Solving the talent equation for health IT

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Health Research Institute

At a glance

Healthcare companies are scrambling to fill an IT talent void that could impede progress toward meeting government and consumer expectations, delivering on strategic priorities, and capitalizing on new growth prospects.

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Introduction

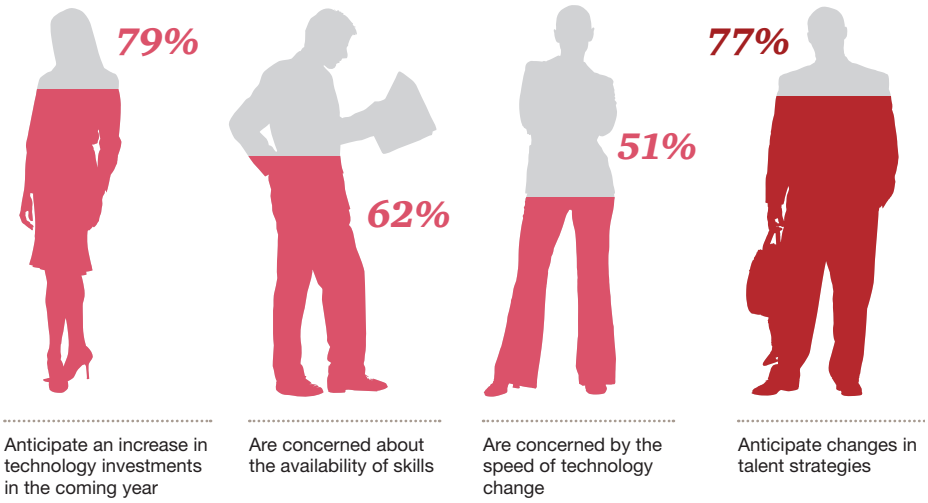
In the ongoing quest for affordable, accessible, accountable healthcare, information technologies are taking center stage. Health IT, or HIT, is the critical connector—delivering real-time data to caregivers, helping drug and device makers prove their value and arming purchasers in government and the private sector with metrics to make smarter decisions.

But an already tight HIT workforce continues to be a barrier to success. It feels even smaller as executives try to find IT professionals that can marry technological savvy with business strategies and be a partner to internal customers. The needs span a vast spectrum of roles—from individuals who work help desks and answer calls to those who develop strategy and incorporate critical thinking into their practices.

The US government anticipates a shortage of about 50,000 qualified HIT workers between 2010 and 2015.[1] And there is evidence to suggest the reality may be even greater.[2] Companies are scrambling to fill a talent void that could impede progress toward meeting government and consumer expectations, delivering on strategic priorities, and capitalizing on new growth prospects.

Across the health sector, senior executives describe a challenging paradox: just as they are preparing to make major increases in technology investments they are encountering shortages in key personnel (See Figure 1) and are concerned about the industry's ability to absorb change and integrate new workflows with HIT. And at least half fear they cannot keep up with the speed of technological change, according to a PwC survey of healthcare chief executive officers. As a result, a large majority of industry leaders (77%) anticipate altering their strategies for managing their ever-changing staffing needs.

Figure 1: Top healthcare executives are revisiting talent strategies to overcome technology and skill availability challenges



Source: PwC's 16th Annual CEO Survey, 2013.

To compete in this new environment, healthcare companies are increasingly borrowing technology specialists from other industries. While it can be challenging to teach them the complexities and nuances of healthcare, some believe it might be easier than teaching current employees new tech skills.

Providers, health insurers, drug and device companies, and HIT companies have similar needs that could lead to intense competition for the same limited number of skilled workers. (See sidebar on page 4). Once divided by sector silos, healthcare companies are seeing their traditional roles morph. In some cases they are discovering they should work *with*—rather than *independent of*—industry counterparts to achieve common goals for clinical quality, patient drug adherence, and administrative areas such as supply chain in a new outcomes-based environment that pays for value over volume. Competition for HIT resources is fierce.

Informed by an in-depth survey on human capital and talent strategies that PwC's Health Research Institute (HRI) fielded in late 2012 and interviews with 20 IT and human resource professionals this report describes the state of human capital in IT in the provider, insurer, and biopharmaceutical sectors and outlines potential remedies for common industry challenges.

1 Office of National Coordinator for Health Information Technology (ONC) under U.S. Department of Health and Human Services (HHS)
2 "Texas HIT Employer Needs Assessment Report", Texas State University-San Marcos, February 3, 2012

Healthcare IT leaders face common workforce challenges

On average, today's IT leaders are:

- Looking for IT professionals who can marry technological savvy with business strategies and can be a partner to internal customers, anticipate their needs, and sell ideas.
- Debating what to outsource or move to the cloud. If it's not central to the business, many have chosen to outsource or offshore. But doing so means employees should be able to manage relationships with other companies. Today this skill exists only in pockets within the IT talent pool.
- Experiencing high IT leadership turnover and absent or inconsistent succession planning.
- Searching for IT analysts and informaticists who can tap "big data" and then translate and analyze the information for smarter decision-making and better customer service.
- Increasingly recruiting for IT personnel from outside of healthcare but struggling to make compensation packages enticing.
- Directing middle-managers who have been promoted based on longevity rather than potential to lead, making it hard to be agile enough to leapfrog to the next strategic technology.
- Challenged by hiring freezes resulting from recent mergers that are blocking more innovative employees from entering the organization.
- Considering whether to centralize or decentralize certain IT functions, especially in the area of informatics where there is a question over which departments should own what work.
- Working with the executive team to create a vision of the future that aggressively uses technology to enhance value instead of only using technology to support the company's mission.

Providers need IT employees who can connect the dots for delivering quality care

Providers arguably have the greatest need for IT specialists in the health sector. HRI's human capital survey found that 75% of providers are currently hiring new employees to support their IT priorities. Providers face pressure to meet requirements for electronic health records (EHR), replacing outdated administrative systems for enterprise resource planning (ERP), and setting up a new set of billing codes (known as ICD–10).

