutions, provide appropriate feedback. Provide ongoing support of live applications. Complete work assignments in a timely way. Update system documentation as appropriate. Provide high-quality customer service.

Core skills: Strong analytical and problem-solving skills. Ability to multitask and prioritize work requirements. Excellent interpersonal and communication skills. General knowledge of supported software packages, desktop operating environments, and LAN operating systems such as NT. Familiarity with computer hardware.

Salary: $40,000–80,000 annually

Where to look for opportunities: Healthcare institutions, healthcare vendors of systems for transcription, release of information, coding, database management, temporary staffing, record storage, cancer registry, regulatory compliance, and document imaging

Job Title	Education or Certification	Related Knowledge	Skills	Duties
Help Desk Specialist I	Certification as an entry-level technician (such as A+ or comparable certification) Desirable: associate or bachelor's degree	Up to two years' experience in customer service phone support or help desk experience	Core skills, above	Answer and record online calls coming into the helpdesk, providng reference number and first-level troubleshooting
Help Desk Specialist II	Certification as an entry-level technician (such as A+ or comparable certification) Desirable: associate or bachelor's degree	One to three years' experience in customer service phone support or help desk experience	Core skills, above Knowledge of repair and Intel-based PC hardware, HP printers, basic data communications network-ing equipment	Provide second-level technical support

Associate Network Administrator	Preferred: bachelor's degree	Up to three years' experience in network administration or previ-ous technical support experience	Same as help desk specialist II, above	Answer and record online calls coming into the help desk, providing reference number and firstlevel trouble-shooting and second-level technical support Prioritize, create, and maintain user accounts and databases for multiple applications Provide computer security education
Network Administrator I	Preferred: bachelor's degree	Two to four years' experience in network administration	Same as help desk specialist II, above Knowledge of network components (e.g., servers, routers, telecommunications)	Provide technical support to both in-house IT staff and user departments regarding all parts of the communication network
Network Administrator II	Preferred: bachelor's degree	Five or more years' experience in network administration	Same as network administrator II, above Excellent project management skills	Provide technical support to both in-house IT staff and user departments regarding all network systems at the highest technical level

Knowledge Management

Provide information critical to business decisions in healthcare organizations, vendors, or service providers

Core duties: Collaborate in database design. Develop reports utilizing report writing tools and present information to decision makers of the organization. Communicate report or project status. Complete work assignments in a timely way. Develop project or report documentation. Provide high quality customer service.

Core skills: Analytical, problem-solving, written, and verbal skills. Ability to interact with people at all levels. Knowledge of PC applications (e.g., Microsoft Office Suite, Microsoft Project) and report writers such as Crystal Reports and SAS. Ability to produce timely reports with requested information. Outstanding listening and questioning skills to clarify the exact question the decision maker is trying to answer. Ability to know what data will best answer the question at hand. Basic understanding of database design and management.

Salary: $45,000–125,000, depending on organizational size and complexity

Where to look for opportunities: Healthcare institutions, healthcare system vendors, application service providers

Job Title	**Education or Certification**	**Related Knowledge**	**Skills**	**Duties and Supervision**
Clinical Data Analyst	Preferred: bachelor's degree with certification as RHIA or RHIT	Three to five years' experience in healthcare	Core skills, above	Core skills, above

Database Administrator	Preferred: bachelor's degree with certification as RHIA or RHIT	One to three years' experience in computer systems, similar application, or healthcare	Core skills, above Excellent written and oral communication skills Able to manage workload and competing priorities in order to complete tasks in a timely manner Ability to work independently	Core skills, above Contribute to organizational strategy for design and management of core databases
Information Broker	Bachelor's degree with certification as RHIA or RHIT Preferred: master's degree with certification as RHIT	Five or more years' experience in computer systems, similar application, or healthcare	Same as database administrator, above, plus strong understanding of data quality and data mining	Core skills, above, plus supervisory responsibility, responsibility for assigning tasks and ensuring quality work delivered by team members
Chief Information Officer	Bachelor's degree with certification as RHIA or RHIT Preferred: master's degree	Eight or more years' experience in computer systems Progressive leadership roles in healthcare	Core skills, above Ability to work and lead multidisciplinary technical, administrative, and clinical teams in creating and working toward a vision for the electronic information resources of the organization Ability to articulate complex design and technology issues to broad range of technical, operational, executive, and medical staff	Core skills, above Supervisory responsibility Provides and facilitates exceptional leadership, communication, systems analysis, and project management

A Passion for Information

Bustling hospital environments intrigue **Cheryl D. Martin**, but information is her passion. "Information is the driving force in healthcare—the hospital cannot function without it."

Realizing her love of healthcare and information, Martin, MA, RHIA, received a degree in health information administration from the College of St. Scholastica in 1985 while working in the medical records department of a local hospital.

Martin began her career as assistant director of medical records at Rockingham Memorial, a 330-bed hospital in Harrisonburg, VA. After three years, she moved to South Bend, IN, working in a similar position at 800-bed Memorial Hospital. Two years later, she met her soon-to-be husband, a Georgia native, and advanced to director of medical records at 109-bed Newton General Hospital in Covington, GA, a post she held for four years.

