INSTITUTE for HEALTHCARE INFORMATION TECHNOLOGY

Georgia's Healthcare IT & Education Working Together to Align the Job Demand & Educational Supply

Fall 2014

Georgia's Healthcare IT & Education Interviews & Discussions

Healthcare IT (sometimes referred to as HIT) is the area of *information technology* that involves the design, development, creation, use and maintenance of information systems for the healthcare industry. The use of automated and interoperable healthcare information systems is expected to lower costs, improve efficiency and reduce error, while also providing better consumer care and service. The 225-plus companies that currently comprise Georgia's Healthcare IT industry are a rapidly growing business sector, having added 17.2% more IT workers during 2008-2013 and a projection of continued growth of 19.8% through 2015 (*Source:* TAG State of the Industry Report). To foster this business sector, which is so important to Georgia's economy, the non-profit Institute for Healthcare Information Technology (IHIT) was formed for the purpose of connecting resources for the advancement of healthcare through technology, and helping to coordinate efforts to leverage the strength of the Healthcare IT industry within the state and the Southeastern U.S. to expand technology throughout the broader U.S. healthcare system.

Earlier this year, IHIT commissioned Atlanta-based Porter Research to perform a statewide survey of Healthcare IT Service Providers (vendors) and Practitioners (hospitals, clinicians) to gauge the status of their plans to expand and hire from within the state, as well as their perceptions of how well-equipped Georgia's educational institutions are to provide qualified Healthcare IT job candidates. The resulting *"Georgia Healthcare IT Workforce Readiness Survey: Key Survey Findings & Action Items"* whitepaper included many interesting research findings: There are currently *4,757 Healthcare IT jobs* available in Georgia, and the majority (**86%**) of the organizations surveyed anticipate filling more Healthcare IT jobs within Georgia over the next five years. IHIT shared all of the results [Visit instituteforhealthcareit.org to download an executive summary of the report.] with state leaders and educational representatives, and it was decided that follow-up research was needed to collect more granular insight about specific areas of industry perceptions as it relates to the state's educational system.

Consequently, IHIT in collaboration with the Technical College System of Georgia, the University System of Georgia, and Emory Continuing Education recently conducted a series of interviews and discussions with top executives from a random selection of 10 Healthcare IT companies, of varying sizes, located in the Metro Atlanta area. Unlike the earlier, larger-scope statewide research project, this follow-up effort was designed as a face-to-face meeting with industry leaders in order to get feedback beyond a Q&A session. The in-person format allowed for every company to be presented with the same set of open-ended discussion topics in the hopes of starting a dialogue between all parties. The meetings were also held to help evaluate current educational offerings as well as proposed future initiatives that could be developed to "bridge any gaps" that may exists between the *job demand* and the *educational supply* to foster growth for Georgia's Healthcare IT industry.

Interviews with Healthcare IT Executives

IHIT and Georgia educational representatives met with top Healthcare IT executives to talk about their particular organizational needs and protocols when filling in-state Healthcare IT-specific positions. The discussions began with the type of experience the executives' organizations need *most* when evaluating the hiring of Healthcare IT workers. Having the required technical skills to fit the particular job role and having previous experience in a similar environment were common replies from the industry leaders. Additionally, most also stated the importance of potential employees to have a proficiency with "soft skills"; that is, a skillset not just educational- or

technical-based, but also having good interpersonal skills and qualities related to 'character', which are a crucial part of their business' success. The executive leaders tended to have a higher level of expectations for the Healthcare IT workers they needed for their organizations, going beyond just educational or technical skills but also seeking the mature application of those talents to help propel the company's business goals and objectives. This higher level evaluation of prospective employees was really more about how "effective" and "results-oriented" they were with their educational or technical background, which was generally phrased as a person's "experience working in the healthcare field." Repeatedly used words or phrases were "problem solvers", "critical thinking", "self-motivated", "good communication skills", "team player", "enthusiasm", "experience making decisions", "entrepreneurial spirit", "leadership", "flexibility" and "adaptability", among others. Also commonly emphasized was the need to be "customer focused", in order to be able to offer a solution(s) based on the customer's particular problem(s) and unique set of business limitations.