At the same time they face increasing accountability for patient outcomes and are sharing more risk in new care delivery models such as accountable care organizations (ACOs). They are forced to collaborate like never before to deliver quality patient care, improve the patient experience and reduce costs through better understanding of their operations.

A recent survey by the College of Health Information Management Executives (CHIME) found that two-thirds of providers are experiencing IT staff shortages, up from 59% in 2010. (See Figure 2). Fifty-nine percent said staffing challenges will negatively impact their chances to receive incentives from the government's three-stage program for EHR implementation and adoption, known as "meaningful use"[3]—which will switch to penalties in 2015.

To bridge the talent gap, a number of federally and state-funded programs are in place to inject thousands of HIT professionals into the workforce. Since 2009 the Office of the National Coordinator of HIT (ONC) awarded $116 million to 82 community colleges and nine universities for the development of HIT professionals.[4] The Department of Labor and the Health

Figure 2. Provider CIOs and HR executives weigh in on staffing challenges

Sources: 2012 CHIME CIO Survey; PwC Health Research Institute Human Capital Survey 2012

3 College of Health Information Management Executives, 2012 IT Survey
4 Office of National Coordinator for Health Information Technology, "Get the Facts about health IT workforce development program"

Resources and Services Administration have also allocated money.

Even as the rate of growth for EHR implementations begins to slow in the coming years, the need for qualified, specialized workers to implement and use these systems has dramatically increased since the advent of "meaningful use" in 2009.[5] (See Figure 3). For example, the second stage of "meaningful use"—which starts this year for hospitals and next year for physicians and advanced practice professionals—focuses on connecting EHRs with other systems and providing patients electronic access to their medical records through a website or personal health record, among other things.

They have a long way to go—consumers do not yet appear to see the benefits of HIT investment. A post-election survey by HRI found that voters think one of the best ways to reduce healthcare costs is to cut spending on HIT. It's now up to hospitals, physician, and other providers to convince them otherwise.

Once hospitals, physicians, and other care providers have EHRs in place their IT needs become more sophisticated. To realize the full benefits of EHRs, providers should connect them to redesigned workflows and use the clinical outcomes and patient data they generate. This will require a new line of IT employees that is rare in today's market.

They should have employees who can unlock access to data that is currently housed in multiple systems so it can be shared among hospitals, physician offices, and post-acute providers such as long-term, home and community health. The HRI survey found that 65% of providers believe it will be critical for new employees to have the expertise to coordinate care across a continuum. It is increasingly important for front line workers to understand why they enter data the way they do and how it will ultimately be used.

To support provider networks that are truly connected, hospitals and physician groups should have data integration specialists, IT business analysts, and specialists who study the flow of information and apply the right tools to put it to use for improving care delivery, known as informaticists. Many providers are turning to outside companies for data integration. But past HRI research found that only 17% of hospitals and physician groups are very confident the vendor will meet their analytic and integration needs by the end of 2013.[6] The issue is complicated by the shortage of qualified professionals.

"Our biggest challenge is finding people that understand the movement to an integrated health system—those who understand the needs of a physician in the office, a hospitalist in the acute care

> ***"Our biggest challenge is finding people that understand the movement to an integrated health system—those who understand the needs of a physician in the office, a hospitalist in the acute care setting and caregivers in an outpatient clinic. It's difficult to find folks that know the concepts of health exchanges, outcomes based payment and ultimately why we as an industry are changing in the first place."***
>
> – Robert Eardley, The Methodist Hospital System, Houston

Figure 3: Many "meaningful use" stage 2 provisions require more sophisticated IT personnel

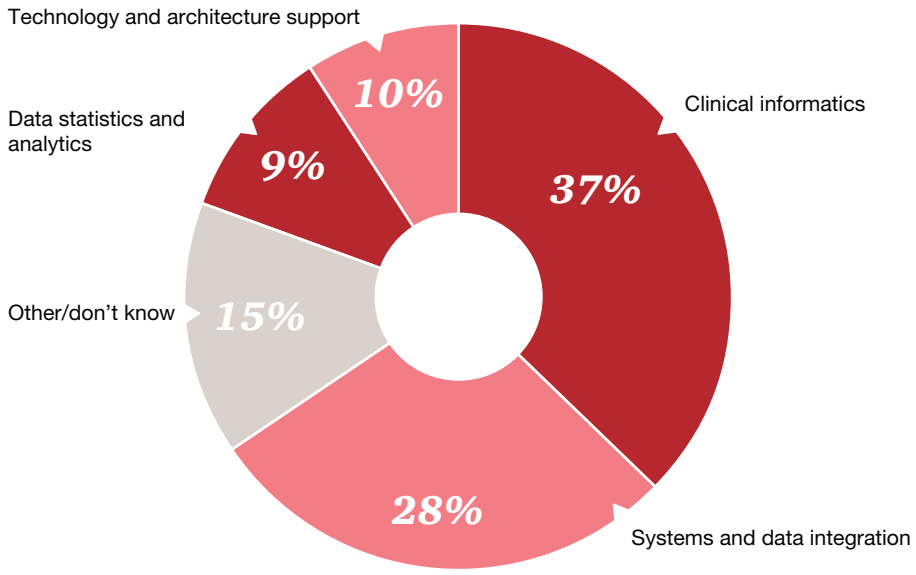
Meaningful use stage 2 imperatives	Roles required
Enhanced orders and clinical documentation	Practice workflow specialists Information management redesign specialists Implementation managers Trainers
Deeper patient engagement	Portal developers User experience specialists Technical/software support
Interoperability	Data integration specialists Health information management and exchange specialists
Increased quality measures	Health information management and exchange specialists

Source: PwC and PwC Health Research Institute analysis

5 The meaningful use program is part of the Health Information Technology for Economic and Clinical Health Act of the American Recovery and Reinvestment Act of 2009.