Since 1992, Martin has worked at Tuomey Healthcare System, a 266-bed hospital in Sumter, SC. She began as medical staff quality coordinator and, since 1999, has been CIO, responsible for information systems, medical records, telecommunications, and 73 employees.

"HIM, IT, and telecommunications work together," she says. "The main information repository is still the patient record. The electronic medical record solidifies the relationship between medical records and IS. Communications networking connects the outside world to the hospital and everything internally. The three definitely overlap."

"Health information is the bridge between IT and the clinical arena. It's my job to ensure that everyone understands the value of technology and importance of information. The two worlds can collide; we find ways to bring them together as painlessly as possible."

Even as technology advances, Martin values the medical-records principles and guidelines she learned. "The basic tenets will always be there—to keep records accurate, available, yet secure. What doesn't change about information is the need for data integrity."

Continuing education is also crucial for Martin. In 2000, she graduated with an HIM master's degree from her alma mater. "It's good for IT folks to become more educated in HIM and vice versa," she says. "It benefits both."

—Christina Mayer Duggan

Changing Lanes

Bonnie Altus tells it like it is. So when she discusses the reason for her career transition from accounting to IT healthcare, she's honest: traffic.

Altus, CPHIMS, RHIT, CHPS, began her career at Southern California Edison, eventually becoming customer energy services analyst, specializing in accounting and computer support. "I liked technology and was good, but the commute was long." She accepted a position closer to home as director of information systems at Chino Valley Medical Center, in Chino, CA. The move was the beginning of a successful IT healthcare career.

When Altus segued into healthcare in 1991, times were different. "Then, I just needed to know PCs and the right applications. But you can't just be a techy and run an IS department anymore—you need to understand the environment." Over time, she learned about nursing documentation, hospital departments, and HIPAA. "HIM and coding courses also helped me understand what clinicians do and their documentation."

In 1993, Altus became systems analyst at Salem Hospital in Salem, OR, implementing medical records and patient-management modules and developing training materials. Then Altus became network administrator at Portland's Brim Healthcare, a hospital management services company.

Since 1996, Altus has been manager of information systems services at Willamette Valley Medical Center, an 80-bed community hospital in McMinnville, OR, part of Triad Hospitals. She manages six FTEs, ensures that HIPAA security policies and procedures are in place, and serves on Triad's IT operations subcommittee for systems evaluations.

Altus sees a strong link between HIM and information technology. "We work together so hospital staff has appropriate access to patient records and no one misuses that access. As we move to an electronic health record, the two will work more closely—IT is technical; HIM is clinical."

To move into IT or e-HIM^{TM}, Altus suggests becoming involved in system installations and upgrades. "Assist with new implementations. Even if there are application experts, they'll still need help from people in the department, a go-between." Reading books on Project+, an entry-level project management certification, and exploring project management professional certification help develop these skills.

—Christina Mayer Duggan

An IT Twist

As an information systems analyst, **Scottie Ann Frey** acts as the liaison between IT and HIS and IT and HIS vendors. "It's health information with an IT twist," she says.

Since her mother is a radiation oncology dosimetrist and therapist, Frey, RHIA, grew up in a hospital. Her love of healthcare brought her to the HIM world.

Frey graduated from Indiana University with a BS in medical record administration in 1993 and became protocol specialist at the National Institutes of Health. There she entered data, analyzed charts, and ensured all study approvals were documented. "I was immersed in computer systems. Even then, I saw that consolidating data and making it work for you was key."

In 1995, her husband was transferred and Frey worked as department manager in transcription and incomplete medical records department at the University of Virginia Health System (UVA) in Charlottesville. She monitored online patient records and implemented a chart-tracking system. "I like implementations—working with end-users, building systems—and it's still in the medical records arena. It's like building a house. You look at your current state, figure out your future state, design it, build it, test it, and go live."

Frey then joined Cerner Corporation in 1997, installing its coding, chart-tracking, patient registration, and incomplete-re-cords management products. A call from UVA and a wish to be home more brought Frey back to UVA in 2000, this time as IS analyst. She manages six software systems, coordinates and implements software updates, and recently implemented an electronic signature engine for clinicians. She supports 1,500 clinicians and nearly 300 others.

Frey believes there's more to HIM than just EMRs. "You can't just take the components, put them online, and be satisfied. Strategic and enterprise planning needs to occur. Also, since HIS professionals will be maintaining medical records, they need to play a critical part in technological decisions. HIS is built around computer systems and applications—as a profession, we need to educate ourselves on IT, process flows, and good change control."

—Christina Mayer Duggan

Reference

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Acknowledgments

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Article citation:
Raymond, Jacqueline, and Carol Ann Quinsey. "Career Opportunities in Information Technology." *Journal of AHIMA* 75, no.8 (September 2004): 56-62.

Driving the Power of Knowledge