The executive feedback aligned fairly well with the findings from IHIT's earlier, statewide survey of healthcare professionals: When asked about the most "highly valued" job skills needed to fill Healthcare IT jobs over the next five years in Georgia, the top five responses were:

- Critical thinking and problem solving
- Work ethic (attitudes, ethics, personal integrity)
- Verbal communication
- Prior healthcare experience
- Computer (IT) skills

The discussion continued on about the top three key skills that the executives' organizations need from Healthcare IT workers. Again, replies included technical expertise, but it also encompassed many other less quantifiable traits, such as the ability to think conceptually. **SoloHealth** provided a top three response that touched on several key areas that were often mentioned:

- Innovation, the ability to come up with new ideas
- People skills, working closely together and have the ability to get along
- Work independently in an evolving, and sometimes ambiguous, environment

SoloHealth is a wellness company, focused on helping individuals manage their health through convenient, easy to use access points. SoloHealth works with large employers to administer employee health and wellness programs, providing clinical expertise, population health analytics, and industry-leading engagement.

The wording varied among executives, but as **HealthPort Technologies** succinctly put it, *"Someone who is a customer-oriented problem solver with an ability to adapt to new situations."* HealthPort is a provider of release of information (ROI) services and audit management and tracking technology that partners with hospitals, healthcare systems, physician practices and clinics to process and fulfill medical record requests and maintain compliance related to releasing medical information to all types of requesters.

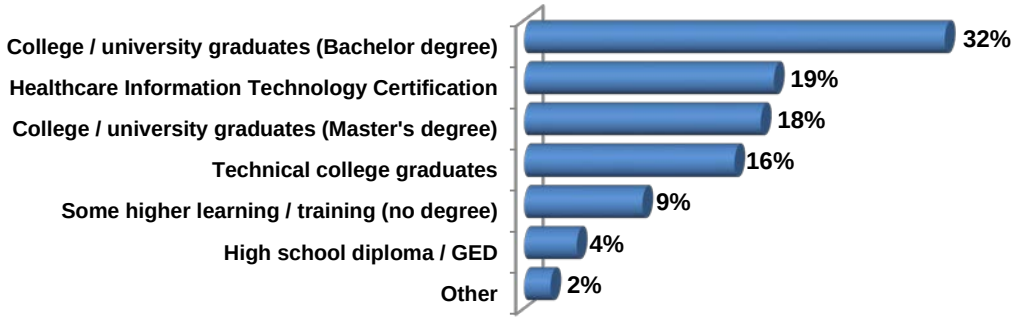
Regarding technical skills, the most difficult Healthcare IT workers to find in today's market that organizations need are senior-level IT architects and developers with proficiency in programming languages such as Java, .Net and Linux as well as mobile, cloud and enterprise applications. The "senior-level" description was often coupled with having overall "experience" as to how those programming languages relate to the larger realm of the healthcare delivery process. Again, going beyond technical expertise, which is of course necessary, is understanding how the numerous electronic transactions and communications that routinely take place

throughout the healthcare delivery process impact all levels of business operations and patient care. **Navicure, Inc.** explained it this way, *"A Healthcare IT professional who has a working knowledge of how a medical claim gets paid."* It was shared that this was why a Navicure job candidate would ideally have previous experience working for a hospital, a physician practice, or a healthcare-related entity like an insurance company in order to have a broader knowledge of how the healthcare industry operates. Navicure is a cloud-based claims clearinghouse and patient payment solutions provider that helps healthcare organizations increase revenue, accelerate cash flow, and reduce cost in the course of managing insurance claims and patient payments.

Several other executives also mentioned a similar difficulty in trying to find people who had both the technical know-how as well as a "well rounded" understanding of the larger "workflows" that reverberate throughout the healthcare delivery process – the vast amount of input into electronic medical records (EMR) systems – that impacts multi-roles, departments and platforms within a business affecting financial and quality outcomes. It was also noted that having a broader understanding of how the healthcare industry works should include having, at least, a "basic knowledge" of federal healthcare compliance rules and regulations, such as HIPAA compliance mandates that are in place to ensure that patient privacy laws are not violated. HIPAA's Privacy and Security Regulations include protocols for securing *Protected Health Information* (PHI) that is electronically stored or transferred. Non-compliance can cost healthcare businesses steep fines and penalties as well as compromise sensitive patient data.