6 Needles in a haystack: Seeking knowledge with clinical informatics, PwC Health Research Institute, 2012

Figure 4: Most important skills to achieve provider IT priorities



Source: PwC Health Research Institute Human Capital Survey, 2012

setting and caregivers in an outpatient clinic," said Robert Eardley, senior vice president and chief information officer at the Methodist Hospital System in Houston. "It's difficult to find folks that know the concepts of health exchanges, outcomes based payment and ultimately why we as an industry are changing in the first place."

Some hospitals will look to double down efforts on one of the business intelligence tools they already own, but more than half of hospitals are looking to replace or purchase business intelligence technologies by 2015 and three-quarters want to buy instead of build.[7] Not surprisingly, the HRI survey found that providers believe informatics will be the most important skill for achieving their ultimate IT priorities. (See Figure 4). Previous HRI research on clinical informatics found that 58% of providers employed nurse informaticists in 2012, up from 42% in 2010 and 47% said they employ other non-physician clinical informaticists, up from 31% in 2010.[8]

***65%** of providers believe it will be critical for new employees to have the expertise to coordinate care across a continuum.*

"Leaders, analysts, and developers skilled in business intelligence is the biggest area of shortage for us," said the chief information officer of a large provider. "They cannot simply be clinical or technical or data experts. They have to be all of those and this makes them unbelievably difficult to find."

One of the most commonly cited challenges in interviews was the need to balance several technology implementation projects with a shortage of IT specialists that have both the functional and management skill to complete projects on time and budget. Simply having implementation specialists is not enough.

On the revenue side, hospitals and physician groups should make sure they have the right technology and staffing to support new payment models that shift financial risk onto providers and reimbursement changes such as bundled payments. They also should have staff that can make systems for patient scheduling and registration more convenient for patients. Interviews found that providers are unsure who has experience in this arena and how to approach it. One industry analyst found that 53% of hospitals plan to replace their revenue cycle management system by 2016, most of them by 2014.[9] One quarter of CIOs cited ACOs, ICD-10, or government regulations as the reason for the switch.

7 "BI Perception 2012: A Wave is Coming", KLAS Research (April 2012): 2,3 © 2012 KLAS Enterprises, LLC. All rights reserved. www.KLASresearch.com

8 Needles in a haystack: Seeking knowledge with clinical informatics, PwC Health Research Institute 2012

9 "Seismic Shift in Revenue Cycle: Is Market Headed Toward Sole-Source Landscape?", KLAS Research (October 2011): 11 © 2012 KLAS Enterprises, LLC. All rights reserved. www.KLASresearch.com

Insurers want IT workers who know how to bring life to consumer and physician strategies

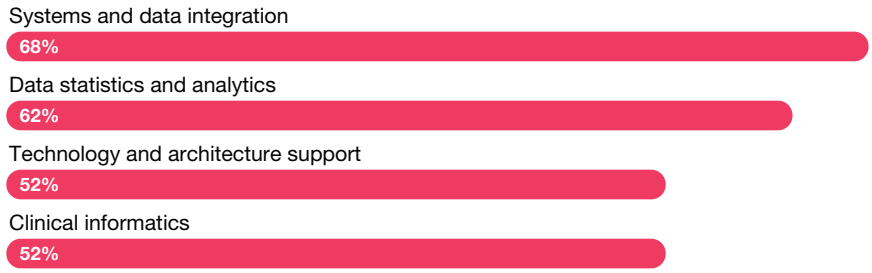
Underscoring a laser focus on decreasing administrative costs to meet new mandatory medical loss ratios, 54% of insurers have acquired another organization in the past 12 months, according to the HRI survey—the highest reported in the health sector. The year 2012 was the second-busiest in number of managed care deals in the last decade.[10]

At the same time, insurers are starting to take part in consumer-oriented health insurance marketplaces known as exchanges and new care delivery models such as ACOs. IT leaders are challenged to balance employee needs for new business models with those for managing cost. Each requires a different set of skills.

For example, consolidation creates the need to integrate systems and data from newly acquired companies. Not surprisingly, insurers ranked systems and data integration skills as most important to meeting HIT priorities. (See Figure 5).

At the same time insurers planning to conduct business in new state and/or private health insurance exchanges should become more focused on understanding consumers. In many ways they are playing catch up with many other industries—such as retail—in attracting, engaging and building loyalty among consumers. The HRI survey found that 47% percent of insurers think direct-to-consumer sales skills are going to be critical in the next three years. Interviews revealed the need for staff specializing in mobile and web programming, user experience design and e-commerce for insurers to meet the demands of individual consumers who have growing expectations for flexibility, transparency, and tools to use when shopping for insurance online.

Figure 5: Most important skills to achieve insurer IT priorities



Source: PwC Health Research Institute Human Capital Survey, 2012.

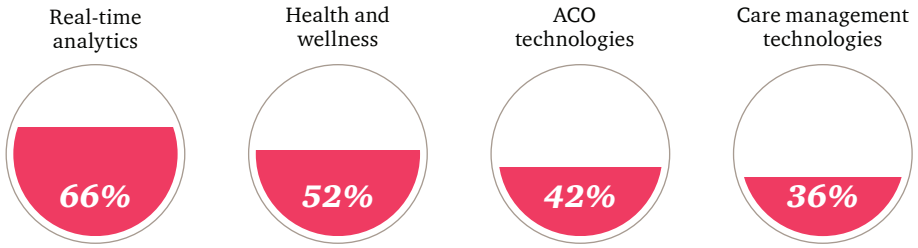
Also the HRI survey found that 89% of insurers think it is very important to have employees trained to integrate and analyze data from various sources (e.g., actuarial, utilization, medical management, marketing databases), which is critical for understanding diverse customer segments. Historically the analyst and informatics experts of large insurers have been scattered and not used efficiently. Sixty-two percent of insurers said data analyst and statistician skills are among the most important to achieve IT priorities and 52% echo that sentiment regarding clinical informatics skills. (See Figure 5 above). Seventy percent of insurers said it will be very important for new hires to have informatics and data analytics skills over the next three years.

Many insurers are exploring how they fit into efforts around accountable care and population health and are rapidly exploring ways to partner with and become more relevant to care providers. HRI informatics research found that two-thirds of insurers plan to offer access to real-time analytics.[11] Other research has found that many insurers plan to offer providers technologies that support care management, health and wellness, and ACOs.[12] (See Figure 6).

"We can easily find someone who knows a tool, how to extract data from using it, and how to technically layer the data," said Gary Harvey, vice president of information technology at Blue Cross Blue Shield of Michigan. "But it's very difficult to find someone who can look

10 "The Health Care M&A Report," Irving Levin Associates Inc, January 21, 2013
11 Needles in a haystack: Seeking knowledge with clinical informatics, PwC Health Research Institute, 2012.
12 IDC Health Insights Predictions 2013: Health

Figure 6: Many insurers are committed to becoming more relevant to providers by offering technology-related services



Sources: PwC Health Research Institute; IDC Health Insights Predictions 2013: Health

at the data and determine whether it is the right data to answer a business question or solve a problem. We see a huge gap in the talent pool for analytics talent. And it's even harder for us to find people with clinical expertise."

According to the HRI survey, 71% of insurers are hiring new employees to tackle IT challenges and some are doing this by purchasing technology companies rather than building capabilities organically. (See Figure 7).

Three-quarters of insurers are partnering with companies for assistance with technology implementation. Interviews found that what stays in-house depends on insurer characteristics such as size and ability to scale. Most insurers have opted to keep IT strategy specialists, business architects and liaisons, and program managers. These roles increasingly need to manage relationships with outside companies—functions not traditionally found in IT.

A recent survey found that 34% of insurers need to replace systems to support compliance with regulatory requirements—such as those in the Affordable Care Act (ACA)—or company strategies. While two-thirds prefer to invest in existing technologies, 70% will consider new ones to reach their goals.[13] This will likely exacerbate a shortage of employees that can program and implement these systems.

Figure 7: Insurers are acquiring technology companies to fill technology and skill needs

Company	Technology and skills acquired	Acquired by	Year
Humedica	Clinical, operational, and financial benchmarking across the care continuum	UnitedHealth Group	2013
Certify Data Systems	Health insurance exchange platform	Humana	2012
MedVentive	Risk and population health management	McKesson	2012
Navinet	Physician financial/clinical transactions processing	Northeast Blues plans Highmark, Horizon and Independence with ACO vendor Lumeris	2012
Connextions	Customer analytics	OptumHealth (owned by UnitedHealthcare)	2011
Medicity	Health insurance exchange	Aetna	2011
Anvita	Care management and clinical analytics	Humana	2011
Axolotl	Health insurance exchange vendor	OptumInsight (owned by UnitedHealthcare)	2010
Wellness Inc	Wellness solutions	OptumHealth	2010

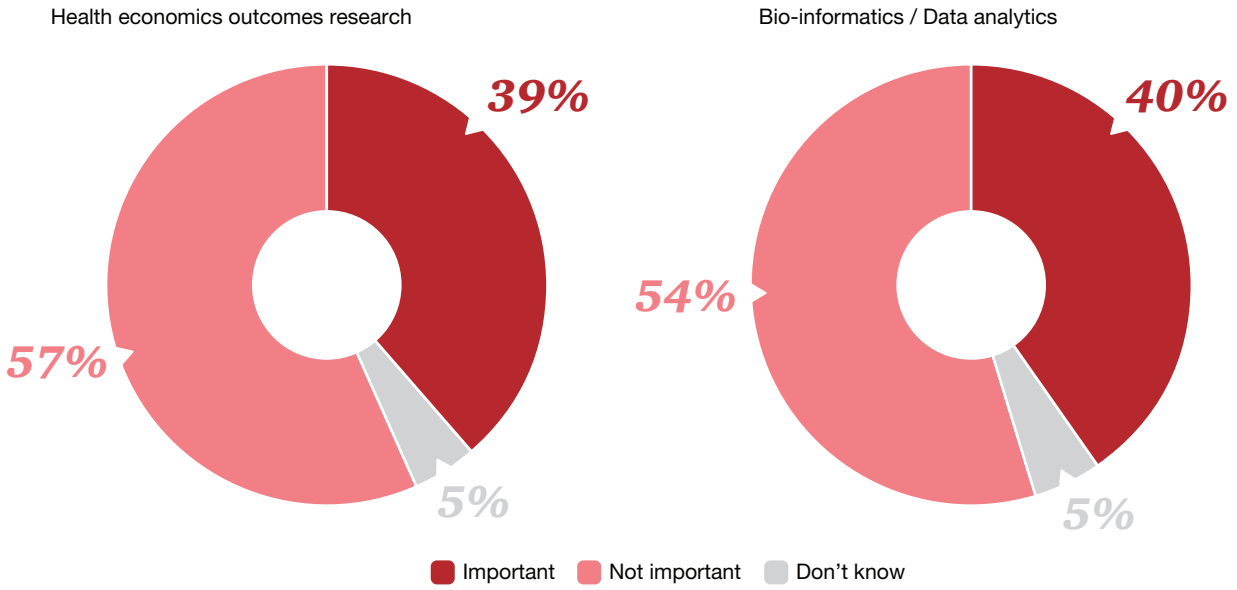
Source: PwC Health Research Institute analysis of publicly available announcements[14]