Executives were asked about specific sources their organizations use, and that had proven to be most successful, in finding Healthcare IT job prospects who were eventually hired. The list included many traditional methods such as local networking, the use of recruitment firms, college job fairs, student internship programs (many companies hire from within, and one company, Streamline Health Solutions, expects to soon double its number of interns), among others. However, the most commonly mentioned and emphasized source that has been historically successful was from referrals by known and trusted colleagues, particularly from internal employee recommendations. Interesting to note, half of the companies also use online sources like social media (LinkedIn, etc.) and technology-centric forums to locate qualified Healthcare IT job candidates.

Delving more into the area of education, Healthcare IT leaders were asked about their organization's minimum level of educational/technical requirements for prospective Healthcare IT employment. A related Bachelor's degree or, in some cases, a two-year technical/certification training was sufficient for most entry-level hires. In IHIT's statewide research survey conducted earlier this year, healthcare organizations were also asked about their educational requirements for Healthcare IT jobs in Georgia, which is reflected in the chart below:



Both sets of responses, from each IHIT research project, show a clear indication where formal education, training and/or certification can play a pivotal role in Georgia's Healthcare IT workforce to prepare job candidates to be able to fulfill the necessary job requirements.

During the conversations, half of the executives stated that their organization does off-set educational and technical requirements for particular Healthcare IT positions depending upon the individual job candidate's level of "real world" experience and related work background. To illustrate this point, **PointClear Solutions** stated, *"Former RN's are ideal for us because of their frontline experience in healthcare. They don't need specific software skills, but an understanding of the development process and end-user requirements so they can advise clients in the design and development of an IT system. If you know as much or more about your client's business, then you add a great deal of value."* PointClear requires its personnel to have "strong" people and consulting skills: *"Having a technical background coupled with these other characteristics can really shrink the availability of finding good job candidates. But once you find and develop them, they provide exceptional value to our clients."* PointClear focuses on transforming healthcare delivery through technology innovation that improves user experience, with competencies that lie at the intersection of product strategy, user experience, clinical insight and technology development.

McKesson Technology Solutions listed the top degrees by which the organization has hired many students entering the workforce: Computer Science, Computer Systems Engineering, Management Information Systems, Industrial Engineering, Accounting, Finance, and Business Administration. These degrees gained recent graduates employment at McKesson in the following roles:

- Business System Analyst
- Implementation Analyst
- Help Desk Coordinator/Specialist
- Quality Assurance Analyst
- Software Engineer
- Product Support Representative
- Systems Administrator
- Project Manager

Many of the positions that McKesson mentioned above are also the top Healthcare IT jobs anticipated over the next five years according to survey responses in the earlier IHIT *"Workforce Readiness"* research project. McKesson Technology provides support to healthcare organizations to address complex challenges, including the need to reduce costs, coordinate care, assume more risk and manage complex payment models. Healthcare IT solutions include software, services, and consulting to hospitals, physician offices, imaging centers, home health care agencies and payers.

Executives were asked specifically about Healthcare IT certifications and how much it is weighed into their organizations' evaluation of a job candidate, particularly in comparison with those who have only traditional (4-year) educational degrees. The general consensus was that certification is fine if it is from a reputable source and it addresses a specific job criteria (ex: knowledge of HIPAA compliance), but as **MedAssets** expressed to overall agreement, *"Experience is typically weighed with much more importance than certification when evaluating a prospective hire."* MedAssets offers a holistic approach to helping healthcare organizations improve revenue, performance and care delivery. Their solutions combine change management consulting,

market-leading purchasing and cost management solutions, process improvement, data-enabled technologies and embedded management services.

Athenahealth shared that they currently have 200 employees in Atlanta, but plan to increase that number to 600 by 2017. Athenahealth described the kind of employee they want: *"Athenahealth has a client-facing, consulting environment, so we want employees (called Athenistas) who are a 'good cultural fit', who are 'mission driven' and have 'demonstrated leadership'."* These characteristics are strongly considered even if a job applicant does not have previous healthcare-specific experience. Athenahealth is a leading provider of cloud-based services for electronic medical records (EMR), revenue cycle management and medical billing, patient engagement, care coordination, and population health management, as well as Epocrates and other point-of-care mobile applications.