13 "Healthcare Payers: Top Investment Priorities for Emerging Healthcare Delivery Models", MEDecision, October, 2012

14 "Boston's Humedica acquired by UnitedHealth Group; deal valued in 'hundreds of millions'", January 25, 2013; "Humana Acquires Certify Data Systems", November 5, 2013; "McKesson to acquire MedVentive", September 24, 2013; "Blues Plans, Lumeris Partner to Acquire Nation's Largest Real-Time Health Care Communication Network", February 14, 2012; "OptumHealth to Acquire Connextions, Inc", August 3, 2011; "Humana Acquires Anvita Health, a Leading Health Care Analytics Company", December 7, 2011; "Ingenix and Axolotl to Combine", August 16, 2010; "OptumHealth Acquires Wellness Inc. to Expand Employer Wellness Programs with Innovative, Onsite Health Screenings", February 25, 2010; "Aetna to Acquire Medicity", December 10, 2010

Drug and device companies are looking for new IT specialists to help prove value

Figure 8: Many drug and device companies plan to prioritize applicants with expertise in health economics outcomes research and bio-informatics over the next three years.



Base: Provider/LS HR professionals

The biopharmaceutical sector is coming out of a blockbuster drug era that has made managing cost king. The trend in IT over the last few years has been to outsource various activities to technology companies for cost savings and to better support global business. This has increased the need for executives with a knack for managing relationships with external support staff and has prompted a sharper focus on business architecture in IT, placing IT in a more strategic role.

"We want to have disciplines similar to account management, program and project management, business architecture and business analysis who can sit with business, form a trusting partnership, understand their pain points and bring their visions to bear," said Brian Trautz, director of human health IT at Merck.

A new set of tech skills is quickly becoming desirable to support emerging methods of conducting research and the need to prove the value of drugs to public and private purchasers. The HRI survey found that 35% of drug and device companies partner with clinical research organizations and 31% partner with academic medical centers to reduce the cost of research and development. (See figure 9 on page 10).

As a result they are investing in cloud and other technologies that allow them to collaborate effectively through data sharing and analysis during clinical trials. (For more information on R&D human capital and talent strategies, see HRI's New Chemistry: Getting the biopharmaceutical talent formula right).

> ***"The focus on real-world evidence and big data health analytics is driving a strong demand for health informatics within the pharma sector. We need people with domain knowledge…who are also proficient in health data and analytics methods…"***
>
> – Andrew Gaughan, AstraZeneca

Historically pharma companies have marketed drugs to physicians who have been the primary drivers of patient drug adoption. Manufacturers have focused on efficacy and safety only. Now, they should use real-world data to prove the value of the drug or

risk exclusion from the formularies of health plans that no longer rely as heavily on physician opinion. This includes bridging a data gap between the research and commercial units and an understanding of what others in the health industry are doing.

"Let's look from the outside," said Merck's Trautz. "What are the IT skills that our customers have—physicians and insurers—that we need to be linking into? We need to be infusing that understanding into what we do." The HRI survey found that health economics outcomes research and bio-informatics are gaining traction. (See Figure 8).

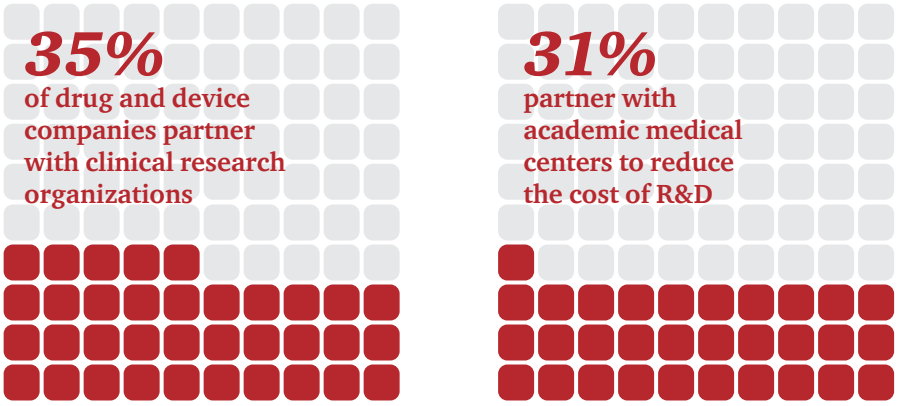
"We are seeing a shift in focus within R&D IT from traditional 'nuts and bolts' activities such as systems architecture and hardware towards analytics and data integration, most notably in the field of real world evidence," said Andrew Gaughan, director of payer and real world evidence informatics at AstraZeneca.

"The focus on RWE and big data health analytics is driving a strong demand for health informatics within the pharma sector- we need people with domain knowledge in clinical practice, public health or health economics who are also proficient in health data and analytical methods like predictive modeling, natural language processing and biostatistics. As you might expect, these people are not easy to find."

In general, drug and device companies struggle more than other industries with hiring and a deficit of skilled candidates, according to a recent PwC CEO survey.[15] IT appears to be following suit when it comes to emerging skills. AstraZeneca's Gaughan has experienced competition with academic institutions. "Right now academia seems to be offering more attractive compensation packages for health informaticians," said Gaughan. "We need to ensure we can compete as our needs ramp up."

Right now pharma companies—or, more likely, their technology partners—have the IT infrastructure, programming, and data integration skills available to get big data set up but lacks the statistical/analytical minds to generate value from it. "There is an industry perception that very little money in IT is spent on revenue generation and innovation," said Trautz. "'Big data' allows IT to play that role so we need to be thinking strategically about the talent we need."

Figure 9. Partnering to manage R&D costs calls for a new set of IT skills



Skills in demand:

Ability to make data sharing and analysis possible for effective collaboration during clinical trials

Knack for managing relationships with external support staff, prompting a sharper focus on IT strategy rather than the nuts and bolts of R&D

PwC Health Research Institute Human Capital Survey, 2012.

15 PwC 16th Annual Global CEO Survey, 2013

Remedies for common challenges

The IT staffing needs and challenges of disparate players across the healthcare landscape—from hospitals to insurers to pharmaceutical giants--may appear different on the surface. But on closer observation the sectors have similar needs and may compete for certain specialists. (See Figure 10). HIT workers that can work across the health sector will have a big advantage in the labor market. Healthcare companies also share common talent management woes. (See sidebar on page 11). Here are some common strategies for overcoming them.

1. Open the talent pool

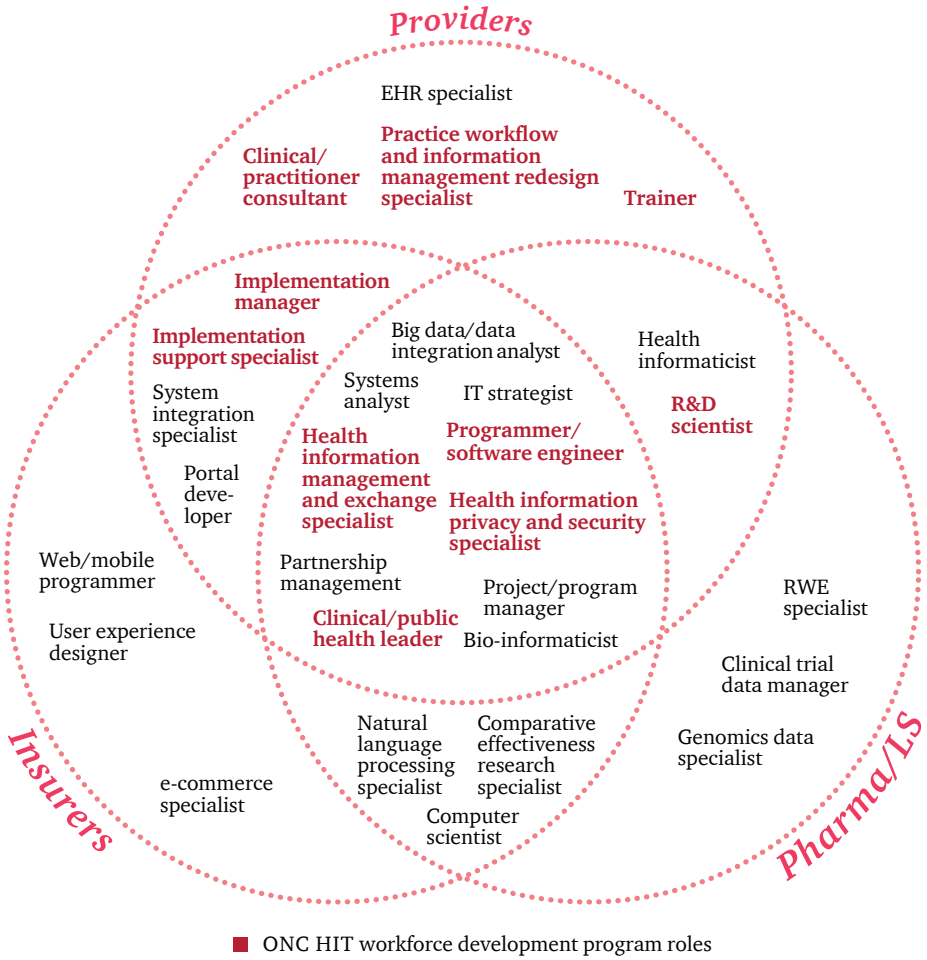
Many IT leaders are beginning to realize they should make some concessions regarding recruitment and level of experience and put talent development higher on the priority list to meet staffing goals. High turnover in IT leadership hasn't helped. "When a new CIO comes in he understandably wants to surround himself with experienced people," said Ann Miller, senior director of talent acquisition and workforce planning at City of Hope Medical Center, a cancer research and treatment facility in the Los Angeles area.

A recent Careerbuilder.com survey found that the number of healthcare employers that plan to train people without a background in healthcare doubled from 2011 to 2012.[16] HRI research uncovered that IT executives in insurance and drug and device companies are more likely to widen the funnel than their counterparts at hospitals.

"We have been successful at recruiting large number of individuals from other industries and educating them on healthcare," said Mark Lantzy, chief information officer at WellCare Health Plans, a Medicare and Medicaid managed care company based in Tampa. "Interestingly, there are a lot of things we do in the business intelligence space that transcend industries. When we recruit from other industries we provide a number of educational opportunities.

For example, our managers can take an intensive course on the essentials of managed care. It is a strictly business focused course that accelerates the learning curve." Employees with solid knowledge of data integration and interoperability standards and proven analytic capabilities—of interest to all sectors—can largely play across any technology and industry.

Figure 10: The health sectors have similar needs and may compete for certain specialists, including those graduating from HIT workforce development programs



Source: PwC Health Research Institute analysis

16 "Health Care Hiring is Alive and Kicking" CareerBuilder.com survey, February 2013

Expanding the talent pool also means some healthcare companies should revisit their recruiting and compensation structures. "We looked at changing our environment and realized we needed to implement better structures and processes to retain people," said City of Hope's Miller. "Part of that was dedicating a full-time recruiter to work with our IT leaders so that we were looking for right talent from the start."

As John Delano, vice president and chief information officer at Integris Health in Oklahoma pointed out, compensation needs to catch up if companies want to compete aggressively for talented employees outside of the health sector. "We traditionally benchmarked ourselves against other healthcare organizations but we also told ourselves we don't really compete against them for IT talent. So we have adjusted our benchmarking to include those we really do compete with—and this now includes local oil and gas companies."