Contributing to the topic of employee growth plans, **Sharecare** voiced its concern about being able to meet the needs of his company's rapid expansion in the Atlanta market because of the available talent pool. *"In Atlanta, we have about 150 positions and are currently looking to fill 20 more as soon as possible. Our growth trajectory will be at risk if we cannot fill those new positions."* Sharecare continued describing the challenges of filing positions locally, as compared with other markets where they serve: *"There is a lot of job opportunity in Atlanta, but not enough talent to fill those positions. Some of the best talent is being attracted to Silicon Valley and other high-tech markets."* Sharecare is the leading online health and wellness engagement platform providing millions of consumers with a personal, results-oriented experience by connecting them to the most qualified healthcare resources and programs they need to improve their health.

As a possible solution towards better aligning the Healthcare IT industry job demands with the quality of talent found within the State of Georgia, the executives were asked*, "If the education system of Georgia were to develop an 'orientation' class specifically to showcase careers in Healthcare IT, would your organization be interested in being included in some way?"* Overwhelmingly, the executives could see the value of providing insight and helping to shape a Healthcare IT curriculum to educate students about…

- The many available careers that exists within the healthcare industry.
- How different fields of study, including IT, business, and clinical care intersect in healthcare delivery.
- The opportunities and challenges that lay ahead in an era of unprecedented regulatory compliance.
- The evolving healthcare model, and what it means to the "ecosystem" of businesses, practitioners, payers, and patients.

The consensus from industry leaders was that whatever form the "orientation" morphs into, the curriculum needs to provide a "big picture" overview of the healthcare industry *in addition* to the specialty coursework students undertake. Athenahealth stated, *"An 'orientation' program would need to demonstrate the mechanics of how the healthcare industry works, how dollars flow, who the players are…so that students have a more complete understanding before entering the workforce."* PointClear agreed, *"The education system should develop students/workers who are specialized in high demand skills, but they should also be cross-educated [-trained] in a variety of secondary skills to augment their primary skills."*

"Orientation" Curriculum Input

The Healthcare IT executives were asked about suggestions and ideas that they would like to see included in a student "orientation" curriculum. Comments included, but were not limited to, the following:

- Provide networking events and "guest lecturers" to establish an ongoing engagement forum with students.
- Explain the healthcare "ecosystem": Educating students about the many roles and functions involved with healthcare delivery, from medical coding to the billing process between a healthcare provider and the insurance company (payer). Showing how all of the components of healthcare "fit together".
- Include opportunities for students to work on "real world" projects in a team environment, and have access to case studies.
- Coursework should promote intuitive, innovative and creative thinking, challenging students to use a flexible approach to problem-solving.
- Include an overview of Georgia and federal healthcare regulatory agencies' policies and rules, mandates, compliance timeframes, etc.
- Offer basic business and financial administration class requirements across the healthcare study spectrum.
- Teach about the development and challenges (ex: disruptive technology) that have occurred in modernizing the nation's healthcare system.
- Teach the "language" of healthcare: Healthcare professionals use many acronyms, industry terms, and other terminology, which also extend to the realm of Healthcare IT. *"If you can't talk the talk"* of a particular business environment, then miscommunication and unnecessary complications can surface, as well as being evident of a lack of experience.

Expounding upon the importance of learning the "language" of healthcare, **Jackson Healthcare** stated, *"Our new employees go through a training session for the first 30 days that explains the formal terminology and informal word usage of hospital IT personnel, covering IT operations and related functions. For example, a hospital would refer to one of their Systems Analyst who customizes an EMR system as a 'builder'. Someone coming from an outside field or just entering the workforce would not likely know this 'inside' lingo."* Jackson Healthcare is one of the largest healthcare staffing companies in the nation, serving more than five million patients in over 1,300 healthcare facilities. The company also provides hospitals with logistical solutions for patient throughput and systemic operational efficiency.