Case study

Bringing 'IT' all back home: A lesson in cultural change

After ten years of outsourcing its information technology department, leaders at Northern Arizona Healthcare decided to bring IT back in-house and expand the role of IT personnel in helping the hospital implement health reform. The IT department was given a full-time recruiter on loan and six months to do it. "The main reason we decided to in-source was because we believed our vendor was not as innovative as we needed it to be," said Marilynn Black, chief information officer. "We did not believe we had the right partner to implement healthcare reform."

The technology wasn't a big factor but the people were. One big advantage was that the hospital hired 75 of the vendor's employees who were already familiar with the hospital. Anticipating their staffing needs in IT in the next several years and understanding the shortage of HIT skills in the market, they wanted to keep as many people as possible to help meet future business needs.

But the cultural change has been difficult since staff are held to a different level of accountability than they are used to. For example, IT leaders at Northern Arizona reward staff based more on how their customers think they are doing rather than on technical skill alone. Black and her team knew they needed a well orchestrated talent planning process to manage the transition for the staff. They assessed their current capabilities, crafted a vision for high performing teams, and devised a "cultural maturity grid" that illustrates what they look like today and where they need to be. The grid measures seven key areas (trust, integrity, honesty and openness, purpose, credibility, influence and accountability) and a performance scorecard allows them to track cultural maturity on a monthly basis. "We needed to do this to create a strong culture with positivity, better customer service, quality outcomes, and sound financial spending," said Black. "Now we know what it will take to get there."

2. Invest in training and retention

Retention is on the minds of all health sector IT leaders. They should create a work environment that reinforces life-long learning in IT and motivate employees to keep their technical skills relevant to changing market needs. They should create leadership opportunities and assignments that challenge employees to stretch beyond their comfort zone. They also should be flexible and open to innovative ways to manage their people. To support this, companies should align employee incentives with the company's goals and culture. (See case study "Bringing 'IT' all back home: A lesson in cultural change"). Some companies are putting a sharper focus on rewarding employees more on leadership behaviors than technical skill.

A Texas HIT employer needs assessment found that 67% of provider IT leaders believe the industry's largest HIT human capital barrier is the lack of definition and structure in the career ladder.[17] This means healthcare companies should begin investing in development of their own career ladders that have depth and breadth as well as in tools that help managers measure employee performance and communicate with them about it. New hires at any level and background should understand what they should be doing from day one to advance to the next level.

"We are spending a lot of time really defining IT career tracks and what entry-level roles should look like in order to bring new hires into generalist roles for one to two years before setting them off on a career path," said BCBS of Michigan's Harvey.

HRI interviews with biopharmaceutical and insurer IT executives found that the level of collaboration with human resources departments could be much improved, especially as it relates to planning for and designing new types of roles to support emerging business opportunities such as those that can be brought to fruition with real-world evidence.

17 Susan Fenton, "Texas HIT Employer Needs Assessment Report", Texas State University-San Marcos, February 3, 2012

The ability for employees to test new roles is becoming increasingly important. According to PwC research, the healthcare sector is the least likely to offer employees opportunities to move into different positions within the organization (50%).[18] There is evidence this is starting to change. Some companies are beginning to spread knowledge by sharing scarce resources across projects. Some technology partners are implementing rotation type models, informing clients that the team members may change periodically.

A year ago, BCBS of Michigan launched a mentoring program in IT with over 60 participants. "What we want is to help people build relationships and expand their knowledge of what others do in IT," said Harvey. "For us as IT leaders it's a matter of guiding the process, surveying participants, and continuing to adjust our guidance based on mentee and mentor feedback on their experience."

Robust training programs can also help build an organization's IT reputation. For example, Susan Courtney, senior vice president and chief information officer at Blue Cross Blue Shield of Nebraska credits adoption of the "agile" philosophy[19] three years ago with the insurer's ability to attract people with the right skills. "We rebuilt the whole IT organization around the tenets of "agile" methodology—right from formulating IT strategy to adjusting the way we perform recruiting, training and retention of our employees," said Courtney. "we are now known in the state as one of the premier employers for IT, and we've witnessed a surge of developers, project managers, and leaders interested in joining our team."

3. Identify and groom potential successors

Many middle managers have been promoted based on longevity rather than potential to lead, according to HRI interviews. They have an understanding of today's business and the infrastructure required to support it but don't have the mindset of an innovator or a visionary. It is a challenge to bring in people who are comfortable with new technologies and have a willingness to push the boundaries. This underscores the importance of nurturing potential leaders.

For example, a large provider interviewed for this report began grooming a prospective IT leader who had no background in security two years before its chief information security officer (CISO) planned to retire. IT managers collaborated with HR leaders to move the person through various technology departments (application development, integration, database administration, disaster recovery and health information security). She now reports directly to the CISO and is poised and equipped to fill what would have been a major leadership void.

According to a recent survey, only 27% of current healthcare CIOs will seek another CIO position in healthcare and 47% plan to retire in the next 10 years.[20] With increased turnover expected due to retirement and industry movement, there will likely be fewer qualified individuals to fill the openings. This creates a huge need for healthcare companies to develop rigorous and meaningful career development ladders and succession plans. The HRI survey found nearly one-third (30%) of insurers do not have a succession plan for top leadership and 40% do not have one for high performers at other levels.

4. Partner to fill skill gaps

Few of the healthcare executives HRI interviewed were aware of the federally funded HIT workforce development programs that have been heavily marketed to providers but are graduating people with skills valuable to all sectors. (See Figure 10 on page 11). A brief HRI survey of ONC workforce development program administrators found that graduates from four out of six programs find employment with pharma companies and insurers.[21] According to the industry group CHIME only 2% of providers' primary strategy for dealing with shortages is developing a pipeline of students by collaborating with local colleges and universities.[22]

The programs have graduated 15,500 graduates as of September 2012 but interviews found that providers have not been hiring them because they believe they lack real-world experience and IT leaders do not have time to train them.