Streamline Health Solutions also touched on the importance of avoiding a "language" barrier, and having employees who can communicate with healthcare practitioners and providers. As Streamline pointed out, it is not just verbal communication, but also understanding the business of healthcare. Talking about their Healthcare IT organization's sales team: *"Our salespeople must be able to communicate with hospital CFOs, CIOs and other executives about Streamline Health's solutions, and it takes an understanding of how a hospital runs, in order to be able to recommend the right solution offering."* Streamline Health is an industry leader in capturing, aggregating, and translating enterprise data into knowledge- - actionable insights that reduce exposure to risk, enhance operational performance, and improve patient care. Through the Looking Glass® Platform, SHS provides clients with meaningful, intelligent SaaS-based solutions from patient engagement to reimbursement.

Merging together this "picture" described by the Healthcare IT industry leaders is an employee who has the technical expertise and knowledge of the company's products and/or services, but also has a broad understanding of the practitioner/provider side of the healthcare business. Phrases like *"an understanding of how a hospital runs"*, *"working knowledge of how a medical claim gets paid"*, and *"how the healthcare industry works, and how dollars flow"* points to a need for a more expansive Healthcare IT educational curriculum that

incorporates several fields, particularly in the area of business administration and fiscal operations. Presenting coursework that intersects Healthcare IT and business models (and other targeted core studies) could also provide an opportunity to challenge students to apply critical thinking, problem-solving abilities, and a flexible approach to the evolving healthcare industry.

The executives expressed different views on the scope of the "orientation" curriculum since their organizations already have training programs in place for new hires and employees. However, they all agreed that the curriculum should be easily accessed. One approach would be to offer online courses and/or training modules.

Response from Healthcare IT Educators

Representatives from the Technical College System of Georgia (TCSG), the University System of Georgia (USG), and Emory Continuing Education participated in the discussions in order to respond to the Healthcare IT industry needs regarding the job skills that are required to achieve business success. These talks also help to identify strengths, opportunities, challenges and new ideas for Georgia's educational programs that would benefit students and help them to successfully enter the workforce.

USG-TCSG will expand upon their current collaboration by co-developing specific Healthcare IT initiatives including:

- Extending partnerships with individual Healthcare IT organizations
- Co-drafting of an educational and career pathways for Healthcare IT
- Exploring more collaborative efforts and partnerships between USG-TCSG

Technical College System of Georgia

The Healthcare IT employment needs expressed by the CEOs of the Georgia-based companies encompass the technologies and skills required to create, maintain, and evolve electronic health records (EHRs), health information exchanges (HIEs), and related health IT services. The companies' different business models, product lines, customer bases, organizational sizes, projected growth, and roles in the health IT industry collectively demonstrate the need for three distinctive workers: (1) experienced managers within the industry, (2) managers and team leaders who can quickly acclimate to the Health IT environment, and (3) lower level workers with healthcare and/or IT knowledge.

The Technical College System of Georgia's mission is to provide technical, academic, and adult education and training focused on building a well-educated, globally competitive workforce for Georgia. Through the 23 technical colleges in its system, they are positioned to supply graduates for the second and third job categories in the Healthcare IT industry through existing academic programs. They also welcome opportunities to partner with companies, other educational institutions, government agencies, and professional associations in developing additional programs (credit, continuing education, and workforce development) and initiatives that align with their mission.

Developing an "orientation" curriculum, as discussed in the previous section of this paper, which is meaningful to the needs of both the Healthcare IT industry and the student/employee workforce shows how Georgia's educational providers are responding to the needs of the marketplace. TCSG provided an outline of the Healthcare IT orientation course, called "HIT 101", which is currently being explored: Initially, this course could

be offered through TCSG's Economic Development Division (continuing education) and aimed at new employees of the Healthcare IT industry, or for employees that the industry is looking to promote into new positions. The "HIT 101" course will cover areas such as healthcare terminology and exposure to the software and processes used within Healthcare IT fields. Further, the design of the curriculum will be such that upon completion, the individual could continue their Healthcare IT education at a Technical College and receive credit for the course through the prior learning assessment (PLA) process. The curriculum will contain the competencies critical for Healthcare IT career pathways. This course is one of many future initiatives, which are touched on in the following paragraphs.

TCSG presented an overview of their organization's academic programs, covering healthcare management, informatics, certifications, HIT, and mobile application development available throughout the state. TCSG has many initiatives already in place to promote educational excellence, including its articulation agreements with USG and the Georgia Independent Colleges Association (GICA) to provide a seamless transition for TCSG graduates to four-year institutions. TCSG representatives explained how internships are an essential part of academic programs at TCSG technical colleges. In fact, most degree programs require students to complete an on-site internship during the student's final semester. This provides students with relevant work experience, and employers gain access to talented and highly motivated students who can fill the job vacancies.