"We're trying to change the conversation with the providers in our region to make them see that they are hiring these graduates, maybe not directly but certainly through the vendors they are working with," said Norma Morganti, executive director of the Midwest Community College Health Information Technology Consortium which comprises 17 programs in the region.

18 PwC 16th Annual Global CEO Survey, 2013

19 Agile methodology emphasizes iterative development with small, cross functional teams partnering together closely. It allows functionality to adapt based on changing business requirements.

20 "Brain Drain: Industry survey points to major shortage of CIOs in coming years," Healthcare IT News, September 14, 2012

21 PwC Health Research Institute Survey of ONC HIT Workforce Development Programs, 2013.

22 College of Health Information Management Executives, 2012 IT Survey

Case study

Making IT knowledge a core leadership competency

Often healthcare business executives say they need IT partners that can marry technology with business strategies, anticipate their needs, and sell them on ideas. Blue Cross Blue Shield of Nebraska discovered it also needed to look through the lens of the IT executive.

Six years ago the health insurer launched Leading Blue, an initiative aimed at identifying and developing critical skills senior executives believed were necessary to expand the company over the next five to seven years. A glaring discovery early on was that business directors, vice presidents and top executives needed a better understanding of information technology.

"We had very competent leadership in IT who had led the department to become a strategic business partner to the rest of the organization," said Tom Whalen, vice president of human resources and organizational development and the initiative's leader. "The issue was that sometimes the business did not always understand the complexity and strategic advantages of IT."

Fortunately, the CEO was committed to bridging the knowledge gap. "A key ingredient was that our CEO is a bit of a techie himself," Whalen said. "He knew that the key to remaining competitive in this industry was data and technology since 'data analytics' will probably be more descriptive of our role than 'insurer' will be going forward."

Soon the company was collaborating with the University of Nebraska to design custom IT courses for business leaders. The courses, taught by university professors and some of the insurer's senior leaders, focused on explaining how designing the IT framework to support the entire company is similar to how one would go about building a city. Twenty-five executives were trained over 18 months.

Today familiarity with IT is considered a core criterion for future leaders. "I now have other executives asking me, 'How do you think that will affect our technology architecture?' and that's certainly not something I ever heard before," said Susan Courtney, vice president and chief information officer. "They understand there are no islands and that everything we do has an impact on IT. My relationship with peers has gotten significantly better."

Morganti's data shows that incoming students have relevant backgrounds and experience—nearly half have at least ten years of experience in healthcare and more than one-third have at least ten years of experience in IT. According to Gretchen LeFever Watson, director of the Consortium for Health Information Technology at Tidewater Community College, most of the students in her region have received training simultaneously in as many as four of the six ONC workforce roles. This has made them more well-rounded and desirable to employers.

While many seasoned ONC program graduates appear to be staying with their current employer in a new role, a large number of graduates are finding employment with IT outsourcing companies that have money to invest in widespread on-the-job training. Many healthcare companies have chosen to rely on an external company, such as a consulting firm, to bring the experienced people to fill the gaps they have in-house.

HRI research found that healthcare companies want accessible training for current employees and new hires that might not perfectly fill a need. They should start talking to colleges and universities, local or not, about how they can work together on this. For example, several ONC program graduates are staying with their current employer but in a new role.

"Many courses are offered online and accessible; however a challenge has been that employers are not aware of what's available," said Susan Fenton, assistant professor of health information management at Texas State University who led the Texas HIT Employer Needs Assessment. Fenton and her team have created 26 twelve-week paid internships for people with a background in HIT. Many companies have found employees through the program.

"We work with a variety of HIT employers from hospitals, rural clinics, and disability centers to regional extension centers and health information exchanges," she said. "We are trying to obtain additional funding for more internship positions because we believe they are critical to placing candidates successfully." (For more on training employees, see case study, "Making IT knowledge a core leadership competency").

By taking a closer look at their diversity and inclusion programs healthcare companies can help diverse candidates find their way into the IT workforce and introduce new perspectives to their teams. Offering diversity internships through programs such as INROADS[23] can help companies become employers of choice while helping underserved youth.

23 The mission of INROADS is to develop and place talented underserved youth in business and industry, and prepare them for corporate and community leadership.

In the biopharmaceutical sector, many companies are going straight to academic medical centers (AMCs) as a source for innovative skills. All large pharmaceutical companies have established at least one AMC partnership, often specific to a disease.

AstraZeneca's Gaughan is working with academic collaborators to develop a curriculum for health informaticists and offering internships to students.

"We collaborate with universities to develop our health informatics capabilities. Specifically, we are interested in how we can convert a bioinformatician into a competent health informatician who is able to apply their skills to pharmaceutical research." His department also has a relationship with the UK's National Health Service in which one of his staff is seconded to obtain training in real world evidence.

A brief HRI survey of ONC workforce development program administrators found that graduates from four out of six programs find employment with pharma companies and insurers.

Conclusion

Information technology is at the core of a new era in healthcare that rewards companies that deliver value. Healthcare companies that acquire, build, and retain HIT leaders will thrive as the industry changes. They should bring business and technology closer together if they are to take advantage of the wealth of data being generated to improve health outcomes and constrain rising costs.

They also should use IT to connect people who should increasingly collaborate with others and use rich information to be effective at their jobs.

Healthcare companies should be innovative about people management if they are to solve the talent equation for health IT. Companies that successfully build their IT identity and brand will likely be best-positioned to acquire, manage, and retain critically-important technology workers in an increasingly competitive labor market.

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The research for this report included 20 in-depth interviews with IT and HR executives from all healthcare sectors, educators from health information technology programs at universities and community colleges as well as administrators at federal health organizations. HRI also commissioned a telephone survey in September–October 2012 of 130 such executives on human capital issues.

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