Future initiatives TCSG has planned to help meet the anticipated 20% employment growth expected for skilled workers in the Healthcare industry by 2018 include:

- Improving the coordination between its college career services offices with corporate HR departments to increase job placement.
- Increasing the number of internship placements, which provide students with "real world" experience that is valuable to prospective employers.
- Adding Healthcare IT specialization in the Business Management, Computer Information Systems, and Health Information Management Degree programs.

University System of Georgia

Similarly, USG representatives provided an overview of their organization's mission and program offerings, describing how there are currently about 40 Healthcare IT-oriented educational programs offered at 14 USG institutions located statewide. USG constantly evaluates their course offerings, accepting recommendations and ideas that can ensure a high quality education that is relevant to the needs of their students and prospective employers. USG commented, *"Given the broad range of academic and professional qualities being sought by the Healthcare IT industry, our educational strategy requires a more comprehensive approach. USG and the Technical College System of Georgia are forming a stronger alliance in order to create more collaborative efforts that are designed to maximize the impact of the talents held within each system."*

Towards this end, USG has several initiatives planned for the near future, both separately and in tandem with TCSG. The "orientation" curriculum is at the top of the list of USG-TCSG collaborative efforts. Other future USG initiatives, which are not part of the TCSG collaborative, include:

- Coordinating career services offices at targeted USG institutions with area Healthcare IT companies
- Promoting specific Healthcare IT employment opportunities to students studying/training in that field
- Convening a dialog with faculty leadership of USG Healthcare IT-oriented programs to ensure that they are aware of system level efforts to promote Healthcare IT career opportunities

- Convening a dialog with faculty leadership of USG Healthcare IT-oriented programs to help identify and respond to any possible industry needs
- Convening a dialog with faculty leadership of USG Healthcare IT-oriented programs to help bolster internship opportunities for students with Healthcare IT employers
- Conducting and completing a comprehensive inventory of all USG health informatics-oriented programs (including HIT), and make these resources available to interested Healthcare IT employers

Emory Continuing Education

Emory Continuing Education representatives gave an overview of the Healthcare IT Workforce Development program they represent, describing how ECE works with industry leaders to custom-build learning programs – including certification for IT professionals and for non-IT professionals – to meet a business' overall organizational objective. ECE programs that focus on the Healthcare IT industry include: Healthcare IT-Accelerated Training, Health Coach, Lean Six Sigma Green Belt for Healthcare Professionals (a blend of classroom, live-online and self-paced review), and Project Management for the Healthcare Professional. ECE's Healthcare IT programs are designed for three primary audiences: Practitioners (physicians, nurses, clinicians, etc.), service providers (Healthcare IT companies), and IT professionals. ECE tailors its programs to meet industry needs, such as training individual IT professionals in the field of healthcare so they can apply their IT skills to the healthcare industry. Visit **www.ece.emory.edu** for more details on courses and certification.
An ECE representative discussed some of the conversations he recently had with individual Healthcare IT companies, and the recurring problem of people entering the industry lacking a proper understanding of how a company's product or service impacts the overall field of healthcare. This includes a lack of understanding of the practitioners' role and how it impacts both the provider business structure as well as patient care outcomes.

Emory Continuing Education also has several future initiatives about to roll out to bolster its Healthcare IT program offerings:

- ECE has partnered with Consort Institute – an innovative provider of professional level, career-oriented workforce development programs – to deliver a highly successful Healthcare IT Accelerated Training program, beginning in January 2015.
- The 2015 academic year will include new certification programs for Big Data Analytics and Cyber Security.

All three Georgia educational organizations wanted to be involved with IHIT's research project in order to expand on ways to provide students with the education and training they will need for future employment based on the demands and trends of the Healthcare IT industry. These individual and collaborative initiatives contribute towards the goal of developing a Healthcare IT training hub within Georgia, which includes high-quality educational programs that are available in many accessible formats, from the classroom to online courses to onsite training programs, attracting more in- as well as out-of-state businesses and students/workers.